



# PAYMENT INNOVATIONS AND RISKS IN SOUTH ASIA



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## ACKNOWLEDGMENTS

This special report is a product of the South Asian Region Financial Inclusion Initiative (SARFII) and members of its Task Force.

Contributors:

**From the South Asian Region Financial Inclusion Initiative Task Force:** Niva Shrestha (Director, Payment Systems Department, Nepal Rastra Bank), Motasem Billah (Director, Payment Systems Department, Bangladesh Bank), Kesang Jigme (Director, Department of Payment & Settlement Systems, Royal Monetary Authority of Bhutan), Ahmad Nazeem Mohamed (Manager, Payment Systems and Oversight Division, Maldives Monetary Authority), Sharoon Rasheed (Joint Director, Digital Innovation & Settlements Department, State Bank of Pakistan), and Kanchana Ambagahawita (Deputy Director, Payments and Settlements Department, Central Bank of Sri Lanka).

**From the AFI Management Unit:** Ali Ghiyazuddin Mohammad (Head of Policy Management, Policy Programs & Implementation) and Ira Aprilianti (Senior Policy Analyst, Digital Financial Services).

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## EXECUTIVE SUMMARY



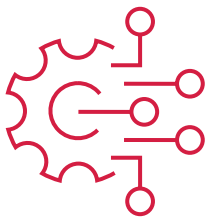
### DIGITAL PAYMENT METHODS ARE THE FUTURE OF PAYMENTS IN SOUTH ASIA

- ✓ Consumers prefer digital modes of payment over paper-based transactions.
- ✓ Digital government-to-person payments have been increasingly adopted since the beginning of the COVID-19 pandemic.
- ✓ The use of cash in most economies is on the decline.
- ✓ QR code-based payments are the most preferred mode of payment.



### DIGITAL PAYMENTS ARE A CRUCIAL TOOL FOR FINANCIAL INCLUSION

Leveraging technology makes these innovations easier and more affordable, particularly for addressing the gender gap and urban-rural divide in access to financial services in South Asia. Digital payment innovations can also improve security and transparency in financial transactions, making them the chosen mode for mass G2P payments and a critical component of economic development efforts. Most national financial inclusion strategies in South Asia consider digital finance an imperative tool for financial inclusion.



### ENABLING DIGITAL INFRASTRUCTURE HAS ACCELERATED DIGITAL PAYMENT INNOVATIONS IN SOUTH ASIA

Real-time payment systems are increasingly popular in the region, especially for low-value and retail transactions. They offer secure and interoperable platforms for instant digital payments, which are available 24/7. Digital national IDs for e-KYC are a priority for all countries. While many countries already have an established framework, most are working out the bottlenecks to make the consumer experience more seamless.



### ENHANCING FINANCIAL INCLUSION THROUGH REGIONAL COLLABORATIONS IN SOUTH ASIAN CROSS-BORDER REMITTANCES

Cross-border remittances contribute heavily to many South Asian economies due to the high number of migrant workers. Since international remittances are often the first level of financial services migrants use, they create a unique opportunity for financial inclusion. Many regional collaborations to ease cross-border remittances in South Asia are coming up.

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**Despite the progress, foundational barriers persist, hindering the widespread adoption of digital payment innovations.**

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In rural and remote areas, there is limited access to basic telecom services, with a gender gap in mobile ownership and internet usage. Every person with a smartphone does not necessarily have access to the internet, making offline payments a need to further financial inclusion. Financial and digital literacy need more impetus to make digital payment solutions part of the financial mainstream.

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**Along with rapid growth in the adoption of digital financial services, there has been an increase in consumer risks associated with digital payments.**

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- ✓ The increased reliance on digital financial services has exposed consumers to various cybersecurity threats, including fraudulent transactions, money laundering, and data breaches.
  - ✓ Social engineering has become ubiquitous, and consumers' financial data is increasingly targeted to make unauthorized transactions.
  - ✓ Cyber threats have also evolved along with technological advancements, with fraudsters devising new ways to siphon money through payment platforms, such as QR Code scams, SIM skimming, and phishing links.
  - ✓ Apart from these risks, operational challenges such as service downtime can impede the stability and integrity of digital payments.
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**Although there is no disaggregated data on a national or regional level to ascertain the exact degree of financial loss caused by these risks, there is a unanimous understanding relating to the severity of the threat posed by them.**

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Addressing these concerns is crucial for upholding trust in the digital payment system. Therefore, AFI and the South Asia Region Financial Inclusion Initiative Technical Task Force, led by Nepal Rastra Bank, have identified

payment innovations and the associated risks as a priority area for research, recognizing the scarcity of information concerning the risks linked to digital payment innovations.

This report serves as a resource for regulators, aiding them in comprehending the evolving nature of the payment landscape in the South Asian region. It aims to identify key payment innovations and assess the associated risks to effectively mitigate them and create a safe and inclusive payment ecosystem, thereby achieving the region's overarching financial inclusion goals.

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**In pursuit of advancing digital financial services, several key recommendations have emerged.**

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These include fostering collaboration among regions to innovate payment methods and manage associated risks. Additionally, there's a push for unified regulatory efforts to ensure inclusivity in payment systems. Strengthening these systems through centralized data collection and bolstering consumer protection measures are also highlighted. Moreover, initiatives to enhance security, promote literacy programs, and ensure interoperability aim to foster trust and efficiency in digital payment infrastructure, ultimately bridging the digital divide.

# 1. INTRODUCTION

## 1.1 BACKGROUND

The payment landscape in South Asia has undergone significant changes in recent years. The technological revolution marked by the widespread adoption of smartphones and mobile applications has led to a surge in digital payment transactions, including mobile money, mobile financial services (MFS), instant payment systems (IPS), and cross-border remittances.

The growth of FinTech companies has played a vital role in bridging geographical gaps and developing popular payment products, such as contactless or touch-free payment methods. The uptake of digital payment solutions has rapidly increased over the past five years, prompting countries to leverage these innovative tools to extend financial inclusion to remote areas by disbursing funds to various sectors. It has enabled businesses and vulnerable populations to stay afloat, for example, during the COVID-19 pandemic, to access essential services, thereby facilitating the swift revival and recovery of the economy.

South Asia is one of the most densely populated areas globally, accommodating over one-fourth of the world’s population. Access to formal financial services is crucial for the economic development of these

populations, particularly for the underserved and vulnerable, such as women, the rural poor, and the elderly. While there have been notable improvements in financial access, South Asia remains the region with the highest number of unbanked populations.<sup>1</sup> Further, gender, one of the key denominators based on which financial inclusion is measured, is also a major concern for the region, with multiple countries having a higher percentage of the unbanked female population, as shown in **Figure 1.1**.<sup>2</sup>

32.1%

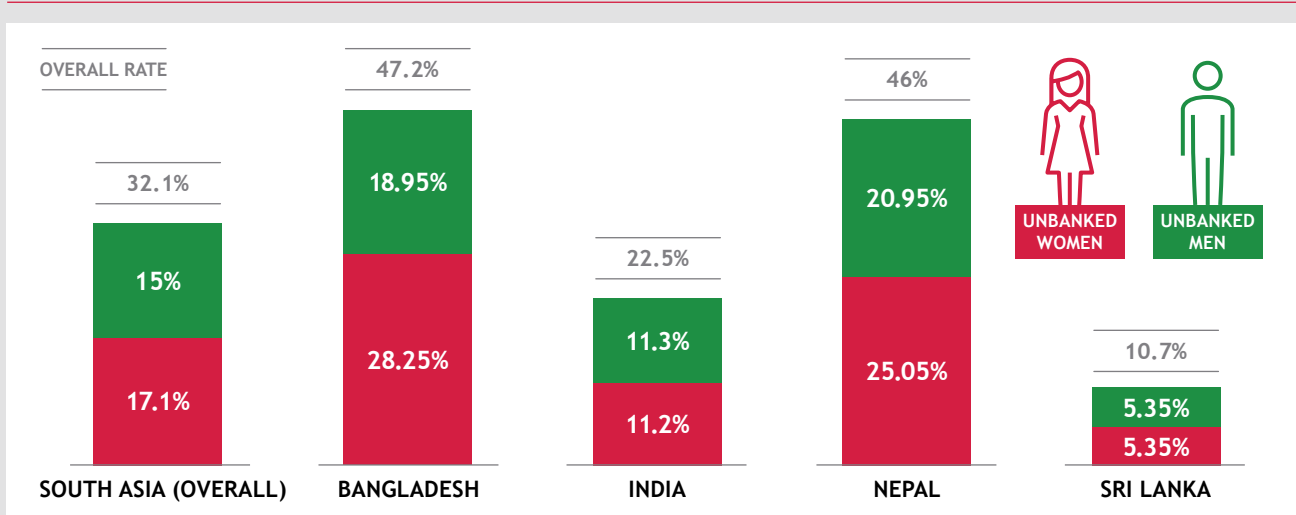
In Bangladesh (43 percent), Nepal (50 percent), and Pakistan (43 percent),<sup>3</sup> less than half of the women have access to formal banking services. Although 32.1 percent of South Asians, predominantly women, lack banking access as per the Global Findex Data of 2021, it is imperative to recognize progress.

<sup>1</sup> World Bank. 2022. The Little Data Book on Financial Inclusion 2022. Available at: <http://hdl.handle.net/10986/38148>, p. 7.

<sup>2</sup> Figure 1.1 includes countries based on availability and endorsement of data.

<sup>3</sup> Asli Demirgüç-Kunt et al., The Global Findex Database 2021 Report: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19, World Bank Group, Pages 175-178, available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/37578/9781464818974.pdf> (last accessed on October 19, 2023); Data on Pakistan based on stakeholder discussions

FIGURE 1.1. PERCENTAGE OF UNBANKED POPULATION IN SOUTH ASIA (2021)



Source: The Little Data Book on Financial Inclusion, Global Findex Database 2021

# 65.8%

The Global Findex Data from 2017 to 2021 has observed a rise in the percentage of banked women, from 64.1 percent to 65.8 percent.<sup>4</sup>

Hence, recent years have witnessed a surge in individuals gaining access to banking services. For instance, Sri Lanka has achieved a high rate of banked population, for both men and women, through targeted policy interventions, the mandatory opening of licensed bank branches in non-urban areas, and opening school savings units. Other South Asian countries have also employed similar strategies, which indicates a continued commitment towards improving the state of the banked population and achieving financial inclusion.

Although digital payment innovations have proved instrumental in furthering financial inclusion, the growth in digital payments has also introduced new risks, including fraud, money laundering, cyber threats, and data breaches. Cybercriminals are increasingly targeting digital payment platforms, leading to data breaches and unauthorized transactions such as Hundi, thereby posing significant challenges to the safety and trust of the digital payment ecosystem in the region.<sup>5</sup> In light of these challenges, the South Asian Region Financial Inclusion Initiative (SARFII) embarked on this study to understand the landscape of payment innovations and risks in South Asia.

## 1.2 OBJECTIVES OF THE STUDY

Through this report, SARFII aims to identify payment-related innovations in the region, assess the associated risks, examine the policy interventions implemented by central banks to effectively mitigate these risks, and provide recommendations on the way forward.

<sup>4</sup> World Bank. 2018. The Little Data Book on Financial Inclusion 2018. Available at: <http://hdl.handle.net/10986/29654>, Supra Note 1.

<sup>5</sup> International Bank for Reconstruction and Development and The World Bank. 2021. Consumer Protection in the Context of Fast Payments. Available at: [https://fastpayments.worldbank.org/sites/default/files/2021-10/Consumer\\_Protection\\_Final.pdf](https://fastpayments.worldbank.org/sites/default/files/2021-10/Consumer_Protection_Final.pdf), p. 2.

## 1.3 RESEARCH METHODOLOGY

To achieve the research goals, a dedicated task force comprising key stakeholders from the central banks of Bangladesh, Bhutan, the Maldives, Nepal, Pakistan, and Sri Lanka was actively engaged in the research.

Under the aegis and guidance of the task force led by Nepal Rastra Bank (NRB) and in collaboration with AFI, the Bridge Policy Think Tank was invited to contribute to preparing the report. Throughout the study, extensive interviews were conducted with South Asian central banks, including Bangladesh Bank (BB), the Royal Monetary Authority (RMA) of Bhutan, the Reserve Bank of India (RBI), the Maldives Monetary Authority (MMA), the Nepal Rastra Bank, the State Bank of Pakistan (SBP), and the Central Bank of Sri Lanka (CBSL). Key stakeholders were also interviewed, such as the National Payments Corporation of India (NPCI) and Nepal Clearing House Limited (NCHL). These interviews further enriched and substantiated the desk research conducted at the initial stage. The details of participating organizations and individuals are specified in Annex I.

## 1.4 LIMITATIONS OF THE STUDY

This study focuses exclusively on retail payments, excluding wholesale payments from its scope.

The research relies primarily on data up to August 2023, except when highlighting specific key progress or conclusions beyond that timeframe. Although we have endeavored to collect uniform information, we acknowledge that data limitations may exist, primarily due to the unavailability of South Asia-level data. While this study successfully involved extensive interviews with central banks and key stakeholders across South Asia, it faced limitations in engaging all regional clearing houses due to time and contact constraints. While narrowing the scope of clearing house insights, this restriction does not diminish the study's overall contributions to understanding the region's digital payment ecosystem. Finally, Afghanistan was excluded from the study due to insufficient data regarding the country's payment system.

## 2. REGIONAL DEVELOPMENTS AND PAYMENT INNOVATIONS IN SOUTH ASIA





The development of essential infrastructure, innovative payment channels, and the utilization of digital technology are emerging as key tools for expanding financial inclusion in South Asia. Central banks and governments in the region are working hand in hand to reach a broader audience and drive inclusive innovation in payment systems.

## 2.1 JOURNEY TOWARDS A DIGITAL ECONOMY

Figure 2.1. shows that in the last five years, from paper-based payment instruments, like cheques and demand drafts, consumer preference has switched to digital payments in the majority of South Asian countries.<sup>6</sup> However, in Nepal, the use of paper-based instruments increased by 37 percent.<sup>7</sup> Nevertheless, the growth rate of cheque presentation experienced a 5 percent decline (from 21 percent to 16 percent) over the past year.<sup>8</sup>

<sup>6</sup> RBI. 2021. Annual Report 2020-21. Available at: <https://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/ORBIAR202021F49F9833694E84C16AAD01BE48F53F6A2.PDF>, p. 185; RBI. 2022. Annual Report 2022-23. Available at: <https://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/OANNUALREPORT20222322A548270D6140D998AA20E8207075E4.PDF>, p. 191; SBP. 2022. Payment system review for the fiscal year ended June 30, 2022. Available at: <https://www.sbp.org.pk/PS/PDF/FiscalYear-2021-22.pdf>, p. 7.

<sup>7</sup> NRB. 2022. Payment System Oversight Report 2021-22. Available at: <https://www.nrb.org.np/contents/uploads/2023/02/Payment-Oversight-Report-2021-22.Final.pdf#:~:text=The%20E%20%9CPayment%20System%20Oversight%20Report,efficient%2C%20safe%2C%20and%20healthy%20payment>, p. 20.

<sup>8</sup> Ibid.

Figure 2.2. shows the total number of digital payment transactions in Bangladesh has surged from 3092.1 million in FY20 to 4706.79 million transactions in FY22 (+52.22 percent), accompanied by a corresponding increase in transaction value from USD385.51 billion<sup>9</sup> in FY20 to USD711.13 billion in FY22.<sup>10</sup> Bhutan has observed an upsurge in digital transactions with a corresponding decline in usage of ATM withdrawals, with the volume of transactions decreasing from 14.38 million in 2019 to just one-seventh, i.e., 2.09 million in 2022, with an almost equivalent decrease in value.<sup>11</sup> Since the 2016 note demonetization, India has significantly advanced its digital payments, with transactions soaring by 490 percent to USD25.12 trillion in 2023, becoming South Asia's largest digital payments market. In the Maldives, e-money transactions quadrupled from 2019 to 2022,<sup>12</sup> while a two percent decline in currency circulation was noted from 2021 to 2022 due to digital payment preferences. Nepal's digital payments have surged over 50 percent from FY21 to FY22.<sup>13</sup>

<sup>9</sup> Bangladesh exchange rate: approximately BDT110 to USD1 (mid-December 2023).

<sup>10</sup> BB. 2021. Annual Report 2020-21. Available at: <https://www.bb.org.bd/pub/annual/anreport/ar2021/index2021.php>, p. 293; BB. 2022. Annual Report 2021-22. Available at: <https://www.bb.org.bd/pub/annual/anreport/ar2122.pdf>, p. 308.

<sup>11</sup> RBA. 2022. Annual Payment System Report 2022. Available at: <https://www.rma.org.bt/RMA%20Publication/DPSS/Annual%20Payment%20System%20Report%202022.pdf>, p. 37.

<sup>12</sup> MMA. 2022. Payments Bulletin 2019-2022. Available at: <https://www.mma.gov.mv/documents/Payments%20Bulletin/2023/PB-Oct-2023.pdf>.

<sup>13</sup> NRB. 2022. Payment System Oversight Report 2021-22. Available at: <https://www.nrb.org.np/contents/uploads/2023/02/Payment-Oversight-Report-2021-22.Final.pdf#:~:text=The%20E%20%9CPayment%20System%20Oversight%20Report,efficient%2C%20safe%2C%20and%20healthy%20payment>, pgs. 23-24.

FIGURE 2.1. DECLINING DEPENDENCY ON PAPER-BASED INSTRUMENTS IN SOUTH ASIA (2018 AND 2022)

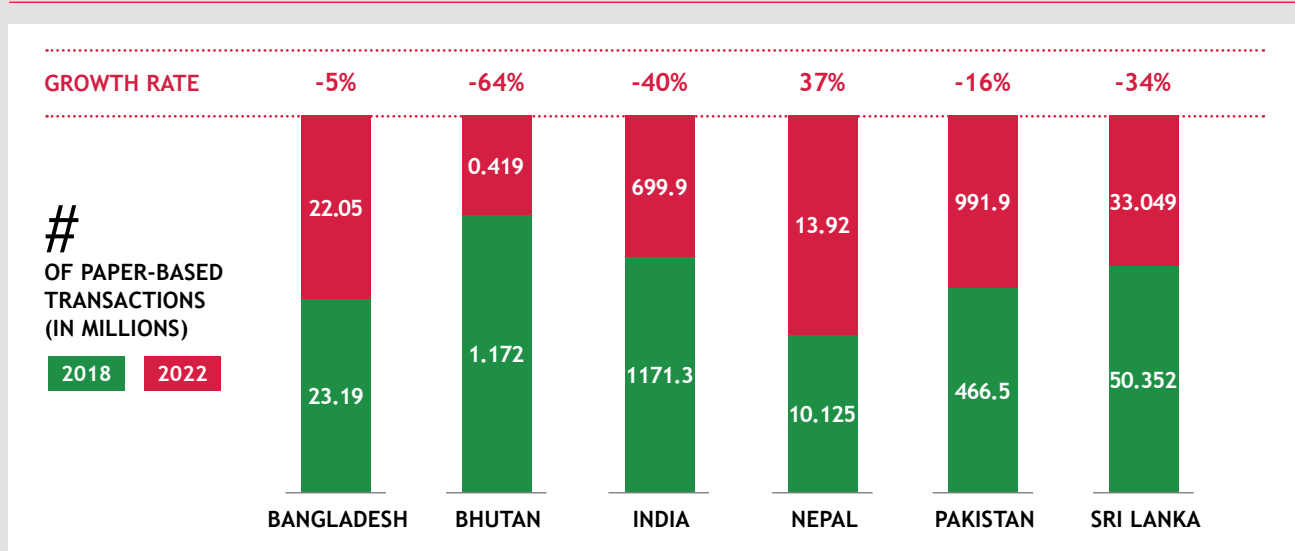
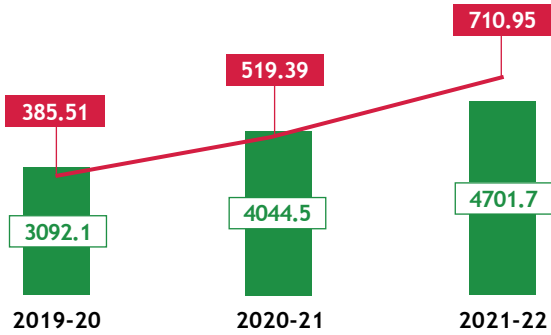
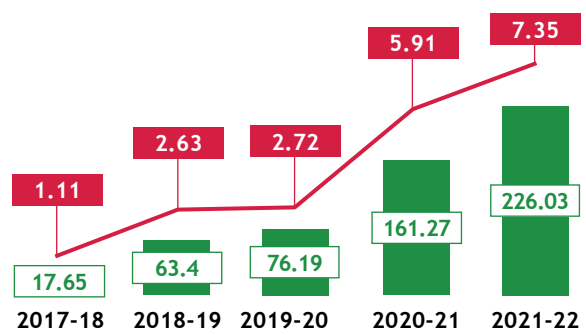


FIGURE 2.2. GROWTH OF DIGITAL PAYMENT TRANSACTIONS IN SOUTH ASIA

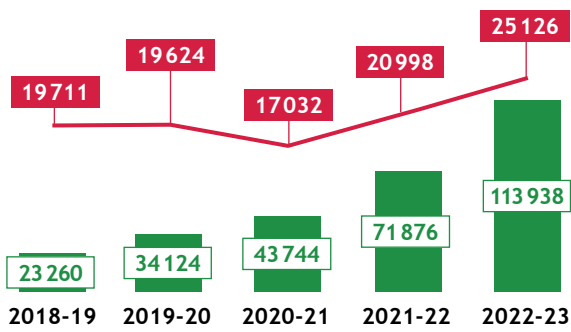
BANGLADESH (2020-22)



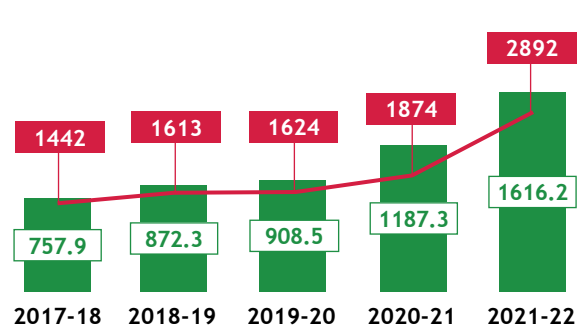
BHUTAN (2018-22)



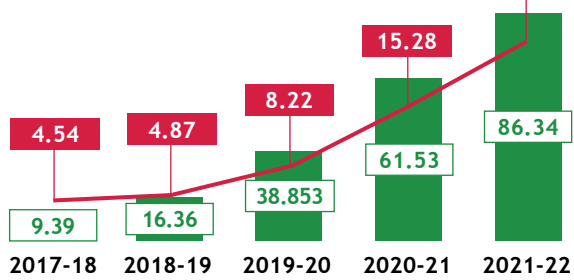
INDIA (2019-23)



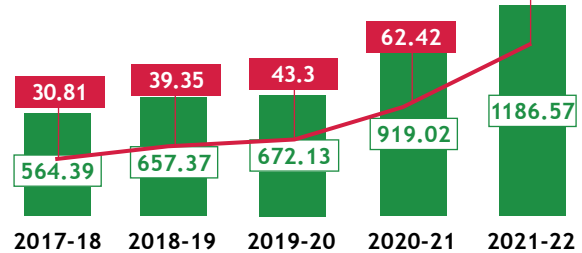
PAKISTAN (2018-22)



MALDIVES (2018-22)



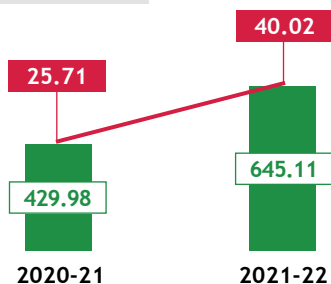
SRI LANKA (2018-22)



\*Total digital payments for Maldives were computed based on mobile and internet banking transactions.

\*Total digital payments for Sri Lanka were computed based on CEFTS, SLIPS, internet-based payments, card payments and e-money transactions.

NEPAL (2021-22)



\*Total digital payments for Nepal were computed based on mobile banking, internet banking, wallet, QR, payment cards, ConnectIPS, ATM and POS.

# OF TRANSACTIONS

VOLUME IN MILLION

VALUE IN BILLION (USD)

41.7%

In Pakistan, the user base of branchless banking mobile apps grew by 41.7 percent<sup>14</sup> in the past year, and Raast-based transactions increased by over 19 times.<sup>15</sup>

Sri Lanka experienced a 76.3 percent rise in the value of noncash payments from Q2 2021 to Q2 2023,<sup>16</sup> with the Common Electronic Fund Transfer Switch (CEFTS) transaction value as a GDP percentage jumping from 2.7 percent in 2018 to 36.8 percent in 2022.<sup>17</sup>

Additionally, digitization in payment innovation has allowed the automation of toll collection. India’s FASTag and Sri Lanka’s Electronic Toll Collection (ETC) are prime examples of this scenario. Transport services and vehicle owners use Sri Lanka’s ETC system, while LANKAQR is also commonly used by ad hoc users of expressways. FASTag’s success is highlighted by a dramatic increase in transactions, from 0.6 million in FY2019 to over 162.6 million in FY2023, marking a significant shift towards hassle-free and efficient toll payment systems.<sup>18</sup>

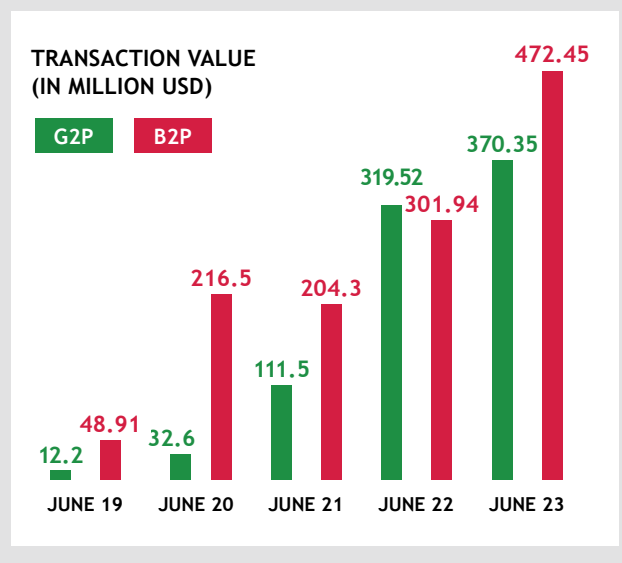
## 2.2. PAYMENT INNOVATIONS PAVING THE WAY FOR FINANCIAL INCLUSION

Payment innovations in digital financial services (DFS) are reshaping consumer behavior and serving as an important tool for financial inclusion, notably through direct-to-beneficiary transfers across South Asia. These innovations facilitate easier beneficiary identification, reduce intermediary involvement in government disbursement, and improve efficiency. In Nepal, almost 90 percent of government expense transactions, including government-to-person (G2P) payments such as salaries, pensions, and social security, are now digital, with about 30 percent of government revenue collected via digital platforms like mobile

applications, online gateways, mobile wallets, or web applications.<sup>19</sup> Similar adoption trends are observed in Sri Lanka and the Maldives, reflecting a significant shift towards digital transactions in government financial operations.

In Bangladesh, G2P transactions via MFS have surged from USD12.2 million in 2019 to USD370.35 million in

FIGURE 2.3. GROWTH IN G2P AND SALARY DISBURSEMENTS THROUGH MFS (2019-23)



2023, while salary disbursement grew from USD48.91 million to USD472.45 million over the same period (Figure 2.3). The COVID-19 pandemic led to the BB’s implementation of social protection programs, facilitating the use of MFS for salary disbursement<sup>20</sup> to over 4.2 million factory workers.<sup>21</sup> This initiative has largely replaced cash with digital payments and has been extended to over 15 million citizens through the Social Safety Net Fund. Union Digital Centers, run by local entrepreneurs, one male and one female, further support digital inclusion within rural areas and address the digital gender gap in the country.

Pakistan’s emergency cash transfers through branchless banking<sup>22</sup> and Sri Lanka’s direct fund transfers in the Aswesuma scheme have bolstered financial inclusion by requiring beneficiaries to open bank accounts. Similarly, Nepal’s Social Security Allowance scheme, focusing on

<sup>14</sup> SBP. 2023. Payment system review for the fiscal year 2022-23. Available at: <https://www.sbp.org.pk/PS/PDF/FiscalYear-2022-23.pdf>, p. 4.

<sup>15</sup> Ibid, p. 6.

<sup>16</sup> CBSL, Payments Bulletin. Available at: <https://www.cbsl.gov.lk/en/publications/other-publications/statistical-publications/payments-bulletin>, Third Quarter 2023, p. 5.

<sup>17</sup> Including CEFTS, LankaPay Online Payment Platform, LankaQR, and JustPay transactions.for

<sup>18</sup> RBI. 2022. Annual Report 2022-23. Available at: <https://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/OANNUALREPORT20222322A548270D6140D998AA20E8207075E4.PDF>, p. 191.

<sup>19</sup> Based on interviews conducted with NRB.

<sup>20</sup> Government of Bangladesh, the Ministry of Finance, Social Protection Programs: Fiscal Year 2021-22, 2022. Available at: <https://rb.gy/y8n32g>.

<sup>21</sup> Based on interviews conducted with BB.

<sup>22</sup> World Bank Group. 2020. COVID-19 G2P-Cash-Transfer Payments (Country Brief: Pakistan). Available at: <https://rb.gy/518sn6>.

BANGLADESH	BHUTAN	INDIA	MALDIVES	NEPAL	PAKISTAN	SRI LANKA
The Social Safety Net Fund digitally disbursed through MFS	The e-Public Expenditure Management System launched for G2P, salary, and pension transfer	Direct benefit transfer over the Pradhan Mantri Jan Dhan Yojana for women and rural populations	All G2P payments, including social security benefits and payroll services for employees, may be directly disbursed to the beneficiary's bank account	In recent years, SSA funds and government employees' salaries/pensions are directly transferred to bank accounts via EFT, benefiting the elderly, women, and persons with disabilities.	Emergency cash transfers are digitally disbursed during natural calamities and COVID-19	Aswesuma social benefits are digitally disbursed for rural and poor populations
Union Digital Centers act as digital access points for women and the rural population	It is used to disburse relief funds over the Druk Gyalpo Relief Kidu scheme	e-RUPI voucher as person- and purpose-specific solutions for those without smartphones or the internet			Asaan Mobile Account for people without smartphones and internet facilities	Digital pension disbursements through bank transfers are available for all pensioners

the elderly, women, the poor, and disabled individuals, has digitized welfare payments in the past few years.<sup>23</sup> Likewise, G2P payments in the Maldives, including social security benefits and payroll services, are also directly disbursed to beneficiaries' bank accounts.<sup>24</sup>

In India, the Pradhan Mantri Jan Dhan Yojana and direct benefit transfer systems, alongside the Aadhar identification system, have significantly enhanced access to DFS, particularly at the grassroots level.<sup>25</sup> The Jan Dhan-Aadhar-Mobile Trinity streamlined the opening of bank accounts and enabled transparent and swift digital payments of direct benefit transfer,<sup>26</sup> with over 505.6 million beneficiaries under the Pradhan Mantri Jan Dhan Yojana having bank accounts as of

September 2023, out of which 280.7 million women and 337.6 million beneficiaries are from rural and semi-urban areas.<sup>27</sup> In Bhutan, the introduction of the e-Public Expenditure Management System in July 2019, utilizing the Bhutan Inter-Bank Real-Time fund transfer,<sup>28</sup> has digitalized government payments and increased G2P and business-to-person transactions.<sup>29</sup> Transaction volume through the Bhutan Inter-Bank Real-Time system has grown from 35.8 thousand in 2019 to an impressive 252.8 thousand in 2022, with the transaction value growing from USD33.7 million<sup>30</sup> to USD305 million.<sup>31</sup>

<sup>23</sup> UNCDF. Digitizing Social Security Allowances in Nepal. Available at: <https://www.uncdf.org/article/1948/digitizing-social-security-allowances-in-nepal>.

<sup>24</sup> Based on interviews conducted with MMA.

<sup>25</sup> Government of India, National Informatics Centre. 2023. Direct Benefit Transfer - A blessing during the time of Pandemic. Available at: <https://www.nic.in/blogs/direct-benefit-transfer-a-blessing-during-the-time-of-pandemic>.

<sup>26</sup> Telecom Regulatory Authority of India. 2023. Consultation Paper on Digital Inclusion in the Era of Emerging Technologies. Available at: [https://www.trai.gov.in/sites/default/files/Cons\\_P\\_14092023.pdf](https://www.trai.gov.in/sites/default/files/Cons_P_14092023.pdf).

<sup>27</sup> Government of India, the Ministry of Finance, Department of Financial Services. 2023. Progress Report. Available at: <https://pmjdy.gov.in/account>.

<sup>28</sup> Royal Monetary Authority of Bhutan. 2022. Bhutan Inter-Bank Real Time (BIRT) - Fund Transfer System. Available at: [https://www.rma.org.bt/what\\_news.jsp?newId=350](https://www.rma.org.bt/what_news.jsp?newId=350).

<sup>29</sup> Royal Monetary Authority of Bhutan. 2020. Annual Payment Systems Report 2020. Available at: <https://www.rma.org.bt/RMA%20Publication/DPSS/Annual%20Payment%20System%20Report%202020.pdf>, p. 22.

<sup>30</sup> Bhutan exchange rate: approximately BTN83 to USD1 (mid-December 2023).

<sup>31</sup> Royal Monetary Authority of Bhutan. 2022. Annual Payment Systems Report 2022. Available at: <https://www.rma.org.bt/RMA%20Publication/DPSS/Annual%20Payment%20System%20Report%202022.pdf>, p. 31.

Similarly, the Sri Lanka Inter-Bank Payment System used for salary and pension disbursements saw a growth of 23.6 percent from 2020 to 2022 in volume of transactions. Regulatory enhancements by CBSL, such as digital customer onboarding through video know your customer (KYC), QR code-based payments, increased wallet limits, and reduced transaction costs such as the Merchant Discount Rate (MDR) on QR-based transactions to 0.5 percent, have promoted financial inclusion. The LANKAQR system supports small and medium-sized enterprises<sup>32</sup> with a national QR code standard for convenient, interoperable transactions. Customers face no fees, while merchants pay CBSL-set MDR to the LANKAQR issuing institution.<sup>33</sup>

<sup>32</sup> While the high cost traditionally associated with digital transaction may not significantly impact large purchases like furniture or laptops, it can entirely erase the profit margin for neighbourhood small business merchants on any product they sell.

<sup>33</sup> As of January 2024, 21 certified financial institutions and 28 mobile applications facilitate LANKAQR transactions as per LANKAQR Membership. LankaPay. Homepage. Available at: <https://www.lankapay.net/products-and-services/lankaqr>.

## 2.3. ENABLING INFRASTRUCTURES FUELING GROWTH

The establishment of robust digital infrastructures and supporting frameworks acts as an essential building block for pioneering payment solutions. It has been instrumental in shaping the financial landscape of South Asia.



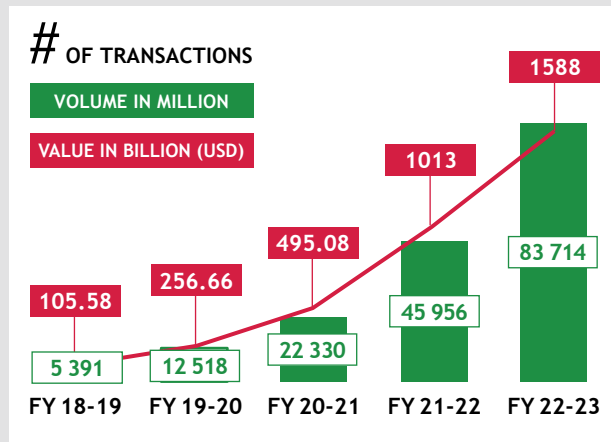
### INSTANT PAYMENT SYSTEMS

Driven by a rising preference for instant transactions, real-time payment systems have gained massive momentum in the region, particularly for low-value and retail payments. These systems offer interoperable platforms that enable secure, seamless digital payments 24/7.

#### INSTANT PAYMENT SYSTEMS IN SOUTH ASIA

BANGLADESH	INDIA	MALDIVES	NEPAL	PAKISTAN	SRI LANKA
<b>BINIMOY</b>	<b>UPI</b>	<b>FAVARA</b>	<b>CONNECTIPS</b>	<b>RAAST</b>	<b>CEFTS</b>
Launched in 2022 by the government	Launched in 2016, operated by NPCI	Launched in 2023, operated by MMA	Launched in 2018, operated by NCHL	Launched in 2021	Launched in 2015
Transactions across different platforms	Transactions through virtual payment addresses	Transactions through Favara ID	Allows the linking of multiple accounts to make transactions	Pay through various channels: mobile app, internet banking, USSD, P2P	Enables multiple extensions for various use cases
Incurs fee for using the platform	Enable P2P to collect requests and link multiple accounts	The Favara recall service enables refund requests		Permits one Raast ID per CNIC	JustPay allows linking multiple accounts to a single app for P2P, in-app and QR payments
		Favara Request allows customers to send payment requests to others.			LPOPP allows payments to government
					Other features: LANKAQR, Direct Debit, PEN (phone number based payments)

FIGURE 2.4. UPI GROWTH IN INDIA (2019-23)



India’s Unified Payment Interface (UPI), developed by the NPCI, stands out as a pioneering IPS in the region, enabling users to link multiple bank accounts to a single mobile app. UPI allows for efficient fund transfers and receipts using virtual payment addresses,<sup>34</sup> supporting bill payments, online shopping and peer-to-peer (P2P) transactions, and collecting requests that can be scheduled to the user’s preference. Its success is largely due to its user-friendly design and interoperability across many banks and financial institutions (BFIs). Since its introduction in 2016, UPI has seen exponential growth (Figure 2.4.), becoming the predominant payment method, accounting for over 70 percent of payment system contributions in FY2023.<sup>35</sup> Transaction volumes have surged from 5.3 billion in FY2019 to an estimated 83.7 billion in FY2023, with transaction values increasing from USD105.58 billion to USD1,588.82 billion over the same period.

Similarly, Nepal’s ConnectIPS, launched in 2018 by NCHL, has become a key player in the instant payment ecosystem. Accessible through multiple mediums, such as mobile banking apps and dedicated ConnectIPS mobile and web applications,<sup>36</sup> users can link bank account(s) for transactions. This innovation has quickly become popular for its convenience and efficiency in managing financial transactions. From 2020 to 2023, its user base skyrocketed from 162,117 to 1,108,436 (Figure 2.5.).<sup>37</sup>

FIGURE 2.5. GROWTH OF CONNECTIPS USERS IN NEPAL (2020-23)

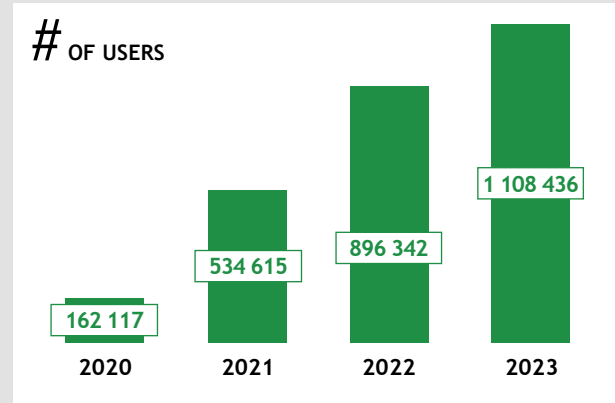
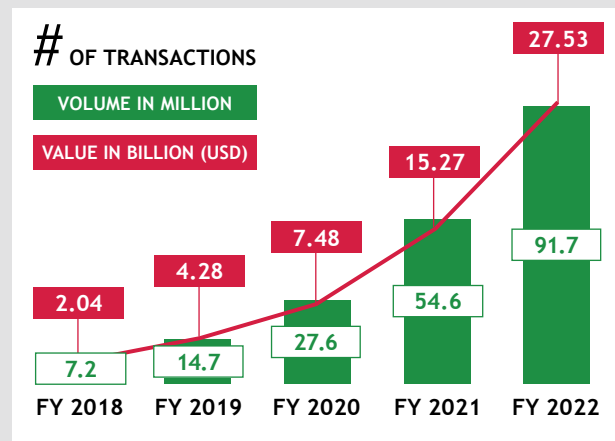


FIGURE 2.6. CEFTS GROWTH IN SRI LANKA (2018-22)



Launched in 2015, Sri Lanka’s CEFTS is a comprehensive IPS offering a multi-channel platform for real-time retail payments. It supports transactions between customer accounts, high-value government payments via the LankaPay Online Payment Platform, and low-value payments through JustPay-enabled apps and LANKAQR. Direct debit enables corporations or registered institutions to debit authorized recurring bills from customer bank accounts automatically. CEFTS also enables both scheduled and bulk payments, like salaries. Further, the Payment Exchange Name system facilitates real-time P2P transfers within its network using mobile number-linked nicknames instead of bank details, enhancing convenience and security.<sup>38</sup>

<sup>34</sup> National Payment Corporation of India. Unified Payment Interface homepage. Available at: <https://www.npci.org.in/what-we-do/upi/product-overview>.

<sup>35</sup> RBI. 2023. Annual Report 2022-23. Available at: <https://www.rbi.org.in/Scripts/AnnualReportPublications.aspx?year=2023>, p. 191.

<sup>36</sup> Nepal Clearing House Ltd.: Overview. Available at: <https://nchl.com.np/introduction/>.

<sup>37</sup> NRB. 2023. Payment Systems Oversight Report 2022-23. Available at: [https://www.nrb.org.np/contents/uploads/2024/01/Payment-Oversight-Report-2022-23\\_V3\\_2023-12-29-1.pdf](https://www.nrb.org.np/contents/uploads/2024/01/Payment-Oversight-Report-2022-23_V3_2023-12-29-1.pdf), p. 18.

<sup>38</sup> LankaPay. Payment Exchange Name. Available at: [https://www.lankapay.net/products-and-services/pen/#:-:text=Payment%20Exchange%20Name%20\(PEN\)%20is,Fund%20Transfer%20Switch%20\(CEFTS\)](https://www.lankapay.net/products-and-services/pen/#:-:text=Payment%20Exchange%20Name%20(PEN)%20is,Fund%20Transfer%20Switch%20(CEFTS)).

CEFTS transaction values grew by 80 percent in 2022 from 2021, with growth rates consistently above 30 percent each quarter in 2023 (Figure 2.6). In 2022, the LankaPay Online Payment Platform saw a 73.5 percent rise in transactions and a 151.4 percent growth in value for direct current and savings account payments to government entities, reflecting a broader shift towards digital payments.

Recently, SBP launched a peer-to-merchant (P2M) payment service through Raast,<sup>39</sup> allowing easy payments across channels like mobile apps, internet banking, and Unstructured Supplementary Service Data (USSD) codes. Users can make payments by creating a Raast ID linked to their mobile number and initiate transfers using a mobile or international bank account number. Raast has partnered with organizations, such as Accountant General Pakistan Revenues and the Central Directorate of National Savings, for bulk disbursements.<sup>40</sup> Currently, customers are allowed one Raast ID per computerized national IDs. By FY23, Raast User IDs hit 34.2 million, with transactions soaring from 8 million in FY22 to 306 million in FY23 and the transaction value surging from USD413.06 million<sup>41</sup> to USD22.24 billion in FY23.

In August 2023, MMA launched Favara, which enables banks and payment system providers (PSPs) to use Favara IDs as aliases for customer account numbers, simplifying payment initiation without lengthy account details. Favara also launched two new services: Favara request, for sending payment requests and reminders, and Favara recall, allowing users to retract transactions in error or fraud, enhancing security and trust. Despite launching with just three of the eight banks in the Maldives and a transaction cap of USD3,286,<sup>42</sup> by 31 December 2023, Favara had recorded an impressive transaction volume of 912,802 and a value of USD179.25 million, with two more banks joining, raising the total to five.

In Bangladesh, Binimoy, also known as the Interoperable Digital Transaction Platform, serves as a conduit among various PSPs, allowing users to create a unique ID linked to any bank, PSP, or MFS account for seamless money transfers. This integration fosters easier bill payments and financial transactions through a unified platform.

<sup>39</sup> SBP. Raast-Pakistan's IPS. Available at: <https://www.sbp.org.pk/dfs/Raast.html>.

<sup>40</sup> SBP. 2023. Payment system review for the fiscal year 2022-23. Available at: <https://www.sbp.org.pk/PS/PDF/FiscalYear-2022-23.pdf>, pgs. 14-15.

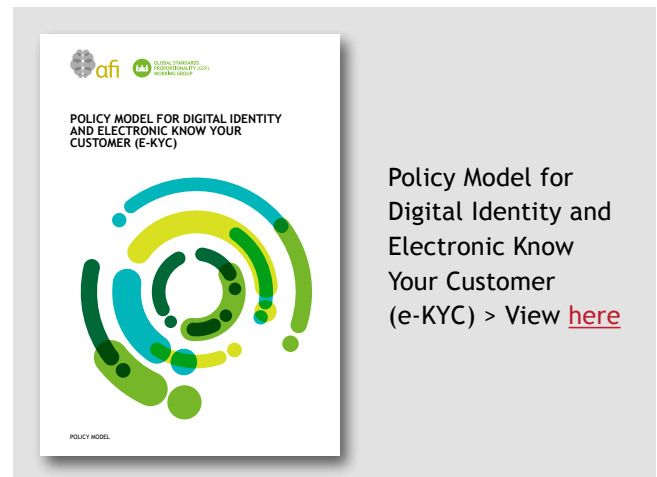
<sup>41</sup> Pakistan exchange rate: approximately PKR280 to USD1 (mid-December 2023).

<sup>42</sup> Maldives exchange rate: approximately MVR15.4 to USD1 (mid-December 2023).



## DIGITAL IDENTITY FOR E-KYCS

Digital identity stands out as a key enabler contributing to citizens' access to financial services in South Asia, streamlining public service delivery, and ensuring benefits reach the intended recipient. It facilitates easy bank account openings and access to various financial services, boosting one's financial well-being. Enhanced security through encrypted technologies and biometrics reduces fraud risks by authenticating users. In this regard, AFI's Policy Model<sup>43</sup> provides crucial guidance to member institutions for leveraging digital identity for e-KYC. Accordingly, South Asia has universally adopted digital identity to create a digitally and financially empowered society.



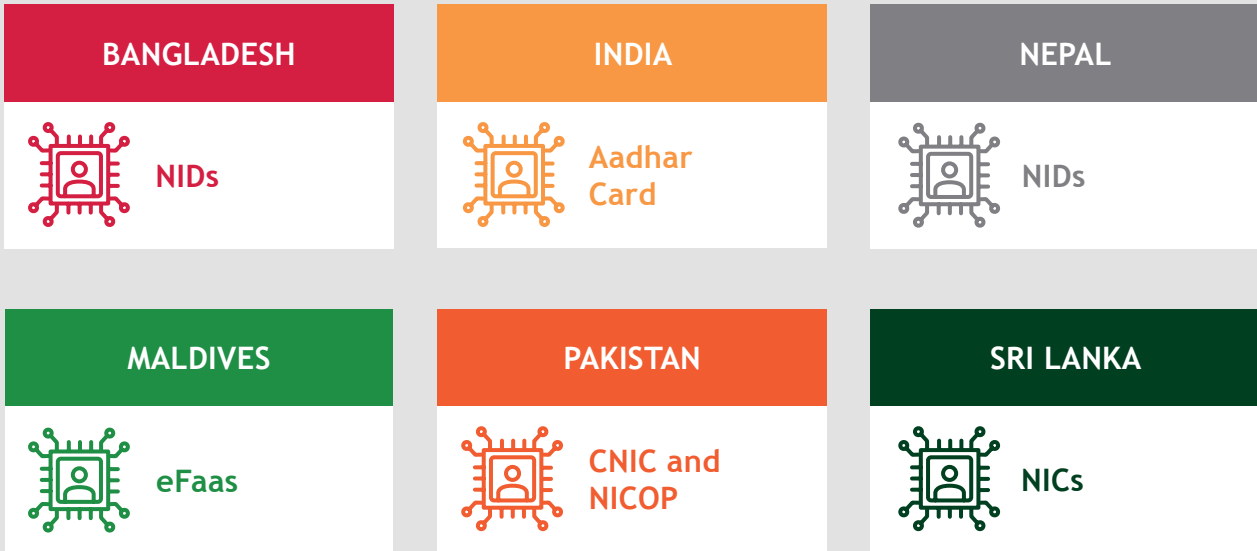
Policy Model for Digital Identity and Electronic Know Your Customer (e-KYC) > View [here](#)

In Bangladesh, national identity cards (NIDs) or Smart ID Cards have simplified e-KYC, speeding up financial service access. The National Identity Registration Bill from 2023 allows even minors to apply for NIDs, enhancing inclusivity.<sup>44</sup> Similarly, India and Pakistan have introduced Aadhar and computerized national IDs as unique identification documents. These cards, which contain demographic and biometric data, support secure banking and KYC processes. These digital IDs simplify administrative procedures, enhance transparency, and secure access to various services. Transitioning from physical to electronic IDs and introducing platforms like India's DigiLocker, which securely stores and shares verified documents with user consent, further simplifies document handling and cross-ministerial data sharing.

<sup>43</sup> AFI. 2021. Policy Model for Digital Identity and Electronic Know Your Customer (E-KYC). Available at: [https://www.afi-global.org/wp-content/uploads/2021/09/AFI\\_GSP\\_digital-ID\\_eKYC\\_PM.pdf](https://www.afi-global.org/wp-content/uploads/2021/09/AFI_GSP_digital-ID_eKYC_PM.pdf).

<sup>44</sup> Dhaka Tribune. 2023. National Identity Registration Bill 2023 placed in JS to transfer operation to home ministry. Available at: <https://www.dhakatribune.com/bangladesh/324433/bill-placed-in-js-to-shift-nid-operations-from-ec>.

DIGITAL IDENTITY FRAMEWORK IN SOUTH ASIA



Additionally, Nepal and Bhutan are integrating digital identity into their development frameworks. Nepal’s multipurpose NIDs, initiated in 2018, have seen gradual adoption due to their non-mandatory nature.<sup>45</sup> In contrast, Sri Lanka employs e-KYC, video KYC, and digital onboarding for banks and insurers through the Department for Registration of Persons in compliance with the regulations, guidelines, and rules issued by CBSL’s Financial Intelligence Unit (FIU).<sup>46</sup> Sri Lanka is also exploring blockchain for e-KYC to facilitate shared KYC information and documentation.<sup>47</sup> Bhutan delivered the National Digital Identity Act in 2023,

focusing on personal data control and self-sovereign identity.<sup>48</sup> Similarly, the Maldives is developing e-KYC regulations and guidelines<sup>49</sup> and has launched the digital ID app ‘e-Faas.’<sup>50</sup>



PRIVATE SECTOR-LED INNOVATIONS

Recent years have seen a surge in unique payment innovations across countries, driven by robust digital infrastructure and supportive payment ecosystems. Digital wallets and mobile money dominate in Bhutan and Nepal, whereas in Bangladesh digital transactions are led by MFS. These advancements, fostered by FinTechs, payment service operators (PSOs) and PSPs, reflect the dynamic nature of the payment landscape. Bangladesh’s MFS stands out by combining several innovations, establishing it as a distinct player in its payment ecosystem.

<sup>45</sup> The Kathmandu Post. 2023. Nepali public questions rationale of national ID card. Available at: <https://kathmandupost.com/national/2023/03/23/nepali-public-questions-rationale-of-national-id-card>.

<sup>46</sup> Financial Institutions (Customer Due Diligence) Rules No. 01 of 2016. Available at: [https://www.cbsl.gov.lk/sites/default/files/cbslweb\\_documents/publications/red/2019/Appendix\\_1\\_e.pdf](https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/publications/red/2019/Appendix_1_e.pdf), p. 143; Insurers (Customer Due Diligence) Rules No. 1 of 2019 as amended from time to time. Available at: <https://ircsl.gov.lk/insurance-legislation/aml-cft-related-laws/>; Guidelines for Non-Face-to-Face Customer Identification and Verification Using Electronic Interface Provided by the Department for Registration of Persons No. 3 of 2020, Financial Intelligence Unit, Central Bank of Sri Lanka. Available at: [https://fiusrilanka.gov.lk/docs/Guidelines/2020/Guideline-03-2020\\_REPEALED.pdf](https://fiusrilanka.gov.lk/docs/Guidelines/2020/Guideline-03-2020_REPEALED.pdf)

Alternatively, the reference of these rules may be found at: Administrative Measures adopted by the Govt and Monetary Board during the year, Page 94, [https://www.cbsl.gov.lk/sites/default/files/cbslweb\\_documents/publications/annual\\_report/2020/en/19\\_Part\\_03.pdf](https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/publications/annual_report/2020/en/19_Part_03.pdf)

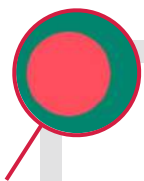
<sup>47</sup> CBSL. 2021. CBSL Successfully Completes the Process of Developing and Testing a Blockchain Technology based Shared Know-Your-Customer (KYC) Proof-of-Concept (POC) Available at: <https://www.cbsl.gov.lk/en/news/cbsl-successfully-completes-the-process-of-developing-and-testing-a-blockchain-technology-based-shared-kyc-poc>.

<sup>48</sup> Royal Government of Bhutan. 2023. National Digital Identity Act of Bhutan 2023. Available at: <https://parliament.bt/national-digital-identity-act-of-bhutan-2023>.

<sup>49</sup> MMA. 2021. Invitation for bids: Provision of Consultancy for the development of an e-KYC Regulation & Related Guidelines. Available at: <https://www.gazette.gov.mv/iulaan/163735>.

<sup>50</sup> Government of the Maldives, National Center for Information Technology. eFaas portal. Available at: <https://efaas.egov.mv>.

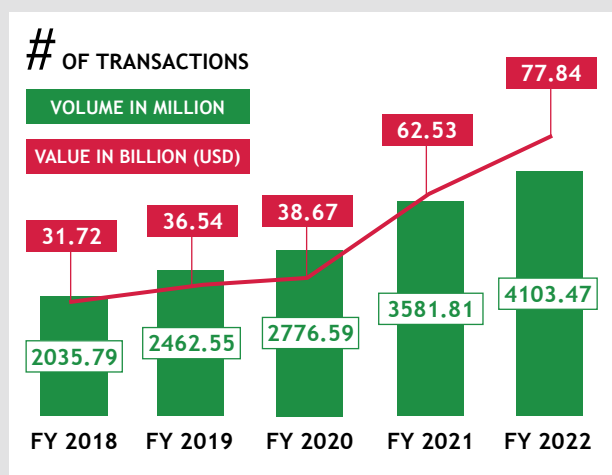




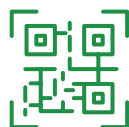
### THE CASE OF MFS IN BANGLADESH

In Bangladesh, MFS has significantly advanced financial inclusion since its inception in 2011, evolving from simple P2P transactions to offering a wide array of services, including cash-in/cash-out transactions, remittances, salary disbursements, bill payments, and more. As illustrated in **Figure 2.7**, MFS transactions grew from 2,035 million in FY 2018 to 4,103 million in FY 2022, with the transaction value rising from USD31.72 billion to USD77.84 billion. By June 2023, MFS accounts reached 207.27 million, with a higher rural uptake.<sup>51</sup> MFS does not require a smartphone to access and can be used via application or USSD code, catering to those without internet access. It is available even to the underbanked in remote areas through agents, requiring only a SIM card and NID for simplified KYC processes. This accessibility is key, as mobile connections are more common than internet access among households, making MFS crucial for essential financial services in Bangladesh.

FIGURE 2.7. MFS GROWTH IN BANGLADESH (2018-22)



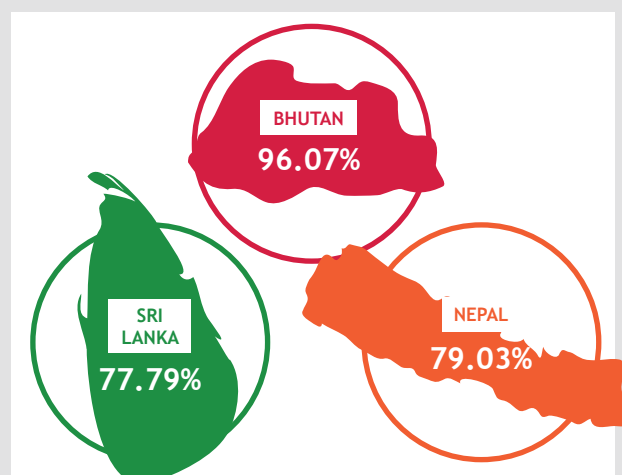
## 2.4. PAYMENT CHANNELS



### QR-BASED PAYMENT TECHNOLOGIES

The rapid growth of digital and payment infrastructures and the fast adoption of financial technology have fueled FinTech innovation, signaling a shift in public payment needs to regulators and private entities. QR code payment solutions, offering a contactless two-dimensional bar code to be scanned via smartphone for transactions, have seen rapid adoption in South Asia. These solutions are widely used for merchant payments, utility bills, and purchases, significantly transforming the region’s payment landscape. Although new, this innovation has revolutionized the South Asian payment landscape. In Bhutan, QR transactions have soared from 2.72 million in 2020 to 69.27 million in 2022.<sup>52</sup> Nepal saw QR transactions increase to 26.96 million in 2021-22, a nearly fivefold rise from the previous year’s 5.58 million.<sup>53</sup> Sri Lanka’s LANKAQR transactions also grew from 133,100 in 2020 to 599,500 in 2022, with 276,251 transactions in Q2 of 2023.<sup>54</sup>

GROWTH OF QR TRANSACTIONS (2022)



<sup>52</sup> Royal Monetary Authority of Bhutan. 2022. Annual Payment Systems Report 2022. Available at: <https://www.rma.org.bt/RMA%20Publication/DPS/Annual%20Payment%20System%20Report%202022.pdf>, p. 18.

<sup>53</sup> NRB. 2022. Payment System Oversight Report 2021-22. Available at: <https://www.nrb.org.np/contents/uploads/2023/02/Payment-Oversight-Report-2021-22-Final.pdf#:~:text=The%20E%80%9CPayment%20System%20Oversight%20Report,efficient%2C%20safe%2C%20and%20healthy%20payment,> p. 38.

<sup>54</sup> CBSL, Payments Bulletin. Available at: <https://www.cbsl.gov.lk/en/publications/other-publications/statistical-publications/payments-bulletin,> First Quarter 2023, Second Quarter 2023, p. 28.

<sup>51</sup> BB. 2023. Review on e-Banking and e-Commerce Statistics (June 2023). Available at: <https://www.bb.org.bd/en/index.php/econdata/index>

Despite a lack of official data on the rise of QR-based payments in other countries, their notable expansion and adoption have prompted central banks in the region to standardize unified QR codes. In Bangladesh, the move from proprietary QR codes to a standardized Bangla QR by BB enhanced interoperability and usability across payment platforms.<sup>55</sup> Bhutan is integrating licensed banks into the unified Bhutan QR Network,<sup>56</sup> based on EMVCo standards for seamless and interoperable payments via RMA's common QR infrastructure.<sup>57</sup> For broader interoperability, India has also transitioned to standardized QR codes like UPI QR and BharatQR. Similarly, Sri Lanka established LANKAQR to standardize and ensure interoperability for local currency transactions, benefiting both consumers and merchants.<sup>58</sup> LANKAQR has linked

with UPI India and UnionPay China to enable UPI and UnionPay Apps to scan LANKAQR to make payments in Sri Lanka.

Nepal and Pakistan have also implemented standardization frameworks for QR-based payments in 2021 and 2022, respectively, to enhance their payment ecosystems.<sup>59</sup> Nepal introduced QR Guidelines that detail rules for customers, merchants, issuers, PSPs, and PSOs, addressing aspects like eligibility criteria, settlement mechanisms, information security, risk management, compliance, customer services, and dispute resolution. Pakistan's QR Standard ensures QR code payments are universally processed across all service providers (banks, microfinance banks, and e-money issuers) and channels (IPs like Raast and payment cards), including P2P and P2M transactions. The Maldives also introduced QR code-based payments in 2019.<sup>60</sup>

<sup>55</sup> BB. 2023. PSD Circular Letter No. 1. Available at: <https://www.bb.org.bd/mediaroom/circulars/psd/feb082023psdl01.pdf>. BB. 2021. PSD Circular No. 401/2021. Available at: <https://www.bb.org.bd/mediaroom/circulars/psd/jan062021psd01.pdf>.

<sup>56</sup> Royal Monetary Authority of Bhutan. 2020. Guideline for Bhutan QR Payments 2020. Available at: <https://www.rma.org.bt/pssd/Rules/Guideline%20for%20Bhutan%20QR%20Payments%202020-converted.pdf>.

<sup>57</sup> Royal Monetary Authority of Buthan. 2020. Launch of Bhutan Quick Response Code to drive QR Code Payment. Available at: <https://www.rma.org.bt/pressrelease/Press%20Release%20Bhutan%20QR%20Code.pdf>.

<sup>58</sup> LankaPay. LankaQR. Available at: <https://www.lankapay.net/products-and-services/lankaqr>.

<sup>59</sup> NRB. 2021. Nepal QR Standardization Framework and Guidelines. Available at: <https://www.nrb.org.np/category/policies-guidelines/?department=psd>; SBP. 2022. Standard for Interoperable QR Code for Person-to-Person and Merchant Payments. Available at: <https://www.sbp.org.pk/disd/2022/CL1.htm>.

<sup>60</sup> MMA. 2022. Payments bulletin 2019-2022. Available at: <http://www.mma.gov.mv/documents/Payments%20Bulletin/2023/PB-Oct-2023.pdf>.





### VOICE BOX

To improve the QR user experience, devices like VoiceBox QR have been introduced in the region, which audibly confirm transaction outcomes upon QR code scanning. This innovation overcomes delayed SMS alerts by offering instant transaction confirmation. It benefits illiterate merchants by ensuring accessibility, thereby advancing financial inclusion for small and marginalized businesses.



### CONTACTLESS CARDS

Recent years have seen increased adoption of contactless cards in the region, with central banks supporting the technology. For example, BB expanded Near Field Communication (NFC) to debit and prepaid cards and raised transaction limits from USD27 to USD45, removing PIN requirements. Similarly, NRB increased NFC transaction limits to USD37.68.<sup>61</sup> A maximum NFC transaction limit of approximately USD80 is also operational in Sri Lanka.



### OFFLINE PAYMENT SYSTEMS BRIDGING THE DIGITAL DIVIDE

Some PSOs like FonePay in Nepal have innovated to develop offline QR payment solutions such as tap-and-pay functions (e.g., FoneTag, NepalPayTag, and Tap to Phone), allowing transactions where merchants are online but customers are offline. This innovation uses NFC technology, enabling customers to pay by tapping their phones on a Point of Sale (POS) device without an internet connection.

In India, the e-RUPI was launched in 2021 as a contactless, prepaid voucher for specific uses and recipients redeemable at the accepting center functioning without a bank account or personal information sharing and accessible on smartphones and basic phones via an SMS or QR code.<sup>62</sup> This addresses financial inclusion by overcoming barriers related to the cost and access to internet-enabled smartphones. Similarly, Pakistan introduced the Asaan Mobile Account

<sup>61</sup> Nepal exchange rate: approximately NPR133 to USD1 (mid-December 2023).

<sup>62</sup> National Payments Corporation of India. e-RUPI: Prepaid e-Voucher - Product Booklet. Available at: <https://www.npci.org.in/PDF/npci/e-rupi/Product-Booklet.pdf>.

scheme to facilitate financial inclusion, especially for the unbanked and low-income population. This platform is accessible via feature phones and USSD codes, making it a powerful tool for extending financial services without requiring internet access.



### REGIONAL SOLUTIONS TO EASE CROSS-BORDER PAYMENTS

Cross-border remittances are critical for the region's economic development, with around USD176 billion flowing into the region annually,<sup>63</sup> significantly contributing to the GDPs of countries like Bangladesh, Bhutan, Nepal, and Pakistan.<sup>64</sup> These remittances, often the first financial service used by migrants, offer a unique opportunity for financial inclusion.<sup>65</sup> However, studies estimate that around 40 percent of South Asians conducting cross-border transactions rely on informal channels, such as Hundi, for receiving remittances,<sup>66</sup> posing risks. To address this, governments and private players have worked to ease cross-border fund transfers. For example, BB has permitted banks to partner with MFS providers, enabling expatriates to send money directly to MFS accounts for immediate use, including paying school fees, utility bills, and e-commerce, thereby overcoming geographical boundaries.

In Pakistan, SBP launched the Roshan Digital Account initiative in partnership with commercial banks to simplify cross-border fund transfers for non-resident Pakistanis. Non-residents with NIDs, National Identity Card for Overseas Pakistanis, or Pakistan Origin Cards can open digital accounts in Pakistani banks without a visit to a bank or an embassy, making the process remote and digital. These accounts allow for real-time currency conversion to PKR.<sup>67</sup> Roshan Digital

<sup>63</sup> World Bank. 2023. Remittance flows reached an all-time high in 2022 in South Asia. Available at: <https://blogs.worldbank.org/peoplenews/remittance-flows-reached-all-time-high-2022-south-asia>.

<sup>64</sup> BB. 2023. Quarterly Report on Remittance Inflows in Bangladesh (January-March 2023). Available at: [https://www.bb.org.bd/pub/quarterly/remittance\\_earnings/remittance%20january-march%202023.pdf](https://www.bb.org.bd/pub/quarterly/remittance_earnings/remittance%20january-march%202023.pdf). NRB. 2021. Impact of Remittances on Rural Poverty in Nepal: Evidence from Cross-Section Data. Available at: <https://www.nrb.org.np/contents/uploads/2021/08/NRB-WP-53-Impact-of-Remittances-Rohan-and-Mira-1.pdf>.

<sup>65</sup> Bank for International Settlements. 2022. The journey so far: making cross-border remittances work for financial inclusion, FSI Insights No. 43. Available at: <https://www.bis.org/fsi/publ/insights43.htm>

<sup>66</sup> Asian Development Bank. 2019. Is Mobile Remittance a Solution for South Asia? Available at: <https://development.asia/insight/mobile-remittance-solution-south-asia>. The study is based on four South Asian nations namely, Bangladesh, India, Nepal and Sri Lanka.

<sup>67</sup> SBP. Roshan Digital Account: SBP Initiative for Digital Onboarding of Overseas Pakistanis. Available at: <https://www.sbp.org.pk/rda/index.html>.

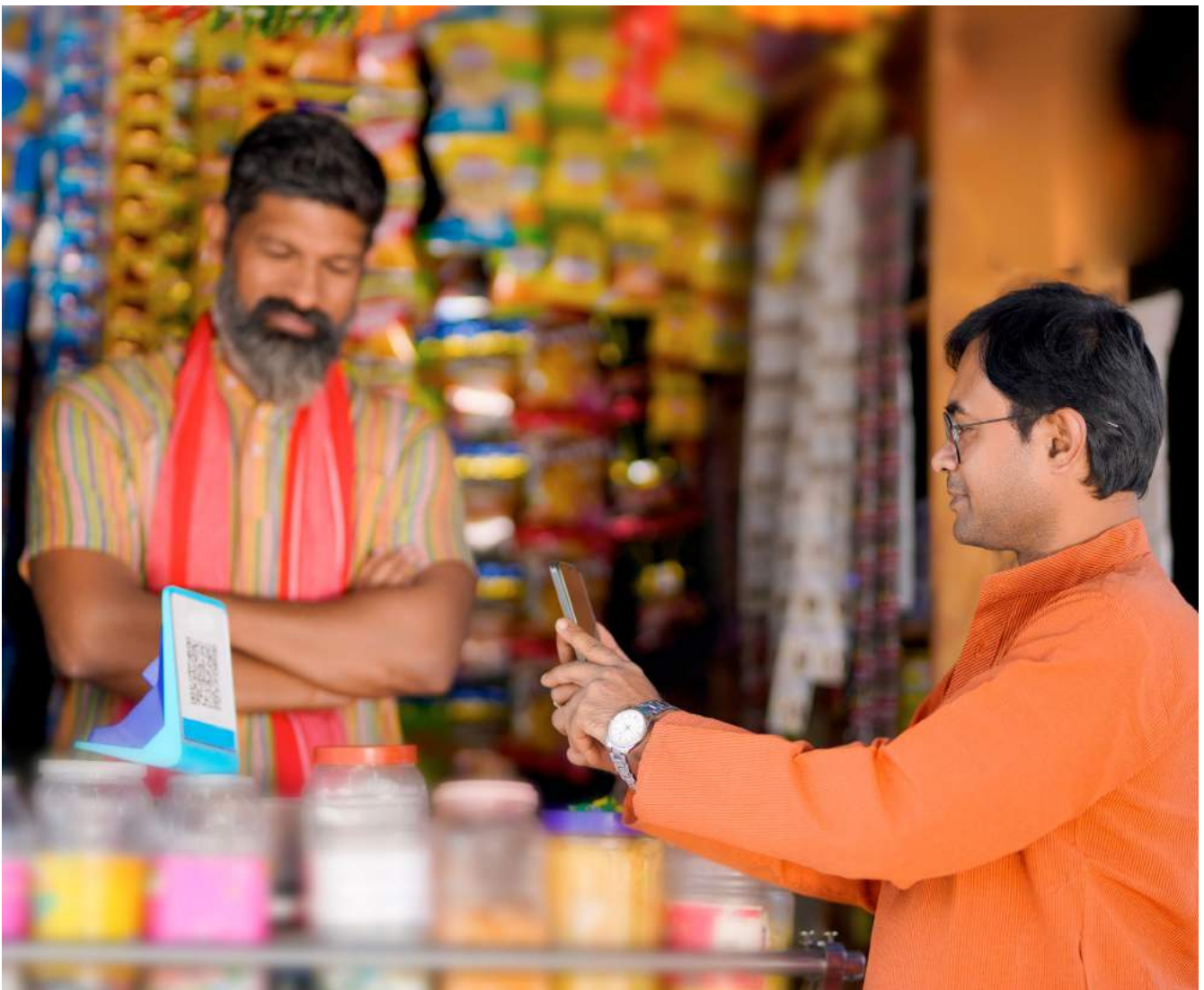
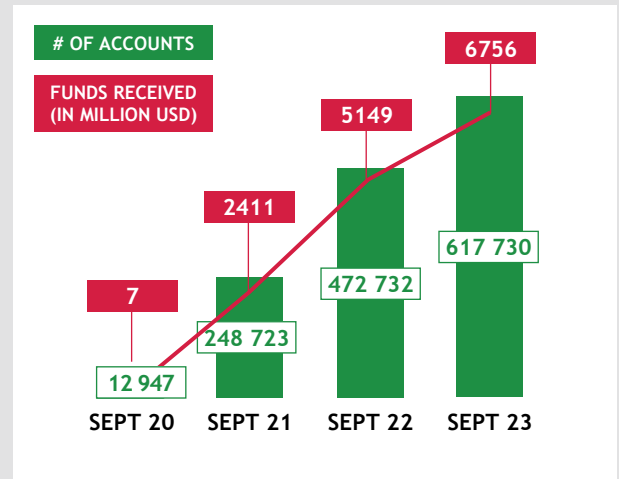
Accounts have surged from 12,947 in 2020 to 617,730 in 2023, with funds received jumping from USD7 million to USD6,756 million (Figure 2.8).<sup>68</sup> Apart from this, SBP introduced the Pakistan Remittance Initiative in collaboration with the Ministry of Overseas Pakistanis and the Ministry of Finance, facilitating efficient and free P2P remittance flow.

Bhutan has made significant headways towards regional collaboration in South Asia, with its RMA launching the RuPay Project in August 2019. This project connects Bhutan's and India's national switches, allowing the use of RuPay cards for digital payments.<sup>69</sup> Leveraging Bhutan's tourism economy,

<sup>68</sup> SBP. Key Statistics on Roshan Digital Accounts. Available at: <https://www.sbp.org.pk/RDA/Progress.html>.

<sup>69</sup> Royal Monetary Authority of Buthan. Payment Systems Background. Available at: <https://www.rma.org.bt/paymentsystem.jsp>.

FIGURE 2.8. GROWTH OF ROSHAN DIGITAL ACCOUNTS IN PAKISTAN (2020-23)



this integration facilitates transactions for tourists from both nations by eliminating the need for multiple currencies. In 2021, the RMA partnered with NPCI to introduce UPI QR-based payments in Bhutan.<sup>70</sup>

India and Nepal have signed a MoU<sup>71</sup> to integrate Nepal's NCHL with India's UPI system, enabling seamless cross-border payments through the national payment interface<sup>72</sup> and potentially introducing QR payment services through Fonepay's collaboration with NPCI's international arm.<sup>73</sup> Plans are underway to launch UPI-Nepal, an interoperable real-time payment platform for P2P and P2M cross-border transactions,<sup>74</sup> aiming to simplify digital transactions for entrepreneurs, students, pilgrims, and tourists and enhance financial connectivity between the two countries. Similarly, Sri Lanka has agreements with UnionPay International and NPCI International Payments Limited to enable tourist payments through LANKAQR. Meanwhile, the Maldives is exploring avenues to introduce the Favara system for cross-border regional transactions as its next phase.

<sup>70</sup> Royal Monetary Authority of Bhutan. 2021. BHIM UPI to foray into Bhutan in collaboration with Royal Monetary Authority (RMA) of Bhutan. Available at: <https://www.npci.org.in/PDF/npci/press-releases/2021/NPCI-Press-Release-BHIM-UPI-to-foray-into-Bhutan-in-collaboration-with-Royal-Monetary-Authority-RMA-of-Bhutan.pdf>; Embassy of India in Bhutan. Launch of BHIM UPI in Bhutan. Available at: [https://www.indembthimphu.gov.in/public\\_files/assets/pdf/PressRelease\\_BHIM.pdf](https://www.indembthimphu.gov.in/public_files/assets/pdf/PressRelease_BHIM.pdf).

<sup>71</sup> The Kathmandu Post. 2023. Nepal, India sign pact for cross-border digital payment. Available at: <https://www.kathmandupost.com/money/2023/06/01/hed-nepal-india-sign-pact-for-cross-border-digital-payment>.

<sup>72</sup> ShareSansar. 2023. UPI of India and NPI of Nepal to enable cross border payments. Available at: <https://www.sharesansar.com/newsdetail/upi-of-india-and-npi-of-nepal-to-enable-cross-border-payments-2023-06-05>.

<sup>73</sup> Fonepay. 2023. Fonepay and NIPL coming up with cross border QR code-based payment solution between Nepal and India. Available at: <https://fonepay.com/blogs/fonepay-and-nipl-cross-border-qr-code-based-payment-solution-between-nepal-and-india>.

<sup>74</sup> Global Government FinTech. 2022. Nepal adopts India's UPI payment platform. Available at: <https://www.globalgovernmentfintech.com/nepal-adopts-indias-upi-payments-platform>; Gateway Payment Service. UPI Nepal: New Product Coming Soon. Available at: <https://gatewaypayment.com.np/upinepal>.



## A BUDDING INTEREST IN CBDC AMONG COUNTRIES

Central banks globally are keenly exploring Central Bank Digital Currency (CBDC) to modernize payments, reduce the operational cost involved in physical cash management, and foster financial inclusion. CBDCs also aim to match the functionalities of private virtual currencies without their associated risks.<sup>75</sup> India initiated the phased introduction of its digital rupee. The wholesale CBDC commenced in November 2022, with the retail segment pilot concluding satisfactorily by December 2022.<sup>76</sup> This CBDC, founded on distributed ledger technology, assures anonymity and traceability. The RBI plans to expand the pilot among more participating banks and thematic areas. Other countries are actively researching CBDCs. BB is exploring CBDC issuance, backed by government-led feasibility studies.<sup>77</sup> NRB is drafting legislative amendments to issue and govern digital currency<sup>78</sup> and has published a concept report on CBDC development for public consultation. NRB has established a dedicated division for CBDC.<sup>79</sup> Similarly, Pakistan's SBP is examining CBDC technologies and use cases in collaboration with multilateral agencies providing technical assistance. Meanwhile, Bhutan's RMA, the Maldives' MMA, and Sri Lanka's CBSL are in the research phase. Bhutan has shown interest in piloting various use cases for the digital Ngultrum, including retail, wholesale, and cross-border transactions.<sup>80</sup>

<sup>75</sup> RBI. 2022. Concept Note on Central Bank of Digital Currency 2022. Available at: [https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/CONCEPTNOTEACB531172E0B4D\\_FC9A6E506C2C24FFB6.PDF](https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/CONCEPTNOTEACB531172E0B4D_FC9A6E506C2C24FFB6.PDF).

<sup>76</sup> RBI. 2022. Annual Report 2022-23. Available at: <https://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/OANNUALREPORT2022322A548270D6140D998AA20E8207075E4.PDF>, p. 7.

<sup>77</sup> Government of Bangladesh, the Ministry of Finance. 2022. Return to the Path of Development Leaving the COVID-19 Behind: National Budget Speech 2022-23. Available at: [https://mof.portal.gov.bd/page/b29661b6\\_927f\\_4012\\_9f83\\_5ac47dbd6ebd/BG%20Press\\_Speech%202022-23%20English%20Final.pdf](https://mof.portal.gov.bd/sites/default/files/files/mof.portal.gov.bd/page/b29661b6_927f_4012_9f83_5ac47dbd6ebd/BG%20Press_Speech%202022-23%20English%20Final.pdf), p. 123.

<sup>78</sup> The Kathmandu Post. 2022. Central Bank working to amend Act to issue digital currency. Available at: <https://kathmandupost.com/national/2022/08/07/central-bank-working-to-amend-act-to-issue-digital-currency>; NRB. 2022. Monetary Policy for 2022-23. Available at: <https://www.nrb.org.np/contents/uploads/2022/08/Monetary-policy-in-English-2022-23-Full-text.pdf>, pgs. 12 and 17.

<sup>79</sup> NRB. 2022. Concept Report on CBDC: Identifying appropriate policy goals and design for Nepal. Available at: <https://www.nrb.org.np/contents/uploads/2022/10/CBDC-for-Nepal.pdf>.

<sup>80</sup> Royal Monetary Authority of Bhutan. 2021. Pilot Project on Central Bank Digital Currency. Available at: <https://www.rma.org.bt/pressrelease/PRESS%20RELEASE%20CBDC.pdf>.

### 3. REGULATORY FRAMEWORK FACILITATING INNOVATION AND INCLUSION



The South Asian region demonstrates a progressive trend in adopting national strategies on financial inclusion as an overarching policy guide covering many aspects of financial inclusion, including digital inclusion. An enabling environment is provided through regulations and legislation for DFSs aiding financial inclusion.

### 3.1 FINANCIAL INCLUSION STRATEGIES GOING DIGITAL

The AFI's Maya Declaration has pushed South Asian member countries like Bangladesh, Bhutan, India, Pakistan, and Sri Lanka to develop national financial inclusion strategies (NFIS),<sup>81</sup> focusing on digital financial inclusion and the crucial role of DFS in achieving financial inclusion.<sup>82</sup> Although the Maldives<sup>83</sup> and Nepal<sup>84</sup> have yet to develop NFISs, they are progressing towards this goal. The MMA's 2018-2022 strategic plan has recognized the need to develop and adopt an NFIS for the Maldives. In contrast, Nepal has adopted the Making Access Possible road map, which sets strengthening digital payment methods as a short-term goal to achieve its key priority opportunities, i.e., unlocking the constrained credit and savings market and improving payment systems. The Maldives conducted its first demand-side National Financial Inclusion Survey in 2022. The National Financial Inclusion Technical Committee has been constituted to prepare and implement NFIS Maldives. These countries, along with Bangladesh, India, Pakistan, and Sri Lanka, have also adopted national digitization

<sup>81</sup> AFI. 2016. National Financial Inclusion Strategies: A Toolkit. Available at: [https://www.afi-global.org/wp-content/uploads/2016/06/NFIS-Toolkit\\_2021.pdf](https://www.afi-global.org/wp-content/uploads/2016/06/NFIS-Toolkit_2021.pdf).

<sup>82</sup> The Ministry of Finance of Bangladesh and BB. 2021. National Financial Inclusion Strategy. Available at: [https://www.bb.org.bd/aboutus/regulationguideline/nfis\\_eng.pdf](https://www.bb.org.bd/aboutus/regulationguideline/nfis_eng.pdf). Royal Monetary Authority of Bhutan. 2018. National Financial Inclusion Strategy 2018-23. Available at: <https://www.rma.org.bt/RMA%20Publication/papers/National%20Financial%20Inclusion%20Strategy%202018-2023.pdf>; RBI. 2019. National Strategy for Financial Inclusion. Available at: <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/NSFIREPORT100119FF91DAA6B73B497A923CC11E0811776D.PDF>; SBP. 2019. National Financial Inclusion Strategy. Available at: <https://www.finance.gov.pk/NFIS.pdf>; CBSL. 2021. National Financial Inclusion Strategy for Sri Lanka 2021-24. Available at: [https://www.cbsl.gov.lk/sites/default/files/cbslweb\\_documents/NFIS%20Summary\\_%20English\\_2.pdf](https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/NFIS%20Summary_%20English_2.pdf).

<sup>83</sup> Based on information provided by MMA as part of primary research interviews conducted.

<sup>84</sup> NRB. 2018. Nepal Financial Inclusion Action Plan. Available at: [https://un.org.np/sites/default/files/doc\\_publication/2018-08/MAP%20Nepal%20Financial%20Inclusion%20Action%20Plan.pdf](https://un.org.np/sites/default/files/doc_publication/2018-08/MAP%20Nepal%20Financial%20Inclusion%20Action%20Plan.pdf); Making Access Possible. Nepal Financial Inclusion Roadmap 2017-22. Available at: [https://nepalindata.com/media/resources/items/12/bFinancial\\_Inclusion\\_Roadmap.pdf](https://nepalindata.com/media/resources/items/12/bFinancial_Inclusion_Roadmap.pdf).

policies, to complement their financial inclusion efforts.<sup>85</sup> Further, SBP's banking on equality policy encourages financial institutions to collaborate with FinTechs and incubators to develop digital tools aimed at women, enhancing digital literacy and access to women-centric products and services.

The NFIS across South Asia reflects each country's unique approach to promoting innovation in DFS through their financial inclusion strategies. Although the strategies vary, DFS is recognized as a crucial pillar for financial inclusion, emphasizing the need for risk assessment alongside its promotion.

However, the lack of explicit mention of DFS in some countries' financial inclusion definitions or vision statements has not detracted from its acknowledged importance in strategy documents.<sup>86</sup>

At the same time, South Asian countries are at various stages of DFS development, with differences in geography and consumer behavior creating a diverse landscape of DFS strategy integration. Identifying shared strengths and commonalities can pave the way for regional cooperation and joint development.

### 3.2 PAYMENT SYSTEM LEGISLATIONS

Private sector participation is crucial for a robust payment ecosystem. South Asian regulators, including those in India,<sup>87</sup> Nepal,<sup>88</sup> Maldives,<sup>89</sup> Pakistan,<sup>90</sup> and Sri Lanka<sup>91</sup>, have adopted comprehensive legislative frameworks for payment and settlement systems, granting central banks authority to regulate private

<sup>85</sup> Digital India Programme, Digital Nepal Framework, National Digital Payments Roadmap of Bangladesh, Digital Pakistan Policy 2018, Digital Maldives Program, National Digital Strategy 2030 of Sri Lanka.

<sup>86</sup> SBP. Banking on Equality. Available at: <https://www.sbp.org.pk/boe/BankingonEquality.pdf>, p. 2.

<sup>87</sup> Government of India. 2007. Payment and Settlement System Act. Available at: [https://www.indiacode.nic.in/handle/123456789/2082?sam\\_handle=123456789/1362#:~:text=India%20Code%3A%20Payment%20and%20Settlement%20Systems%20Act%2C%202007&text=Long%20Title%3A,connected%20therewith%20or%20incidental%20thereto](https://www.indiacode.nic.in/handle/123456789/2082?sam_handle=123456789/1362#:~:text=India%20Code%3A%20Payment%20and%20Settlement%20Systems%20Act%2C%202007&text=Long%20Title%3A,connected%20therewith%20or%20incidental%20thereto).

<sup>88</sup> Government of Nepal. 2018. Payment Systems Act. Available at: <https://www.nrb.org.np/category/acts/?department=lgd>

<sup>89</sup> Government of the Maldives. 2021. National Payment System Law No. 8/2021. Available at: [https://www.mma.gov.mv/documents/Laws/National%20Payment%20System%20Act%208-2021%20\(english\).pdf](https://www.mma.gov.mv/documents/Laws/National%20Payment%20System%20Act%208-2021%20(english).pdf).

<sup>90</sup> Government of Pakistan. 2005. Payment Systems and Electronic Fund Transfers Act. Available at: [https://www.sbp.org.pk/isd/ps\\_eft\\_act\\_2005.pdf](https://www.sbp.org.pk/isd/ps_eft_act_2005.pdf).

<sup>91</sup> Government of Sri Lanka. 2005. Payment and Settlement Systems Act No. 28 of 2005. Available at: [https://www.cbsl.gov.lk/sites/default/files/cbslweb\\_documents/laws/acts/en/Payment\\_settlement\\_sys\\_act.pdf](https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/laws/acts/en/Payment_settlement_sys_act.pdf).

sector engagement, including supervision, entry criteria, and competition policies. While Bangladesh<sup>92</sup> and Bhutan<sup>93</sup> do not have specific legislation in this area, they have established regulations to oversee it. Bangladesh is in the process of enacting legislation related to payment and settlement, currently under review by its Ministry of Finance.<sup>94</sup>

### 3.3 DATA GOVERNANCE AND PROTECTION

Ensuring clear data management standards is crucial for promoting digital payment innovation. Regulators and stakeholders across the region acknowledge the importance of addressing data and privacy risks associated with digital payments. They are moving towards or have already implemented general data protection laws.<sup>95</sup> Further, specific frameworks for financial data protection have been established,<sup>96</sup> including measures like biometric credentials, time-based one-time passwords (OTPs), limits, and monitoring login attempts to prevent breaches.

Service providers are mandated to adhere to information security guidelines covering aspects of data storage, encryption, and the security of applications and infrastructure. BFIs are legally obligated to protect user data, ensuring it remains secure and accurate when shared with payment system participants. Countries like India have introduced data localization requirements for payment systems.<sup>97</sup> Despite these efforts, data protection in South Asia is still evolving, with governments actively working to enhance regulations.

<sup>92</sup> Government of Bangladesh. 2014. Payment and Settlement Systems Regulations. Available at: <https://www.bb.org.bd/aboutus/regulationguideline/bpss.pdf>.

<sup>93</sup> Royal Government of Bhutan. 2018. The Payment and Settlement Systems Rules and Regulations. Available at: <https://www.rma.org.bt/pssd/Rules/Payment%20&%20Settlement%20Systems%20Rules%20and%20Regulations,%202018.pdf>.

<sup>94</sup> Based on primary interview with financial regulators.

<sup>95</sup> Government of India. 2023. Digital Personal Data Protection Act. Available at: <https://www.meity.gov.in/writereaddata/files/Digital%20Personal%20Data%20Protection%20Act%202023.pdf>; Government of Nepal. 2018. Privacy Act. Available at: <https://www.lawcommission.gov.np/en/wp-content/uploads/2019/07/The-Privacy-Act-2075-2018.pdf>; Government of Sri Lanka. 2022. Personal Data Protection Act. Available at: <https://www.parliament.lk/uploads/acts/gbills/english/6242.pdf>.

<sup>96</sup> BB. 2023. Guidelines on ICT Security. Available at: [https://www.bb.org.bd/aboutus/draftguinotification/guideline/draft\\_ictpolicy.pdf](https://www.bb.org.bd/aboutus/draftguinotification/guideline/draft_ictpolicy.pdf); Royal Monetary Authority of Bhutan. 2021. Guidelines on Data Privacy and Data Protection 2021. Available at: [https://www.rma.org.bt/assets/images/news\\_image/DPDP%20for%20FSPs.pdf](https://www.rma.org.bt/assets/images/news_image/DPDP%20for%20FSPs.pdf); Royal Monetary Authority of Bhutan. 2021. Data Residency Policy for Payment Systems Data. Available at: [https://www.rma.org.bt/assets/images/news\\_image/DPDP%20for%20FSPs.pdf](https://www.rma.org.bt/assets/images/news_image/DPDP%20for%20FSPs.pdf); Royal Monetary Authority of Bhutan. 2021. Data Residency Policy for Payment Systems Data. Available at: [https://www.rma.org.bt/DownloadImage?FILENAME=FIRSTFILENAME&IDCOLNAME=LAWID&ID=136&TABLE=TBLWEB\\_LAWSBYLAW&IMAGECOL=FIRSTFILE](https://www.rma.org.bt/DownloadImage?FILENAME=FIRSTFILENAME&IDCOLNAME=LAWID&ID=136&TABLE=TBLWEB_LAWSBYLAW&IMAGECOL=FIRSTFILE).

<sup>97</sup> RBI. 2018. Storage of Payment System Data. Available at: <https://rbidocs.rbi.org.in/rdocs/notification/PDFs/153PAYMENTEC233862ECC4424893C558DB75B3E2BC.PDF>.

### 3.4. REGULATORY APPROACH FACILITATING CONSUMER PROTECTION AND ADOPTION



#### CUSTOMER SERVICES AND GRIEVANCE REDRESSAL FRAMEWORK

South Asian countries are actively protecting financial consumers' rights and enhancing awareness of their basic financial rights by setting up dedicated customer service departments and grievance redressal frameworks.<sup>98</sup> Central banks have proactively formulated guidelines, regulations, and/or manuals to support complaint handling and grievance redressal,<sup>99</sup> focusing on safeguarding customers by utilizing payment innovations. These measures include user-friendly methods for consumers to seek redress against financial service providers (FSPs), such as hotline numbers, text messaging, e-mails, and online complaint forms. Additionally, online dispute resolution platforms have been introduced to enhance the efficiency and accessibility of resolving financial disputes, streamlining the process in the region.



#### DIGITAL AND FINANCIAL LITERACY MEASURES

Governments and regulators in the region have established national frameworks to enhance financial knowledge and digital skills among their populations. The National Financial Inclusion Survey of the Maldives highlights the importance of integrating financial

<sup>98</sup> For example, the Financial Integrity and Customer Services Department in BB, the Consumer Protection Cell in the Royal Monetary Authority of Bhutan, the Complaint Management System in RBI, the Financial Consumer Protection and Grievance Management System in NRB, the Consumer Protection Department in the SBP, and the Financial Consumer Relations Department in CBSL.

<sup>99</sup> BB. 2014. Guidelines for Customer Services and Complaint Management. Available at: [https://www.bb.org.bd/aboutus/regulationguideline/ficpd/cipc\\_eng.pdf](https://www.bb.org.bd/aboutus/regulationguideline/ficpd/cipc_eng.pdf); RBI. 2021. Reserve Bank - Integrated Ombudsman Scheme. Available at: [https://rbidocs.rbi.org.in/rdocs/content/pdfs/RBIO2021\\_amendments05082022.pdf](https://rbidocs.rbi.org.in/rdocs/content/pdfs/RBIO2021_amendments05082022.pdf); MMA. 2022. Guidelines on Consumer Protection on Electronic Fund Transfers. Available at: [https://www.mma.gov.mv/documents/Laws/Eletronic%20Funds%20Transfer%20Guideline%20\(english\).pdf](https://www.mma.gov.mv/documents/Laws/Eletronic%20Funds%20Transfer%20Guideline%20(english).pdf); NRB. 2020. Financial Consumer Protection and Grievance Management Manual 2020. Available at: <https://www.nrb.org.np/contents/uploads/2020/09/Financial-consumer-protection-and-grievance-management-manual.pdf>; CBSL. 2023. Financial Consumer Protection Regulations No. 1 of 2023. Available at: [https://www.cbsl.gov.lk/sites/default/files/cbslweb\\_documents/laws/cdg/fcrd\\_regulations\\_no\\_01\\_of\\_2023\\_e.pdf](https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/laws/cdg/fcrd_regulations_no_01_of_2023_e.pdf); Royal Monetary Authority of Bhutan. 2019. Consumer Protection for Financial Services Rules and Regulations. Available at: [https://www.rma.org.bt/consumer\\_protection/rules/consumer\\_protection\\_2019.pdf](https://www.rma.org.bt/consumer_protection/rules/consumer_protection_2019.pdf); Banking Mohtasib Pakistan. Available at: <https://www.bankingmohtasib.gov.pk/Website/compliantForm.aspx>; SBP. Rules for Payment system operators and payment system providers. Available at: <https://www.sbp.org.pk/psd/2014/C3-Annex.pdf>.



education into school curricula to improve financial literacy while advancing digital literacy as part of its Digital Maldives plan.<sup>100</sup> Through its Digital Nepal Framework, Nepal addresses low digital literacy as a challenge to technology-based economic growth.<sup>101</sup>

Bhutan has also adopted a five-year National Financial Literacy Strategy (2018-2023) to address challenges against financial literacy, complementing its NFIS and commitments under the Maya Declaration 2014.<sup>102</sup> Likewise, India has also formulated a five-year

National Strategy for Financial Education (2020-25) in collaboration with all financial regulators.<sup>103</sup> Sri Lanka's NFIS<sup>104</sup> recognizes the importance of financial literacy, with the Financial Literacy Survey 2021 identifying the positive link between DFS usage and financial literacy and highlighting the need for equitable digital literacy access. Sri Lanka plans to launch a five-year Financial Literacy Roadmap in early 2024 to promote financial behavior change through evidence-based strategies emphasizing digital literacy.

**TABLE 3.1. FINANCIAL AND DIGITAL LITERACY FRAMEWORKS IN SOUTH ASIA**

COUNTRY	NATIONAL STRATEGY	FINANCIAL LITERACY RECOGNIZED IN NFIS	RECOGNITION OF DIGITAL LITERACY
<b>BANGLADESH</b>	Financial literacy guidelines for BFIs, 2022	“Promoting financial literacy and consumer empowerment” acknowledged as the NFIS’s fourth strategic goal	Digital financial literacy defined within the financial literacy guidelines and further acknowledged among the strategic objectives
<b>BHUTAN</b>	National Financial Literacy Strategy 2018-23	“Financial literacy/ capability and consumer protection” recognized among the four pillars of NFIS	An assessment of a consumer’s financial capability considers their knowledge and skills pertaining to DFS
<b>INDIA</b>	National Strategy for Financial Education 2020-25	“Financial literacy and education” identified in the vision. Financial literacy Initiatives recognized among the triads of financial inclusion	The National Strategy for Financial Education emphasizes the promotion of digital financial literacy through multi-media tools and group training
<b>MALDIVES</b>	The Maldives has not formulated a financial literacy strategy yet	The National Financial Inclusion Survey recommends the incorporation of financial literacy and education into the formal school curriculum	Notwithstanding the absence of a national financial literacy strategy, digital literacy has been identified among the primary tasks of the Digital Maldives Project
<b>NEPAL</b>	Financial Literacy Framework 2020	The Making Access Possible Action Plan encompasses six priority areas, including “consumer empowerment, protection and education”	The Financial Literacy Framework seeks to advance awareness regarding DFS
<b>PAKISTAN</b>	National Financial Literacy Program	The NFIS Action Plan places special emphasis on “raising financial awareness among poor people and women”	Enhanced usage of digital payments recognized among the NFIS’s headline targets
<b>SRI LANKA</b>	Financial Literacy Roadmap to be implemented in 2024	NFIS’s fourth pillar pertains to “financial literacy and capacity building”	The Financial Literacy Roadmap identifies digital literacy among its key content areas

<sup>100</sup> World Bank. 2022. Realising a Digital Future for Maldives. Available at: <https://www.worldbank.org/en/news/feature/2022/02/08/realising-a-digital-future-for-maldives>.

<sup>101</sup> Kathmandu Post. 2022. Poor digital literacy hinders growth in Nepal. Available at: <https://kathmandupost.com/money/2022/05/02/poor-digital-literacy-hinders-growth-in-nepal>.

<sup>102</sup> Royal Monetary Authority of Bhutan. 2018. National Financial Literacy Strategy 2018-23. Available at: <https://www.rma.org.bt/RMA%20Publication/papers/National%20Financial%20Literacy%20Strategy%202018-2023.pdf>.

<sup>103</sup> RBI. 2020. National Strategy for Financial Education 2020-2025. Available at: <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/NSFE202020251BD2A32E39F74D328239740D4C93980D.PDF>.

<sup>104</sup> CBSL. 2021. Annual Report 2021. Available at: <https://www.cbsl.gov.lk/en/publications/economic-and-financial-reports/annual-reports/annual-report-2021>, p. 261.



## CYBER SECURITY

Regulation of DFS involves implementing preventive measures and consumer protection guidelines to mitigate risks, including data security threats. Most countries in the region have established their regulations or guidelines covering cybersecurity through data protection laws<sup>105</sup> and guidelines,<sup>106</sup> information and communications technology (ICT) legislation<sup>107</sup> and guidelines,<sup>108</sup> and cyber security directives<sup>109</sup> and policies<sup>110</sup> to ensure a secure cyber environment. Moreover, to combat cyberattacks, several South Asian countries have established Computer Incident/Emergency Response Teams (CIRTs/CERTs) responsible for handling cyber incidents. While cyber incident data often does not specify if the target of attacks was financial entities or financial data, some countries have developed financial sector-specific CERTs, such as India's and Sri Lanka's finance sector's Computer Security Incident Response Team, highlighting the region's commitment to strengthen cybersecurity and to ensure a secure payment ecosystem.

<sup>105</sup> Government of People's Republic of Bangladesh. 2023. Cyber Security Act. Available at: <http://bdlaws.minlaw.gov.bd/act-1457.html>; Government of People's Republic of Bangladesh. 2023. Personal Data Protection Act. Available at: <https://ictd.portal.gov.bd/site/page/d05a8088-8272-49b4-883c-1698796dce3e/%E0%A6%96%E0%A6%B8%E0%A7%9C%E0%A6%BE-%E0%A6%86%E0%A6%87%E0%A6%A8-%E0%A6%93-%E0%A6%AC%E0%A6%BF%E0%A6%A7%E0%A6%BF->; Government of Sri Lanka. 2022. Personal Data Protection Act. Available at: <https://www.parliament.lk/uploads/acts/gbills/english/6242.pdf>.

<sup>106</sup> BB. 2023. Guidelines on ICT Security. Available at: [https://www.bb.org.bd/aboutus/draftguinotification/guideline/draft\\_ictpolicy.pdf](https://www.bb.org.bd/aboutus/draftguinotification/guideline/draft_ictpolicy.pdf); Royal Government of Bhutan. 2023. National Digital Identity Act of Bhutan. Available at: <https://parliament.bt/national-digital-identity-act-of-bhutan-2023>.

<sup>107</sup> Government of India. 2023. Digital Personal Data Protection Act. Available at: <https://www.meity.gov.in/writereaddata/files/Digital%20Personal%20Data%20Protection%20Act%202023.pdf>; Government of Nepal. 2008. Electronic Transactions Act. Available at: <http://www.tepc.gov.np/uploads/files/12the-electronic-transaction-act55.pdf>; Government of Pakistan. 2016. Prevention of Electronic Crimes Act. Available at: [https://na.gov.pk/uploads/documents/1470910659\\_707.pdf](https://na.gov.pk/uploads/documents/1470910659_707.pdf); Government of Pakistan. 2022. Electronic Transactions Ordinance. Available at: <https://www.pakistanlaw.com/eto.pdf>.

<sup>108</sup> NRB. 2023. Cyber Resilience Guidelines 2023. Available at: <https://www.nrb.org.np/contents/uploads/2023/08/Cyber-Resilience-Guidelines-2023.pdf>.

<sup>109</sup> Royal Monetary Authority of Bhutan. 2019. Directives on Cybersecurity Framework Implementation 2019. Available at: <https://www.rma.org.bt/Notifications,%20Circular%20&%20Directives/Directives/Directives%20on%20Cybersecurity%20framework%20implementation%20&%20framework.pdf>.

<sup>110</sup> Royal Monetary Authority of Bhutan. 2021. Data Residency Policy for Payment Systems Data. Available at: [https://www.rma.org.bt/DownloadImage?FILENAME=FIRSTFILENAME&IDCOLNAME=LAWID&ID=136&TABLE=TBLWEB\\_LAWSBYLAW&IMAGECOL=FIRSTFILE](https://www.rma.org.bt/DownloadImage?FILENAME=FIRSTFILENAME&IDCOLNAME=LAWID&ID=136&TABLE=TBLWEB_LAWSBYLAW&IMAGECOL=FIRSTFILE); Government of Pakistan. 2021. National Cyber Security Policy. Available at: <https://moitt.gov.pk/SiteImage/Misc/files/National%20Cyber%20Security%20Policy%202021%20Final.pdf>; Government of Sri Lanka. 2023. Cyber Security Bill. Available at: <https://cert.gov.lk/wp-content/uploads/2023/08/Cyber-Security-Bill-13-07-2023.pdf>.



## E-KYC GUIDELINES

There is a regional shift towards adopting e-KYC to bolster consumer protection and transaction integrity. Bangladesh,<sup>111</sup> India<sup>112</sup>, Sri Lanka<sup>113</sup> and Pakistan<sup>114</sup> have adopted e-KYC directions/regulations, with the Maldives<sup>115</sup> in the process and Sri Lanka exploring a shared KYC system between financial institutions.<sup>116</sup> India's e-KYC framework enables Aadhaar-based verification, whereas Bangladesh uses NID-based authentication. SBP facilitates remote and digital customer onboarding through the National Database and Registration Authority's in-app biometric services.<sup>117</sup> Regulatory efforts aimed at consumer protection are evident across Bhutan,<sup>118</sup> Nepal<sup>119</sup> and Pakistan.<sup>120</sup>



## INCREASED LIMITS ON CONTACTLESS PAYMENTS

Regulations were updated globally to promote and facilitate private sector engagement in DFS, especially during the COVID-19 pandemic, increasing contactless transaction limits to facilitate cashless transactions.<sup>121</sup> This trend appears to continue in the South Asian region, with countries like India and Sri Lanka

<sup>111</sup> BB. 2020. Guidelines on e-KYC. Available at: <https://www.bb.org.bd/mediaroom/circulars/aml/jan082020bfu25.pdf>.

<sup>112</sup> RBI. 2016. Master Direction: KYC Direction. Available at: [https://www.rbi.org.in/scripts/bs\\_viewmasdirections.aspx?id=11566](https://www.rbi.org.in/scripts/bs_viewmasdirections.aspx?id=11566).

<sup>113</sup> Guidelines for Non Face-to-Face Customer Identification and Verification Using Electronic Interface Provided by the Department for Registration of Persons, No. 3 of 2020. Available at: <http://fiusrilanka.gov.lk/docs/Guidelines/2020/Guideline-03-2020.pdf>

<sup>114</sup> SBP. 2022. Customer's Digital Onboarding Framework. Available at: <https://www.sbp.org.pk/bprd/2022/CL15-Annex.pdf>.

<sup>115</sup> MMA. 2021. Invitation for bids: Provision of Consultancy for the development of an e-KYC Regulation & Related Guidelines. Available at: <https://www.gazette.gov.mv/iulaan/163735>.

<sup>116</sup> CBSL. 2021. CBSL Successfully Completes the Process of Developing and Testing a Blockchain Technology based Shared Know-Your-Customer (KYC) Proof-of-Concept (POC). Available at: <https://www.cbsl.gov.lk/en/news/cbsl-successfully-completes-the-process-of-developing-and-testing-a-blockchain-technology-based-shared-kyc-poc>.

<sup>117</sup> SBP. 2022. Customer's Digital Onboarding Framework. Available at: <https://www.sbp.org.pk/bprd/2022/CL15-Annex.pdf>.

<sup>118</sup> Royal Monetary Authority of Bhutan. 2019. Consumer Protection for Financial Services Rules and Regulations. Available at: [https://www.rma.org.bt/consumer\\_protection/rules/consumer\\_protection\\_2019.pdf](https://www.rma.org.bt/consumer_protection/rules/consumer_protection_2019.pdf).

<sup>119</sup> NRB. 2020. Financial Consumer Protection and Grievance Management Manual. Available at: <https://www.nrb.org.np/contents/uploads/2020/09/Financial-consumer-protection-and-grievance-management-manual.pdf>.

<sup>120</sup> SBP. 2021. Customer's Digital Onboarding Framework. Available at: <https://www.sbp.org.pk/bprd/2021/C2.htm>.

<sup>121</sup> NFCW. 2023. Table: Contactless payment transaction limit increases around the world. Available at: <https://www.nfcw.com/2020/03/26/366173/table-contactless-payment-transaction-limit-increases-around-the-world>.

raising contactless transaction limits from USD24.08 to USD60.2 in 2021<sup>122</sup> and USD30.56 to USD76.39<sup>123</sup> (through JustPay), respectively.<sup>124</sup> Moreover, post-pandemic, SBP expanded its FinTech capabilities by updating regulations for electronic money institutions in 2023, introducing higher monthly wallet limits and broader services such as payments aggregation, payment initiation, account information, escrow services for domestic e-commerce transactions, and inward cross-border remittances.<sup>125</sup> This regulatory approach has significantly expanded the digital financial ecosystem, fostering active private sector involvement.<sup>126</sup>

<sup>122</sup> RBI. 2023. Card transactions in Contactless mode - Relaxation in requirement of Additional Factor of Authentication. Available at: <https://www.rbi.org.in/commonman/Upload/English/Notification/PDFs/DPSSE57.PDF>.

<sup>123</sup> Sri Lanka exchange rate: approximately LKR326 to USD1 (mid-December 2023).

<sup>124</sup> CBSL. 2020. Currency/Payments Management Policy. Available at: <https://www.cbsl.gov.lk/en/covid-19-currency-payments-management-policy>.

<sup>125</sup> SBP. Regulations for Electronic Money Institutions. Available at: <https://www.sbp.org.pk/psd/2019/C1-Annex-A.pdf>.

<sup>126</sup> The Island. 2023. Contactless Card-Based Payment System Boosts Tourism Business. Available at: <https://island.lk/contactless-card-based-payment-system-boosts-tourism-business-avanthi-colombage>.



## DEDICATED UNITS AND FRAMEWORKS FOSTERING INCLUSIVE PAYMENT INNOVATIONS

In South Asia, efforts to promote inclusive DFS vary, ranging from legislative backing and regulatory support to creating specialized departments by central banks such as BB, RBI, SBP, and CBSL to promote FinTech innovation. For instance, BB established a Regulatory FinTech Facilitation Office in 2019. SBP initiated a Digital Innovation and Settlements Department in 2021, both aimed at supporting FinTech startups and enhancing digital payment innovations through regulatory sandboxes and advanced digital infrastructures. RBI and CBSL have also introduced FinTech Regulatory Sandboxes to encourage innovative FinTech products that adhere to regulatory standards, emphasizing customer protection.

This proactive regulatory approach has paved the way for a more inclusive DFS landscape. Yet, the region still faces challenges in achieving widespread digital financial inclusion in terms of quality and usage. A considerable need remains for increased regional collaboration, stronger public-private partnerships, and forward-thinking regulations on technological outsourcing, tokenization, data security, and consumer protection to further advance DFS growth.



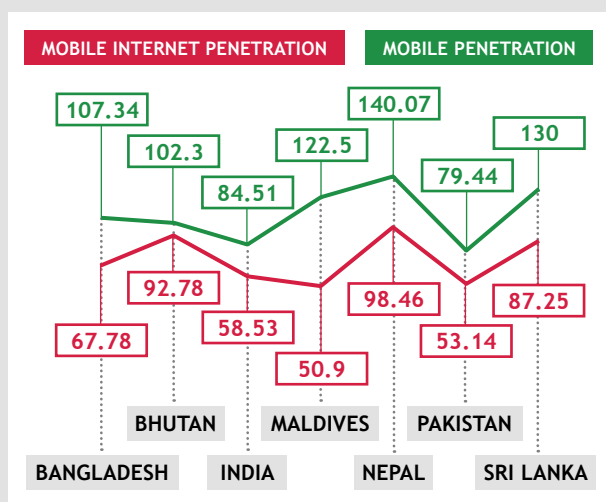
## 4. REGIONAL CHALLENGES



## 4.1 DIGITAL DIVIDE: A NEW VARIABLE IN FINANCIAL INCLUSION

In South Asia, mobile phone and internet subscriptions often exceed the total population, with countries like Bangladesh and the Maldives showing mobile penetration rates of 107.34 percent and 122.5 percent in 2023, respectively. Bhutan and Nepal also have high mobile internet penetration rates of 92.78 percent (2023) and 98.46 percent (2022).<sup>127</sup> Likewise, Sri Lanka’s mobile density is 130 percent (2022). However, this does not imply universal access to mobile phones and the internet across the region, as individuals may own multiple devices or connections. For example, not everyone in Nepal with a smartphone has an internet connection.<sup>128</sup> Despite high connectivity indicators, there remain significant disparities within countries regarding access to digital services, influenced by rural-urban divides, gender gaps, and geographical challenges. **Figure 4.1.** presents data based on the latest telecom and population figures available for each country, from either 2022 or 2023, owing to the limited availability of annual reports and corresponding data from the same year.

**FIGURE 4.1. MOBILE AND INTERNET PENETRATION IN SOUTH ASIA (RATE %)**



Source: Telecom Regulatory Authorities in South Asia (BTRC, BICMA, TRAI, CAM, NTA, PTA and TRC)

In Bangladesh, while mobile phone usage is high at 90.5 percent across genders, ownership shows a gender gap: 55 percent of women vs. 72 percent of men own a mobile phone.<sup>129</sup> Internet access in households is 43.6 percent, with a gender disparity in usage (51.7 percent men, 37.3 percent women). In the Maldives, despite high mobile internet usage (91 percent men, 87 percent women), there is a notable gender gap in availing of DFS, with 30 percent of women never using the internet or mobile banking.<sup>130</sup> India presents a contrast in teledensity between rural and urban areas, with figures of 57.71 percent and 133.81 percent, respectively, out of an overall teledensity of 84.51 percent.<sup>131</sup> This indicates that people in urban areas may have multiple telecom subscriptions, whereas people in rural areas may not even have one subscription. Despite having over 881 million internet users, the rural-urban divide is evident, with 357.9 million rural and 523.2 million urban subscribers. Given that around 65 percent of India’s population is rural,<sup>132</sup> internet penetration in these areas is relatively low, at merely 40 percent.

In Pakistan, a significant gender gap hampers financial inclusion, with women constituting only 21.7 percent of mobile and 11 percent of internet subscribers despite making up half the population. In 2022, male mobile subscribers outnumbered females by around 140.8 million to only 52.1 million. Male mobile broadband subscribers were over 88 million compared to only 26.4 million female subscribers.<sup>133</sup> Despite the majority residing in rural Sri Lanka, access to telephones and cellular phones is nearly equal between urban (97 percent) and rural (94 percent) areas.<sup>134</sup> However, internet usage has seen disparate growth from 2019 to 2021: urban usage increased from 47.4 percent to 61.2 percent, rural from 27.5 percent to 42 percent, and estate from 12.2 percent to 26 percent. Male internet

<sup>129</sup> Bangladesh Bureau of Statistics. 2022. Survey on ICT Use and Access by Individuals and Households. Available at: [https://bbs.portal.gov.bd/sites/default/files/files/bbs.portal.gov.bd/page/b343a8b4\\_956b\\_45ca\\_872f\\_4cf9b2f1a6e0/2023-01-08-07-00-667cde6536494c707e86d483c0b618a5.pdf](https://bbs.portal.gov.bd/sites/default/files/files/bbs.portal.gov.bd/page/b343a8b4_956b_45ca_872f_4cf9b2f1a6e0/2023-01-08-07-00-667cde6536494c707e86d483c0b618a5.pdf).

<sup>130</sup> MMA. 2022. National Financial Inclusion Survey. Available at: <https://www.mma.gov.mv/documents/National%20Financial%20Inclusion%20Survey/2022/NFI-Survey-2022.pdf>, pgs. 25 and 46.

<sup>131</sup> Telecom Regulatory Authority of India. 2023. Highlights of Telecom Subscription Data as on 31st March, 2023. Available at: [https://www.trai.gov.in/sites/default/files/PR\\_No.46of2023.pdf](https://www.trai.gov.in/sites/default/files/PR_No.46of2023.pdf).

<sup>132</sup> Government of India, Ministry of Health and Family Welfare. 2021. Rural Health Statistics 2021-22. Available at: [https://main.mohfw.gov.in/sites/default/files/RHS%202021-22\\_2.pdf](https://main.mohfw.gov.in/sites/default/files/RHS%202021-22_2.pdf), p. 112.

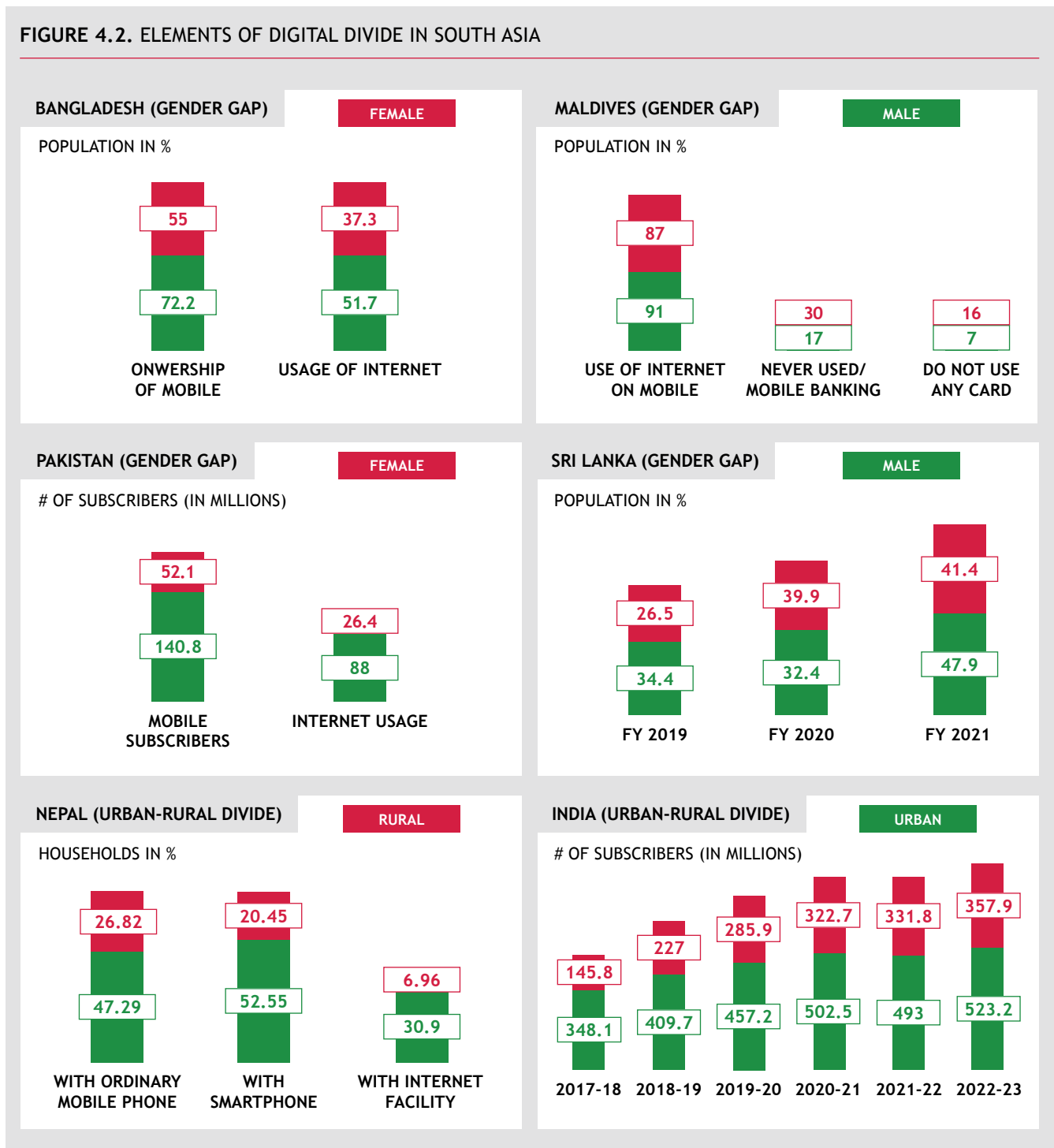
<sup>133</sup> Pakistan Telecommunications Authority. 2022. Annual Report. Available at: <https://www.pta.gov.pk/en/media-center/single-media/pta-annual-report-2022-100123>, pgs. 27-28.

<sup>134</sup> CBSL. 2023. Sri Lanka Socio-Economic Data. Available at: [https://www.cbsl.gov.lk/sites/default/files/cbslweb\\_documents/publications/otherpub/publication\\_sri\\_lanka\\_socio\\_economic\\_data\\_folder\\_2023\\_e.pdf](https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/publications/otherpub/publication_sri_lanka_socio_economic_data_folder_2023_e.pdf), p. 31.

<sup>127</sup> Royal Government of Bhutan. 2023. Statistics at a Glance (as of September 2023). Available at: [https://www.bicma.gov.bt/bicmanew/?page\\_id=495](https://www.bicma.gov.bt/bicmanew/?page_id=495); Nepal Telecommunications Authority. Annual Report 2078/79. Available at: <https://www.nta.gov.np/uploads/contents/Approved-Annual-Report-2078-79.pdf>, pgs. 17-18.

<sup>128</sup> Seventy-three percent of households have access to smartphones whereas only 37.72 percent of households have internet facilities. Government of Nepal. 2021. National Population and Housing Census Report 2021. Available at: <https://censusnepal.cbs.gov.np/results>, p. 2.

FIGURE 4.2. ELEMENTS OF DIGITAL DIVIDE IN SOUTH ASIA



usage grew from 34.4 percent to 47.9 percent, while female usage increased from 26.5 percent to 41.4 percent (Figure 4.2).<sup>135</sup>

In contrast, Bhutan shows minimal disparities in ICT access and usage, according to the National ICT Survey 2021. Household smartphone access is 93.7 percent

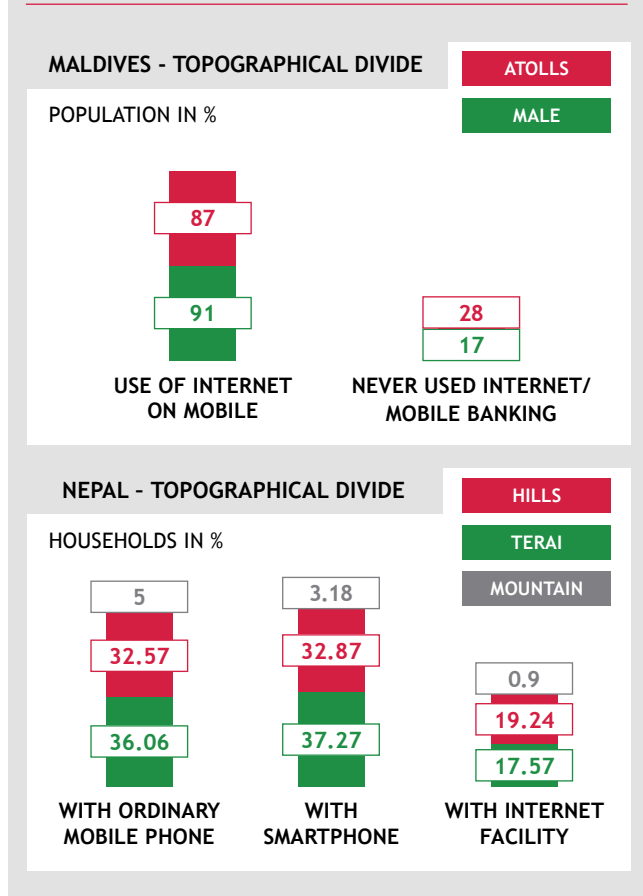
overall, with 99 percent in urban and 90.6 percent in rural areas. Internet access is also high, at 99.4 percent in urban and 91.4 percent in rural households, and individual usage rates are 96.6 percent in urban and 79 percent in rural areas).<sup>136</sup>

<sup>135</sup> Government of Sri Lanka, the Ministry of Finance. 2021. Sri Lanka Labour Force Survey: Annual Report. Available at: [http://www.statistics.gov.lk/Resource/en/LabourForce/Annual\\_Reports/LFS2021.pdf](http://www.statistics.gov.lk/Resource/en/LabourForce/Annual_Reports/LFS2021.pdf).

<sup>136</sup> Royal Government of Bhutan. 2021. National ICT Household Survey Report. Available at: <https://www.tech.gov.bt/sites/default/files/Final%20ICT%20HH%20Survey%20report.pdf>.

## 4.2 TOPOGRAPHY AND GEOGRAPHICAL PLACEMENT

FIGURE 4.3. TOPOGRAPHICAL CHALLENGES TO DIGITAL CONNECTIVITY



Bhutan, the Maldives, and Nepal demonstrate how geography can limit digital connectivity. In the Maldives, mobile internet usage is nearly equal between Male’ and the Atolls, yet over 28 percent of Atoll residents have never used the internet or mobile banking, compared to 17 percent of Male’ (Figure 4.3.).<sup>137</sup> Bhutan and Nepal, homes to some of the highest human settlements in the Himalayas, face challenges in digital access. In Nepal, internet access at the household level varies significantly by geography: 43 percent in hilly regions, 35 percent in the Terai

region, and a mere 17.4 percent in the mountainous areas (Figure 4.3).<sup>138</sup> The high telecommunications and internet infrastructure costs in such terrains make private sector investments unviable.<sup>139</sup> Despite access to and use of digital services, Bhutan struggles with consistent ICT service delivery due to its rugged terrain and dispersed population.

## 4.3 DIGITAL AND FINANCIAL LITERACY

Digital and financial literacy in South Asia lacks a standardized definition or measurement method. Further, irregular national surveys by regulators and governments hinder consistent assessment and growth evaluation. A 2019 study<sup>140</sup> and a 2019 Digital Literacy Survey<sup>141</sup> revealed that digital and financial literacy is low in Bangladesh, with rural areas and women notably behind (63 percent digitally literate men vs. 37 percent digitally literate women in rural areas). In India, a 2019 study showed that financial literacy was only 27 percent, with rural areas at 24 percent and urban areas at 33 percent,<sup>142</sup> with a gender gap showing 29 percent of men and 21 percent of women as financially literate.

In Pakistan, 53 percent of the population remains financially excluded due to a lack of awareness and knowledge.<sup>143</sup> Despite a 91 percent account ownership rate in the Maldives, financial literacy remains low, particularly among the elderly, women, and Atoll residents.<sup>144</sup> A 2022 study in Nepal found a national financial literacy rate of 57.9 percent, with a gender gap favoring men.<sup>145</sup> Sri Lanka’s financial literacy increased from 35 percent in 2014 to 57.9 percent in 2021, but a 5.9 percent gender gap exists between men (61.1 percent) and women (55.2 percent).<sup>146</sup>

<sup>137</sup> MMA. 2022. National Financial Inclusion Survey. Available at: <https://www.mma.gov.mv/documents/National%20Financial%20Inclusion%20Survey/2022/NFI-Survey-2022.pdf>, pgs. 25 and 46; Shareef, Mohamed, Adegboyega Ojo, and Tomasz Janowski. 2010. “Exploring Digital Divide in the Maldives.” IFIP Advances in Information and Communication Technology. Berlin, Heidelberg: Springer Berlin Heidelberg, 51-63. doi:10.1007/978-3-642-15479-9\_5; World Bank. 2021. Digital Technologies can help Maldives build back better from COVID-19 shock. Available at: <https://www.worldbank.org/en/news/press-release/2021/04/15/digital-technologies-can-help-maldives-build-back-better>.

<sup>138</sup> Government of Nepal. 2021. National Population and Housing Census Report. Available at: <https://censusnepal.cbs.gov.np/results>, p. 46.

<sup>139</sup> Based on primary data collected from regulators.

<sup>140</sup> BB. 2019. Survey on Impact Analysis of Access to Finance in Bangladesh. Available at: [https://www.bb.org.bd/pub/research/sp\\_research\\_work/srw1903.pdf](https://www.bb.org.bd/pub/research/sp_research_work/srw1903.pdf), p. 33.

<sup>141</sup> BRAC Institute of Governance & Development. 2020. Digital Literacy of Rural Households in Bangladesh. Available at: [https://bigd.bracu.ac.bd/wp-content/uploads/2020/10/Working-Paper\\_Digital-Literacy-of-Rural-Households-in-Bangladesh.pdf](https://bigd.bracu.ac.bd/wp-content/uploads/2020/10/Working-Paper_Digital-Literacy-of-Rural-Households-in-Bangladesh.pdf).

<sup>142</sup> National Centre for Financial Education. 2019. Financial Literacy and Inclusion in India: Final Report 2019. Available at: [https://ncfe.org.in/images/pdfs/reports/NCFE%202019\\_Final\\_Report.pdf](https://ncfe.org.in/images/pdfs/reports/NCFE%202019_Final_Report.pdf).

<sup>143</sup> SBP. Financial Literacy and Capacity Building. Available at: <https://rb.gy/b8e3ar>.

<sup>144</sup> MMA. 2022. National Financial Inclusion Survey. Available at: <https://rb.gy/7f7j7n>.

<sup>145</sup> NRB. 2022. Baseline Survey on Financial Literacy in Nepal. Available at: <https://rb.gy/h6gvc9>, p. 4.

<sup>146</sup> CBSL. 2021. Financial Literacy Survey Sri Lanka. Available at: <https://rb.gy/rg2bai>, p. 8.

## 4.4 CONSUMER BEHAVIOR AND TRUST

Despite the growing popularity of digital payments, cash dominates in the region due to trust, convenience, accessibility, cultural norms, technological infrastructure, and economic conditions. For example, in Bangladesh, cash-in and cash-out transactions account for 59 percent of MFS total transactions (Figure 4.4.), suggesting a preference for cash over digital, which contradicts the objective of digitization and emphasizes the need for a shift in consumer behavior. Similarly, Nepal’s Digital Dakshina saw slow adoption but is gaining momentum, especially after the COVID-19 pandemic,<sup>147</sup> aided by incentives like cashback and coupon codes from banks.<sup>148</sup> Other countries also use incentives to encourage digital payment adoption.<sup>149</sup> The success of digital payment systems depends on consumer trust,<sup>150</sup> which is significantly influenced by mobile and internet access.<sup>151</sup> Consumers demand digital payments to match cash’s ease and convenience.<sup>152</sup> Yet, reliability and availability issues, alongside inadequate mobile and internet access and ICT service disruptions, challenge establishing reliable consumer trust in digital payments in South Asia.

## 4.5 LIMITATIONS IN THE EXISTING DIGITAL INFRASTRUCTURES

Infrastructural limitations hamper South Asia’s progress in digital and financial inclusion. Drawbacks in digital identity systems, such as optional NIDs in Nepal, impact their acceptance and integration. In Bangladesh, the process of opening MFS accounts is obstructed by misspellings and mismatches of numbers allocated through NID. Bangladesh’s transition from 17-digit to 13-digit and then 10-digit NID formats complicates customer due diligence and account openings. The high costs associated with

<sup>147</sup> The Kathmandu Post. 2020. Digital payments gaining popularity among Nepali online shoppers. Available at: <https://rb.gy/t9brvw>.

<sup>148</sup> The Nepal Live Today. 2023. Global IME bank introduces cashback on digital ‘Dakshina’ transfers. Available at: <https://rb.gy/rwq7rj>.

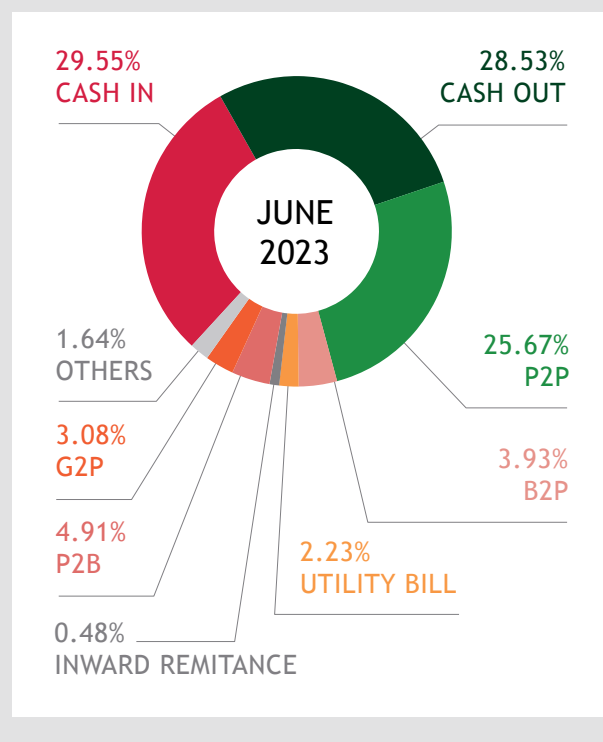
<sup>149</sup> Observer Research Foundation. 2019. The weaponisation of cashbacks on UPI by Google Pay. Available at: <https://www.orfonline.org/expert-speak/the-weaponisation-of-cashbacks-on-upi-by-google-pay-57099>.

<sup>150</sup> Domingos Mondego, Understanding the influence of trust on mobile payment systems adoption: A literature review, International Journal of Research in IT and Management, Vol. 8, Issue 5, May 2018. Available at: <https://rb.gy/r0alf2>.

<sup>151</sup> Hua Xin et al., Exploring the influence of trust on mobile payment adoption, Pacific Asia Conference on Information Systems 2013 Proceedings, June 2013, available at: <https://core.ac.uk/download/pdf/56363727.pdf>.

<sup>152</sup> Deloitte Touche Tohmatsu Ltd. 2020. The Next Wave Emerging digital life in South and Southeast Asia. Available at: <https://rb.gy/fs4ppu>, pgs. 50-51.

FIGURE 4.4. MFS TRANSACTIONS IN BANGLADESH



supporting infrastructure also pose a problem. A case in point is the fee for NIC number verification issued by the National Database and Registration Authority in Pakistan, which further limits accessibility to DFS.

## 4.6 PRICING AND VIABILITY OF PAYMENT SYSTEMS AND INNOVATIONS

Cost barriers can impede the widespread adoption of digital infrastructure and payment systems. Fees for IPS transactions vary across countries in the region, with some charging users and others not. For instance, Bangladesh and Sri Lanka impose fees, whereas India, the Maldives, and Pakistan<sup>153</sup> do not. Nepal charges a nominal fee depending on the transaction amount,<sup>154</sup> and in Bangladesh, fees for using the Binimoy platform are not uniform and can vary. A transaction between two MFS platforms may incur a lower transaction fee,

<sup>153</sup> SBP. Raast Payments: Frequently Asked Questions. Available at: <https://www.sbp.org.pk/dfs/Raast-FAQS.html>.

<sup>154</sup> Nepal Clearing House Ltd. ConnectIPS Transaction Fee Schedule. Available at: <https://www.connectips.com/images/files/cipsfeesandcharges2077.pdf>.



whereas a transaction between a bank and an MFS account may incur a slightly higher fee.<sup>155</sup> The cost of transactions can discourage the use of payment systems, especially affecting the poor and vulnerable. Further, for contactless payments, like Tap and Go Cards or QR scanners, to be effective, merchants need the necessary devices, like POS machines and merchant QR codes, to accept them. If consumers often encounter vendors unable to accept digital payments, they may default to using cash, undermining the adoption of digital payment methods.

The commercial success of payment solutions in digital finance depends on technological innovation, user adoption, economic feasibility, and long-term viability. Balancing profit motives with financial inclusion goals is challenging, where many payment systems are privately owned. Introducing low-cost or no-cost payment solutions is key to this balance but may challenge private companies in generating sufficient returns or covering costs. Further, offering affordable payment options could disrupt the market, adversely impacting private-sector players.

<sup>155</sup> BB. Determination of Platform Fees, Interoperable Fees and Service Charges for transactions through Interoperable Digital Transaction Platform. Available at: <https://www.bb.org.bd/mediaroom/circulars/psd/nov102022psd16.pdf>.



### MARKET DISRUPTION CAUSED BY UPI AND THE DECLINE OF PREPAID PAYMENT INSTRUMENTS IN INDIA

UPI's launch revolutionized India's digital payment sector by allowing instant, seamless transactions directly from bank accounts, causing a substantial decline in e-wallets in India. Recognized by the Indian government as a "digital public good," UPI is free from transaction charges.<sup>156</sup> However, the RBI has suggested imposing fees such as MDR on UPI<sup>157</sup> to address FSPs' cost recovery and sustain their long-term viability, as the current zero-MDR policy for payment services like UPI and Rupay Debit Card could be detrimental to FSPs.

<sup>156</sup> Economic Times. 2022. No consideration to levy any charges for UPI services: Finance Ministry. Available at: <https://economictimes.indiatimes.com/tech/technology/no-consideration-to-levy-any-charges-for-upi-services-finance-ministry/articleshow/93695449.cms>.

<sup>157</sup> RBI. 2022. Discussion Paper on Charges in Payment Systems, Department of Payment and Settlement Systems. Available at: <https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/DPSDDISCUSSIONPAPER5E016622B2D3444A9F294D07234059AA.PDF>, p. 12.



TABLE 4.1. STRs RECEIVED BY SOUTH ASIAN FIUS

YEAR	BANGLADESH	BHUTAN	INDIA	MALDIVES	NEPAL	PAKISTAN	SRI LANKA
2018	3,878	9	1,436,340	41	887	8,708	1,022
2019	3,573	7	323,162	120	1,351	20,030	2,804
2020	3,675	5	547,013	196	1,090	28,718	3,617
2021	5,280	52	602,057	168	1,533	33,743	3,825
2022	8,571	-	433,761	145	2,780	24,107	1,481

Source: BB. Bureau of Financial Intelligence Unit: Annual Report 2021-22. Available at: [https://www.bb.org.bd/pub/annual/bfiu/bfiu\\_2021-2022.pdf](https://www.bb.org.bd/pub/annual/bfiu/bfiu_2021-2022.pdf), p. 24; Royal Monetary Authority of Bhutan. 2021. Financial Intelligence Department: Annual Report 2021. Available at: <https://www.rma.org.bt/fid/publication/annualReport?jsessionid=709DA09AE7D28ACA9B72965CEAB249A1>; FIU India. Financial Intelligence Unit: Annual Report 2022-23. Available at: [https://fiuindia.gov.in/pdfs/downloads/AnnualReport2022\\_23.pdf](https://fiuindia.gov.in/pdfs/downloads/AnnualReport2022_23.pdf); Maldives Financial Intelligence Unit. 2022. Annual Report. Available at: <https://www.mma.gov.mv/files/fiu/FIU%20Annual%20Report%202022.pdf>; NRB. 2022. Strategic Analysis Report 2021-22. Available at: <https://www.nrb.org.np/contents/uploads/2022/04/Strategic-Analysis-Report-of-FIU-2022-new-design.pdf>, p. 5; Government of Pakistan, Financial Monitoring Unit. 2022. Quarterly Report Oct-Dec 2022. Available at: <https://www.fmu.gov.pk/docs/2023/Quarterly-Report-Oct-Dec%2022.pdf>, p. 4; FIU Sri Lanka. 2022. Annual Report. Available at: [http://fiusrilanka.gov.lk/docs/AR/FIU\\_AR\\_2022.pdf](http://fiusrilanka.gov.lk/docs/AR/FIU_AR_2022.pdf), p. 16.

## 4.7 INSUFFICIENT RISK-RELATED DATA

Financial institutions are required to report any suspicious transactions or activities to the authorized financial intelligence department (Table 4.1).<sup>158</sup> These reports, known as suspicious transaction reports and activity reports, cover various financial crimes, including unauthorized transactions and fraud, money laundering, Hundi, online scams, online gambling, tax evasion, and cryptocurrency. These reports are assessed and forwarded to the relevant law enforcement agencies, depending on the nature of the offense. For instance, tax evasion cases may be directed to the revenue department, cybercrimes to the cyber cell, and fraud cases to the police.

The decentralized approach to handling financial offenses, including payment-related ones, poses challenges due to the lack of transaction channel details and uniformity in data collection and analysis across various departments. This fragmentation hinders the identification of high-risk payment channels and the assessment of the payment risk landscape. Effective risk management requires comprehensive data to identify emerging threats, understand patterns, and implement preventive measures.<sup>159</sup> Addressing these issues requires improved inter-departmental cooperation, information sharing, and comprehensive data maintenance.



### CENTRALIZED REGISTRY FOR PAYMENT OFFENSES

In South Asia, while most countries lack detailed payment-related risk data, some have established payment fraud registries like the RBI's Central Payment Fraud Information Registry,<sup>160</sup> which now uses Daksh-RBI's Advanced Supervisory Monitoring System for detailed fraud tracking by bank type (private, public, payment banks, foreign banks) and transaction method (internet-based, cash-based, cheque-based). Stakeholders have acknowledged the need for a uniform data system for payment innovation risks. A few countries are considering a centralized repository for unified and streamlined data collection, analysis, and reporting, such as the Data Warehouse Project of Bhutan and the Rationalised Input Template of Bangladesh. Still, the region's robust system for identifying payment-related risks remains largely unimplemented.

<sup>158</sup> For examples, Bangladesh Financial Intelligence Unit, the Bhutan Financial Intelligence Department, the Financial Intelligence Unit India, the Maldives Financial Intelligence Unit, the Financial Information Unit Nepal, the Financial Monitoring Unit Pakistan, and the Financial Intelligence Unit of Sri Lanka.

<sup>159</sup> McKinsey & Company. 2019. Financial crime and fraud in the age of cybersecurity. Available at: <https://www.mckinsey.com/capabilities/risk-and-resilience/our-insights/financial-crime-and-fraud-in-the-age-of-cybersecurity#>.

<sup>160</sup> RBI. Central Payments Fraud Information Registry - Migration of Reporting to DAKSH. Available at: [https://m.rbi.org.in/scripts/FS\\_Notification.aspx?ld=12431&fn=9&Mode=0](https://m.rbi.org.in/scripts/FS_Notification.aspx?ld=12431&fn=9&Mode=0).

## 4.8 REGIONAL FRAMEWORK FOR DATA REGULATION IN SOUTH ASIA

For regulatory purposes, data is categorized into personal and anonymized forms. Personal data includes identifying information, while anonymized data is considered non-personal and free of such details.<sup>161</sup> Regulations must distinguish between these types to optimize their use, ensuring individuals have control over their personal information and extending data protection responsibility beyond data controllers to any person/party handling the data, with strict penalties for breaches.

**In South Asia, the rapid growth in DFS without corresponding increases in digital and financial literacy<sup>162</sup> has made the region particularly vulnerable to cyberattacks and data breaches,<sup>163</sup> underscoring a crucial need for improved regulations.**

This vulnerability and insufficient action against such breaches erodes consumer trust.<sup>164</sup> Although countries have national data protection laws, the absence of a unified regional framework weakens the overall data security posture. A harmonized and transparent regional data protection framework would deter cybercriminals and build consumer trust. Further, the free flow of anonymized data is important for public purposes such as advancing financial inclusion. However, a consolidated mechanism for this purpose is lacking in South Asia, with the potential public good of such data remaining largely untapped by private institutions.

<sup>161</sup> Finck, Michèle, and Frank Pallas. 2020. "They Who Must Not Be Identified—Distinguishing Personal from Non-Personal Data under the GDPR." *International Data Privacy Law* 10 (1). Oxford University Press (OUP): 11-36. doi:10.1093/idpl/izp2026.

<sup>162</sup> IMF. 2021. *The Global Cyber Threat*. Available at: <https://www.imf.org/external/pubs/ft/fandd/2021/03/pdf/global-cyber-threat-to-financial-systems-maurer.pdf>, pgs. 24-27.

<sup>163</sup> Carnegie Endowment for International Peace. *Timeline of Cyber Incidents Involving Financial Institutions 2007-2022*. Available at: <https://carnegieendowment.org/specialprojects/protectingfinancialstability/timeline>.

<sup>164</sup> The Economic Times. 2021. *Cybersecurity experts questions CERT-IN inaction on rampant data breaches*. Available at: <https://economictimes.indiatimes.com/tech/information-tech/air-india-bigbasket-dominos-why-no-action-against-data-breach-ask-cybersecurity-experts/articleshow/82943377.cms>; The Kathmandu Post. 2023. *How Nepali's vulnerability grows amid changing nature of cybercrimes*. Available at: <https://kathmandupost.com/national/2023/05/14/how-nepalis-vulnerability-grows-amid-changing-nature-of-cyber-crimes>; The Tribune. 2023. *Phone Scams to Data Leaks: Securing Pakistan's Digital Frontier*. available at: <https://tribune.com.pk/story/2444854/phone-scams-to-data-leaks-securing-pakistans-digital-frontier>.



### THE CASE OF THE ACCOUNT AGGREGATOR FRAMEWORK IN INDIA

India's Account Aggregator Framework allows secure, consent-based financial data sharing between financial institutions and individuals through licensed entities.<sup>165</sup> The adoption helps to streamline loans, manage finances, and provide comprehensive financial insights. While it offers substantial benefits through open banking, the Account Aggregator Framework's uptake has been slow, partly due to it being operated by private entities. Government-owned infrastructure tends to gain more consumer trust due to the sensitive nature of financial information. At the same time, the private operation of such frameworks can prompt concerns relating to data security, transparency, and accountability.<sup>166</sup>

<sup>165</sup> The Ministry of Finance of India. 2021. *Know all about Account Aggregator Network—a financial data-sharing system*. Available at <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1753713>.

<sup>166</sup> The Economic Times. 2023. *SEBI to tweak account aggregator framework to curb misuse of financial information*. Available at: <https://economictimes.indiatimes.com/markets/stocks/news/sebi-to-tweak-account-aggregator-framework/articleshow/102331522.cms>.

## 5. RISKS ASSOCIATED WITH PAYMENT INNOVATIONS



Payment innovations in the region have introduced new, multifaceted risks due to the technology employed, unique geographical challenges, and varying user awareness levels in individual countries. These risks hinder the widespread adoption of DFS, particularly among those with limited financial literacy. Managing these risks is crucial for the success of digital payment innovations.

## 5.1 FRAUD

Despite the lack of detailed data, fraud is a major risk in the payment ecosystem, eroding trust. The expansion of mobile phones and the internet has increased the risks of crimes committed through these mediums, such as phishing e-mails, scam calls, and text messages designed to steal personal data for unauthorized transactions. Instant payment platforms give BFs limited time to detect, counteract, and respond to fraudulent transfers, making the payment ecosystem particularly susceptible to such risks.

In Bangladesh, MFS faces potential misuse due to policies allowing one citizen to hold 15 SIMs. To address identity verification risks, the government now requires biometric SIM registration.<sup>167</sup> Despite the previous widespread but illegal use of over-the-counter MFS transactions, recent studies estimate a significant decline in such activities.<sup>168</sup> Similarly, in Bhutan, users can recharge and make payments without linking their wallets to a bank account.<sup>169</sup> While this prioritizes convenience, it also increases the risk of misuse. It makes the system more susceptible to illicit transactions and potential abuse by fraudsters due to a lack of KYC procedures.<sup>170</sup> In India, the Aadhaar Enabled Payment System, which only requires a thumb impression, Aadhaar number, and bank details,<sup>171</sup> has

<sup>167</sup> The Dhaka Tribune. 2015. Biometric SIM registration begins. Available at: <https://www.dhakatribune.com/bangladesh/bangladesh-others/116001/biometric-sim-registration-begins>.

<sup>168</sup> AFI. 2020. Digital Financial Services Supervision in Bangladesh. Available at: [https://www.afi-global.org/wp-content/uploads/2020/12/AFI\\_DFS\\_Bangladesh\\_AW3\\_digital.pdf](https://www.afi-global.org/wp-content/uploads/2020/12/AFI_DFS_Bangladesh_AW3_digital.pdf), p. 8.

<sup>169</sup> Royal Monetary Authority of Bhutan. 2022. Annual Payment Systems Report 2022. Available at: <https://www.rma.org.bt/RMA%20Publication/DPSS/Annual%20Payment%20System%20Report%202022.pdf>, p. 26.

<sup>170</sup> Bank of Bhutan. GoBoB Digital Wallet. Available at: <https://www.bob.bt/personal-banking/digital-banking/gobob>.

<sup>171</sup> MediaNama. 2023. What made it easier for fraudsters to access people's biometrics, Aadhaar details in Kolkata? Available at: <https://www.medianama.com/2023/10/223-aadhaar-enabled-payment-system-fraud-kolkata>.

been exploited by fraudsters,<sup>172</sup> particularly due to the absence of additional layers of protection, such as two-factor or multi-factor authentication, as well as widespread ignorance about security measures like biometric locking.

Interestingly, QR code scams have been noted where fraudsters pose as buyers and trick people into scanning malicious QR codes under the pretext of receiving payment. These codes, once scanned, can immediately drain the victim's funds. This scam particularly targets those lacking financial knowledge or are not tech-savvy, leading to significant financial losses.

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**Fraud disproportionately affects the poor and vulnerable due to their lower financial literacy and awareness levels. Social engineering attacks have surged globally, especially during the pandemic,<sup>173</sup> with scammers impersonating bank officials to steal personal details like PINs and OTPs.**

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It can disincentivize unserved and underserved people from utilizing payment channels owing to erosion of trust and the heightened risk of financial losses. This has led to a growing recognition of the need to adopt RegTech and SupTech solutions to enhance oversight and combat fraudulent activities.

## 5.2 CYBER SECURITY AND DATA PRIVACY RISKS

Digital payment innovations have significantly integrated technology into our daily lives, enabling transactions and the sharing of sensitive financial information such as debit/credit card numbers, bank account numbers, and other personally identifiable data. Such cases have also introduced cyber risks like hacking, malware, ransomware, and phishing. For instance, data breaches in digital banking have

<sup>172</sup> The Economic Times. 2023. This new Aadhaar-related banking fraud is on the rise; why you need to lock your Aadhaar biometrics now. Available at: <https://economictimes.indiatimes.com/wealth/save/this-new-aadhaar-related-banking-fraud-is-on-the-rise-why-you-need-to-lock-your-aadhaar-biometrics-now/articleshow/104575645.cms>. Indian Express. 2023. Aadhaar-enabled payment scam hits citizens registering properties in Karnataka; police suspect intermediaries' role. Available at: <https://indianexpress.com/article/cities/bangalore/aadhaar-enabled-payment-citizens-karnataka-8990185>.

<sup>173</sup> World Bank Blogs. 2021. Social Engineering as a corruption risk. Available at: <https://blogs.worldbank.org/governance/social-engineering-corruption-risk>.

dramatically increased in India.<sup>174</sup> In Pakistan, the financial sector has become a prime target for hackers, even though official data on the exact number of attacks is unavailable.<sup>175</sup> Nepal has seen a rise in hacking and phishing incidents in the last few years.<sup>176</sup> In the Maldives, the payment system was reportedly attacked by major distributed denial of services attacks in 2017 and 2019, disrupting the internet services of commercial banks across the country for over a week.<sup>177</sup> Reports published by the respective CIRTs/ CERTS in most South Asian countries also reveal a significant increase in cyberattacks targeting financial data and compromising the integrity of the payment ecosystem in the region.

Cybersecurity risks also expose vulnerabilities in national data privacy frameworks, leading to data breaches, especially within the digital payment systems that handle sensitive and confidential consumer information. Over the past decade, South Asia has experienced numerous data breaches, including<sup>178</sup> India's digital payments being targeted for privacy violations.<sup>179</sup>

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**In Pakistan, attackers accessed the financial data of over 67.5 million users from a cheque-clearing institution.<sup>180</sup> In Nepal, significant financial losses from unauthorized transactions due to server breaches<sup>181</sup> and data breaches in e-commerce platforms compromised consumer data.<sup>182</sup>**

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<sup>174</sup> Government of India. Unstarred question no. 388. Available at <https://pqars.nic.in/annex/253/A388.pdf>; Government of India, Ministry of Electronics and Information Technology. 2022. Indian Computer Emergency Response Team: Annual Report. Available at: <https://www.cert-in.org.in/Downloader?pageid=22&type=2&fileName=ANUAL-2023-0001.pdf>.

<sup>175</sup> SBP. 2021. Financial Stability Review. Available at: <https://www.sbp.org.pk/FSR/2021/Complete.pdf>.

<sup>176</sup> The Kathmandu Post. 2017. 19 Govt Sites breached in latest cyberattack. Available at: <https://kathmandupost.com/valley/2017/11/04/19-govt-sites-breached-in-latest-cyberattack>.

<sup>177</sup> Maldives Independent. 2017. Major cyberattacks disrupt internet service across the Maldives. Available at: <https://maldivesindependent.com/business/cyber-attacks-disrupt-internet-service-across-the-maldives-128366>; Bank of Maldives. 2019. Available at: <https://twitter.com/bankofmaldives/status/1192384399867703296?lang=en>.

<sup>178</sup> Carnegie Endowment for International Peace. Timeline of Cyber Incidents Involving Financial Institutions 2007-2022. Available at: <https://carnegieendowment.org/specialprojects/protectingfinancialstability/timeline>.

<sup>179</sup> IMF eLibrary. 2023. Stacking up the Benefits: lesson from India's Digital Journey. Available at <https://www.elibrary.imf.org/view/journals/001/2023/078/article-A001-en.xml>.

<sup>180</sup> The Express Tribune. 2023. Cybersecurity breach at NIFT puts national security at risk. Available at: <https://tribune.com.pk/story/2423324/cybersecurity-breach-at-nift-puts-national-security-at-risk-1>.

<sup>181</sup> The Kathmandu Post. 2019. Millions stolen by ATM hackers exposes vulnerability of Nepali Banks. Available at: <https://kathmandupost.com/money/2019/09/01/millions-stolen-by-atm-hackers-exposes-vulnerability-of-nepali-banks>; The Kathmandu Post. 2017. NIC Asia cash stolen in cyber heist. Available at: <https://kathmandupost.com/valley/2017/10/23/nic-asia-cash-stolen-in-cyber-heist>.

<sup>182</sup> My Republica. 2020. Foodmandu's website hacked, 50 thousand users' data dumped. Available at: <https://myrepublica.nagariknetwork.com/news/foodmandu-s-website-hacked-50-thousand-users-data-dumped>.



## DATA-SHARING IN SOUTH ASIA

Unauthorized data sharing within South Asia's payment systems poses a significant privacy risk.<sup>183</sup> Service providers may, without consent, distribute user data to third parties,<sup>184</sup> or their officials may engage in unconsented data-sharing. Commercial bank officials may be deceived into unknowingly sharing sensitive information like customer details or OTPs with fraudsters, resulting in data breaches.<sup>185</sup> Such incidents may be more prevalent in rural and remote regions with lower literacy and consumer awareness. In such cases, consumers can lodge complaints against the commercial banks or their officials.<sup>186</sup> However, the problem is exacerbated by a general lack of PIN and OTP awareness.<sup>187</sup>

Regulators across the region have launched public awareness initiatives to educate the public on the safe sharing of personal and financial information, such as PINs, OTPs, and passwords. These initiatives include campaigns, caller ringtones, and advertisements. Further, BB has set up the Financial Integrity and Consumer Services Department to facilitate the consumers' filing of complaints via phone calls, mail, or e-complaint forms.<sup>188</sup> Despite these efforts, public awareness of these resources remains inadequate.

<sup>183</sup> Deloitte TT Ltd. 2021. Open banking: Unleashing the power of data and seizing new opportunities. Available at: <https://www2.deloitte.com/content/dam/Deloitte/in/Documents/financial-services/in-fs-open-banking-report-noexp.pdf>.

<sup>184</sup> The India Express. 2018. Aadhar to bank data: what your pay apps share with third parties. Available at: <https://indianexpress.com/article/india/payment-apps-user-data-personal-information-shared-with-third-parties-paytm-whatsapp-google-tez-phonepe-amazon-pay-5133793>.

<sup>185</sup> Based on interviews conducted with stakeholders.

<sup>186</sup> Dhaka Tribune. 2019. BB received 5,731 complaints against banks in 2018. Available at: <https://www.dhakatribune.com/business/banks/166285/bb-received-5-731-complaints-against-banks-in-2018>.

<sup>187</sup> The Times of India. 2023. Data sharing, cybersecurity top concern areas for banks, customers: Deloitte. Available at: <https://timesofindia.indiatimes.com/data-sharing-cybersecurity-top-concern-areas-for-banks-customers-deloitte/articleshow/81376803.cms>.

<sup>188</sup> BB. Financial Integrity and Customer Services. Available at: [https://www.bb.org.bd/en/index.php/services/cipc\\_procedure](https://www.bb.org.bd/en/index.php/services/cipc_procedure).

### 5.3 MONEY LAUNDERING LINKED TO DIGITAL PAYMENT INNOVATIONS

Money laundering is a growing problem in South Asia, with criminals increasingly using digital payment channels for their illicit activities.<sup>189</sup> The crime’s secretive nature and lack of accurate national-level data make it difficult to gauge its full extent.<sup>190</sup> Although FIUs in the region analyze suspicious transactions related to financial crimes, including money laundering, their data mainly indicates the number of reports rather than clearly depicting the current state of money laundering. FIU data suggests that the financial sector is the most vulnerable to risk due to its infrastructure and various services and products.

As digital payment platforms grow, so do innovative money laundering techniques, such as micro-structuring, wherelarge funds are split into multiple smaller transactions to avoid detection and identity theft, using stolen personal and banking credentials and biometrics

<sup>189</sup> McKinsey & Company. 2022. Managing financial crime risk in digital payments. Available at: <https://www.mckinsey.com/capabilities/risk-and-resilience/our-insights/managing-financial-crime-risk-in-digital-payments>.

<sup>190</sup> United Nations Office on Drugs and Crime. Money Laundering. Available at: <https://www.unodc.org/unodc/en/money-laundering/overview.html>.

for illicit fund transfers.<sup>191</sup> Additionally, the Hundi system, an informal fund transfer method, is a significant issue in South Asia, notably in Bangladesh, India, Pakistan, and Sri Lanka.<sup>192</sup> In response, these countries have enacted anti-money laundering and combating the financing of terrorism laws to monitor and combat these laundering threats.








Despite legislative efforts and centralized FIUs, South Asian countries face a significant challenge owing to a lack of detailed data on money laundering, especially regarding digital payment innovations. The Basel Anti-Money Laundering Index highlights this data gap as a major impediment to assessing risks.<sup>193</sup> The surge

<sup>191</sup> KPMG. 2023. Rising Financial Crime Risks in Digital Payments. Available at: <https://kpmg.com/kpmg-us/content/dam/kpmg/pdf/2023/rising-financial-crime-risks-in-digital-payments.pdf>; Financial Action Task Force. 2010. Money Laundering Using New Payment Methods: FATF Report. Available at: <https://fatf-gafi.org/content/dam/fatf-gafi/reports/ML%20using%20New%20Payment%20Methods.pdf>, pgs 40-43.

<sup>192</sup> World Bank Blogs. 2023. Capital Controls and Parallel Exchange Rates in South Asia. Available at: <https://blogs.worldbank.org/endpovertyinsouthasia/capital-controls-and-parallel-exchange-rates-south-asia>; The Business Standard. 2022. Why hundi is so popular in Bangladesh. Available at: <https://www.tbsnews.net/thoughts/why-hundi-so-popular-bangladesh-502294>; Asian Development Bank. 2012. Worker Migration and Remittances in South Asia. Available at: <https://www.adb.org/sites/default/files/publication/29852/worker-migration-remittances-south-asia.pdf>.

<sup>193</sup> Basel Institute of Governance. 2021. Basel AML Index 2021: 10th Public Edition - Ranking money laundering and terrorist financing risks around the world. Available at: [https://index.baselgovernance.org/api/uploads/Basel\\_AML\\_Index\\_2021\\_10th\\_Edition\\_8a5d126c66.pdf](https://index.baselgovernance.org/api/uploads/Basel_AML_Index_2021_10th_Edition_8a5d126c66.pdf), p. 39.

#### LAWS, REGULATIONS, AND GUIDELINES ON MONEY LAUNDERING AND TERRORISM FINANCING IN SOUTH ASIA

	<b>BANGLADESH</b>	AML Guidelines for Banks and AML Guidelines for Financial Institutions
	<b>BHUTAN</b>	Asset (Money) Laundering Prevention Act 2008 and Anti-Money Laundering and Countering of Financing of Terrorism Rules and Regulations 2022
	<b>INDIA</b>	Prevention of Money Laundering Act 2002
	<b>MALDIVES</b>	Prevention of Money Laundering and Terrorism Financing Act No.10 of 2014
	<b>NEPAL</b>	Money Laundering Prevention Act 2063 (2008)
	<b>PAKISTAN</b>	Anti-Money Laundering Act 2010
	<b>SRI LANKA</b>	Financial Transactions Reporting Act No. 6 of 2006, Convention of the Suppression of Terrorist Financing Act No. 25 of 2005, and Prevention of Money Laundering Act No. 5 of 2006

in digital payments introduces complexity to money laundering, underscoring the need for comprehensive safeguards to prevent these platforms from facilitating illegal financial activities.

The cross-border nature of money laundering necessitates regional cooperation among South Asian countries to establish a unified approach to combating this crime, improve reporting mechanisms, and enhance data collection/repository.<sup>194</sup> Examining money laundering through the lens of digital payment innovations is important to developing effective measures to prevent digital platforms' misuse. A harmonized framework is essential to documenting key information like the primary source/channels of money laundering and transaction values, facilitating thorough and comprehensive offense analysis, and identifying laundering channels. Access to this data is crucial for regulators, governments, and law enforcement agencies to make informed decisions and deploy targeted strategies against money laundering risks.

#### CROSS-BORDER REMITTANCES IN SOUTH ASIA

Cross-border payments are crucial in South Asia due to their high reliance on remittances. Digital payment innovations offer efficient solutions for these transactions but come with risks that need mitigation. Regulatory compliance becomes complex when payment services operate across borders without uniform regulation, posing legal and reporting challenges. Additionally, cross-border payments involve transferring sensitive data across jurisdictions, requiring adherence to diverse data protection laws to prevent legal and operational risks. Settlement risk is also significant, necessitating safeguards to ensure FSPs have adequate solvency and funds for transaction completion. Furthermore, managing currency exchange in cross-border payments involves deciding between fixed or dynamic rates and establishing controls, reserves, and risk mitigation strategies for currency settlement.<sup>195</sup>

<sup>194</sup> World Bank Group. 2022. South Asia's Digital Economy: An Opportunity to Build Back Better, Digitally. Available at: <http://hdl.handle.net/10986/37292>, p. 74.

<sup>195</sup> World Bank Group. 2021. Cross-Border Fast Payments: Part of the World Bank Fast Payments Toolkit, Focus Note. Available at: [https://fastpayments.worldbank.org/sites/default/files/2021-10/Cross\\_Border\\_Fast\\_Payments\\_Final.pdf](https://fastpayments.worldbank.org/sites/default/files/2021-10/Cross_Border_Fast_Payments_Final.pdf).

## 5.4 OPERATIONAL RISKS

Digital payment platforms in the region face operational risks, including human error, connectivity issues, service downtime, and processing delays. As more and more people become dependent on the digital mode of payment, it is crucial to ensure system reliability and resilience. In countries like Bhutan and Nepal, challenging terrain, difficult topography, and scattered populations complicate providing consistent infrastructure, particularly in rural and remote areas where poor internet and service disruptions degrade digital payment services. This has led to a huge concern in Bhutan, where inadequate connectivity and frequent transaction failures owing to infrastructure problems have driven a preference for cash transactions over digital methods.

**Recently, the banking and financial sectors have become heavily reliant on third-party service providers (TPSPs) to perform their critical business functions, aiming to deliver quality products cost-effectively. Nevertheless, this outsourcing trend has significantly interconnected the financial sector, making it highly susceptible to various business and operational risks.**

RBI has acknowledged this issue<sup>196</sup> and stated that such outsourcing arrangements expose financial institutions to multiple financial, operational, and reputational risks.

Firstly, TPSPs offering services like application programming interface integrations and cloud computing to financial institutions are not subject to the same regulatory standards, increasing the risk of data breaches and sensitive data exposure. Secondly, utilizing TPSPs exposes financial risks for financial institutions, including bearing regulatory penalties without the governance structure to prevent breaches and financial losses that TPSPs cannot cover, leaving financial institutions responsible. Thirdly, operational risks from outsourcing include failures in processes, business continuity, personnel, and technology.<sup>197</sup> Financial institutions outsourcing essential management tasks for cost savings may face significant business disruptions if the service provider encounters issues directly impacting the operations of financial institutions.

<sup>196</sup> RBI. 2022. Statement on Developmental and Regulatory Policies. Available at: [https://www.rbi.org.in/Scripts/BS\\_PressReleaseDisplay.aspx?prid=53248](https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=53248).

<sup>197</sup> Basel Committee on Banking Supervision. Available at: <https://www.bis.org/publ/bcbs195.pdf>.



## 5.5 RISK ARISING FROM RIGID TRANSACTION REVOCABILITY

IPS have revolutionized the regional payment landscape but introduced risks owing to their real-time features. In traditional payment models, interbank settlements occur at the end of business days, aiding liquidity management.



**However, IPS's reduced interbank settlement time complicates reversing erroneous transactions once settlements are completed.**

Extending interbank settlement times could mitigate this issue, allowing easier transaction reversal for consumers.<sup>198</sup> However, this extension poses a liquidity risk to banks and PSPs, who might need to refund payments before receiving them.<sup>199</sup> As a result, regulators face a conundrum in balancing transaction revocability with liquidity risk, necessitating careful consideration of settlement timings.

Optimizing the user experience, especially in challenging circumstances, is essential for any digital payment innovation to succeed. Balancing transaction revocability with liquidity risk becomes crucial. Regulators need to identify these risks and guide the industry accordingly. Determining the optimal interbank settlement duration demands collaborative efforts among regulators, banks, and PSPs to establish a timeframe that supports efficient settlement and transaction reversibility. This collaborative approach aims to harmonize consumer convenience and financial institutions' financial stability.

## 5.6 LINKING ANCILLARY SERVICES TO THE PAYMENT SYSTEM

As FSPs mature in the payment systems sector, they increasingly look to diversify their revenue streams by offering additional services such as credit products (Buy Now, Pay Later, consumer finance, short-term loans, etc.) and insurance alongside core payment functionalities. This approach can enhance financial inclusion by making

credit more accessible, promoting insurance penetration, and enhancing credit assessment methods. However, it simultaneously introduces various risks, particularly in data protection. Analyzing consumer behaviors and spending for credit offerings involves handling sensitive information, necessitating strict controls to prevent personal data from being shared with credit institutions without user consent.

In areas with low digital and financial literacy, offering credit through payment systems can cause overborrowing, leading to financial distress for users. A notable example is India, where unregulated FinTechs' digital loans led to excessive lending and, in severe cases, borrowers committing suicide as they found themselves unable to repay.<sup>200</sup> Reacting to the rapid FinTech growth and associated risks of digital lending and overborrowing, RBI responded by implementing digital lending guidelines to counter and regulate these risks.<sup>201</sup>

Introducing new financial products through payment systems often leads to regulatory gaps. In India, the oversight of digital lending apps fell to private entities like the Google Play Store, placing them in an indirect regulatory role, which is not ideal.<sup>202</sup> This situation highlights the need for a more direct regulatory approach, emphasizing the importance of addressing these risks to clear regulatory separation. It is crucial to ensure that market players adhere to regulatory processes without attempting to bypass them.

## 5.7 PREDATORY PRICING AND ANTI-COMPETITIVE PRACTICES

Regulators should be cautious when dealing with low-cost or no-cost payment products due to anti-competitive behavior and predatory pricing risks. Larger entities may use unsustainable pricing to oust smaller competitors, risking market monopolization. This reliance on cost-effective models could promote such practices. Regulators should monitor these major players closely to prevent abuse of their dominant position and ensure a healthy digital payment ecosystem by fostering a level playing field.

<sup>200</sup> The Hindustan Times. 2023. Caught in deadly loan trap: How dubious lending apps caused 60 deaths. Available at: <https://www.hindustantimes.com/india-news/instan-loan-apps-trap-torture-harassment-60-deaths-india-china-link-101697013563581.html>.

<sup>201</sup> RBI. 2022. Digital Lending Guidelines. Available at: <https://rbi.org.in/Scripts/NotificationUser.aspx?Id=12382&Mode=0>.

<sup>202</sup> The Hindu. 2023. Google has removed 2,500 fraudulent loan apps from its Play Store, says Finance Minister Sitharaman. Available at: <https://www.thehindu.com/news/national/google-has-removed-2500-fraudulent-loan-apps-from-its-play-store-says-finance-minister-sitharaman/article67650300.ece>; The Hindu Business Line. 2023. Google rolls out stricter loan app norms, players fear short-term disruptions. Available at: <https://www.thehindubusinessline.com/money-and-banking/google-rolls-out-stricter-loan-app-norms-players-fear-short-term-disruptions/article66920574.ece>.

<sup>198</sup> Bank for International Settlements. Supervisory Guidance for Managing Settlement Risk in Foreign Exchange Transactions. Available at: <https://www.bis.org/publ/bcbsc1310.pdf>.

<sup>199</sup> World Bank Group. 2021. Risks in fast payment systems and implications for national payments systems oversight: World Bank Fast Payments Toolkit. Available at: [https://fastpayments.worldbank.org/sites/default/files/2021-10/Oversight\\_Final\\_0.pdf](https://fastpayments.worldbank.org/sites/default/files/2021-10/Oversight_Final_0.pdf), p. 6.

## 6. POLICY RECOMMENDATIONS

Promoting inclusive finance is a critical goal across South Asia, with governments and regulators making significant progress yet still facing opportunities for further development. Key stakeholders, including regulators and policymakers, are essential in fostering an environment that supports inclusive innovation. This chapter outlines comprehensive policy recommendations across three foundational areas: creating an inclusive regulatory and governance framework, enhancing consumer protection and empowerment, and developing inclusive digital and technological infrastructure. These pillars are pivotal in strengthening the digital payment ecosystem and ensuring that financial inclusion extends to all segments of society, paving the way for a more inclusive financial landscape in South Asia.

## 6.1. INCLUSIVE REGULATORY AND GOVERNANCE FRAMEWORK

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### ENHANCING REGIONAL COLLABORATION FOR PAYMENT INNOVATIONS AND RISK MANAGEMENT

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In South Asia's rapidly evolving financial technology landscape, the importance of regional collaboration, especially in payment innovations and risk management, cannot be overstated. The interconnected nature of risks, often transcending national borders, necessitates a unified approach among regional countries. This approach is essential for addressing challenges from cross-border transactions and leveraging emerging opportunities in payment systems. Innovations in the financial sector call for a framework of peer learning and cooperation. This enables countries to gain insights, experiences, and best practices, fostering a culture of inclusive and secure innovation. Such collaboration is crucial not only for ensuring that advancements in payment technologies benefit all stakeholders but also for enhancing the capacity of regulatory bodies to tackle new challenges.

Efforts to facilitate cross-border transactions and manage associated risks require the collective ability to integrate digital payment infrastructures effectively across South Asia. This integration enables a seamless flow of funds and information across borders, supported by a well-regulated, harmonized digital payment ecosystem. This ecosystem is vital for building a resilient and equitable financial environment for all users. Through an approach that emphasizes peer learning and regulatory collaboration, South Asia aspires to establish a financial ecosystem that is robust, adaptable to change, and accessible to its diverse population.



### PROMOTING REGULATORY COLLABORATION AND HARMONIZATION FOR INCLUSIVE PAYMENTS

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The need for domestic regulatory collaboration and harmonization has never been more critical within the rapidly evolving digital payments ecosystem. Establishing clear regulatory roles and strengthening national and regional frameworks are vital to fostering innovation and facilitating the inclusive adoption of payment systems. This requires a concerted effort from central banks, financial services authorities, and other regulatory entities to work in unison to maintain the system's integrity, ensure its secure evolution and promote consumer protection and financial inclusion. This inclusivity extends to all segments of society, including the elderly, women, and the unbanked. Effective regulation should also extend to overseeing financial institutions' compliance, particularly in areas such as cross-selling and anti-money laundering and combating the financing of terrorism.

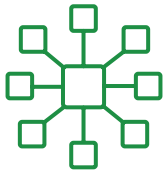
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**The simultaneous implementation of approval processes across multiple regulatory bodies and stringent risk management enforcement, such as capital requirements and regulatory compliance, is essential for maintaining financial stability and improving risk management in dynamic financial markets.**

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To truly promote innovation within the financial sector, adopting inclusive regulatory approaches that facilitate dialogue and collaboration between regulators and private players is paramount. By implementing regulatory frameworks that offer clarity, flexibility, and support for new and emerging technologies, regulators set the stage for significant industry advancements.

Regular engagement with industry experts through stakeholder discussions is crucial for keeping abreast of the changing landscape, market demands, and FinTech challenges. This engagement promotes a proportionate, risk-based regulatory approach that nurtures the FinTech ecosystem's dynamic nature without stifling innovation. Establishing innovation labs/facilitators, sandboxes, and industry forums encourages direct collaboration between regulators, financial institutions, and technology innovators. These platforms are invaluable for testing new products and addressing industry-wide challenges. Furthermore, providing industry-specific support and funding to mitigate risks associated with innovation in digital payment technologies is crucial, thereby bolstering technological advancements within the DFS landscape.



#### STRENGTHENING PAYMENT SYSTEMS THROUGH CENTRALIZED DATA COLLECTION

In South Asia, the rapid evolution of payment innovations presents numerous opportunities for economic growth and financial inclusion. However, these advancements also introduce new risks, such as cybersecurity threats and fraud, that can undermine consumer confidence and financial stability. Most regional countries notably lack a centralized system for collecting and reporting data on these risks. Establishing a centralized framework for data collection on cybersecurity breaches, fraud across various payment methods, and other related risks is essential. This system would streamline the monitoring and oversight processes and significantly enhance the security of cross-border digital transactions. By forming a South Asian regional expert group focused on risks such as cyber threats, countries can collaboratively work towards a more stable and secure financial ecosystem. Importantly, this centralized data could serve as the foundation for national and regional SupTech and RegTech initiatives, providing a robust basis for developing and implementing these advanced regulatory and supervisory tools.

In the era of data-driven decision-making, governments must harness the potential of data collection frameworks and tools that prioritize the ethical use of anonymized data for the public good, balancing this with the need for personal data protection. A harmonized approach to utilizing such data is crucial for developing evidence-based policies and enhancing regulatory clarity, allowing for the analysis of crucial insights, including regional

and gender-specific trends, without compromising individual privacy. This access enables informed decision-making, particularly vital for financial inclusion efforts and bridging the digital divide.

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**By effectively leveraging anonymized data, regulators and policymakers can gain a clear understanding of underlying trends and preferences within the payment ecosystem, facilitating the development of nuanced policies and the improvement of services to meet the population's diverse needs.**

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It aids in assessing the effectiveness of policies, identifying underserved communities and areas, and tailoring interventions accordingly. Moreover, the ethical handling and centralized collection of anonymized data highlight the importance of innovative solutions in making digital payment options universally accessible and affordable, ensuring that benefits extend to all segments of society, including marginalized groups.



#### ENHANCING REGULATORY FRAMEWORKS FOR OUTSOURCING AND PARTNERSHIP SERVICES

To effectively mitigate the risks associated with outsourcing services within the financial sector, regulators must develop and enforce a robust framework and governance structure tailored specifically for these practices. Such a framework should encompass the execution of periodic risk assessments, establishing a comprehensive risk management framework for outsourcing activities, and strategies to address concentration risks. A crucial component of this proposed framework is delineating core management functions that must remain internal to financial institutions, including policy decision-making, internal audits, and adherence to KYC norms.

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**It is essential to clearly define the roles and responsibilities of both financial institutions and TPSPs, ensuring transparency, clarity, and accountability in these partnerships. Moreover, to balance the need for regulatory oversight with the operational flexibility of financial institutions, the framework could introduce the concept of 'material arrangements' for high-risk outsourcing activities, necessitating specific risk mitigation strategies.**

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This nuanced approach would enable financial institutions to allocate resources more efficiently, tailoring their efforts to the significance of each outsourcing arrangement and, in turn, promoting a more streamlined and cost-effective operational framework. Furthermore, adopting comprehensive IT frameworks could standardize the outsourcing process across various services, thereby enhancing consistency, reliability, and security in outsourced operations. This strategic focus on developing a targeted regulatory framework for outsourcing in the financial sector aims to bolster risk prevention and mitigation, ensuring the sustainable and secure expansion of these essential services.

## 6.2. INCLUSIVE CONSUMER PROTECTION AND EMPOWERMENT

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### STRENGTHENING CONSUMER PROTECTION AND STAKEHOLDER ENGAGEMENT IN DFS

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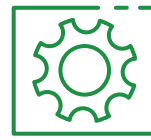
To bolster consumer protection in the DFS sector, refining existing frameworks with a tailored approach is crucial. This includes establishing a dedicated consumer protection unit focused on DFS-specific issues. Embracing a consumer-centric approach, which emphasizes market transparency and empowers consumers to make informed decisions, is fundamental. Implementing stringent internal policies on consumer data protection among DFS providers is essential, with a strong focus on a consent-based framework for financial data sharing. This approach places control squarely in the hands of consumers, enhancing their autonomy and security. Moreover, internal and external dispute resolution mechanisms should be designed to be transparent, fast, efficient, and subject to periodic evaluations or audits to ensure their effectiveness.

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**Engaging a broad spectrum of stakeholders—regulators, policymakers, industry experts, private players, and civil society organizations—is pivotal for advancing financial inclusion and protecting consumer interests.**

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Conducting regular training and consolidation on consumer protection topics, including cybersecurity training and drills, for financial institutions at both national and regional levels is vital. Such initiatives ensure that applications are rigorously tested for vulnerabilities and intrusion threats, thus preemptively identifying and mitigating cyber risks. While the regulatory push for payment technology innovation progresses, it is equally important to innovate in cybersecurity measures. Governments and private sectors should also consider amplifying investments in advanced technologies such as artificial intelligence and machine learning to detect digital financial crimes more reliably. By developing comprehensive consumer protection frameworks and promoting collaborative stakeholder engagement, we can mitigate the risks associated with digital payments and meet the needs of diverse user groups. This enhances overall financial security and trust, leading to greater inclusion.



### IMPLEMENTING DIGITAL AND FINANCIAL LITERACY PROGRAMS

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Targeted digital and financial literacy programs are critical to effectively combating fraudulent transactions and bridging the digital divide, particularly for those who are financially illiterate, live in rural areas, or are women. These initiatives must equip individuals with the practical knowledge necessary for the safe and functional use of DFS, focusing on secure financial product handling. We can significantly improve inclusivity by integrating financial and digital literacy into educational curricula. Regular national-level demand-side surveys are essential to evaluating these programs' effectiveness.

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**A cooperative and gender-sensitive approach is key to developing a regional strategy that enhances financial and digital awareness, enabling secure and efficient use of digital payment platforms. This strategy ensures wider access and higher adoption rates, with customized educational efforts addressing the unique needs of various communities to advance financial inclusion.**

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## ENHANCING SECURITY AND RISK MITIGATION

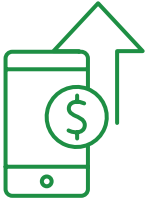
Implementing pre-transaction authentication and authorization enhancements is crucial to enhance financial transactions' security and efficiency. Integrating advanced authentication technologies and ensuring users are fully informed about transaction details before confirmation can significantly reduce the likelihood of erroneous transactions. Allowing users to recall transactions or submit chargeback requests significantly enhances consumer confidence in digital payment platforms. Although transactions may be processed instantly, incorporating a delay within the settlement mechanism provides operators a crucial window to reverse transactions if necessary. Deploying real-time fraud and money laundering detection systems and emphasizing customer education are essential to strengthening front-end verification processes. Additionally, establishing robust risk management and straightforward dispute resolution

frameworks is vital. This approach provides reliable means and procedures to address unauthorized or erroneous transactions and handle disputes, thereby cultivating trust, integrity, and security in the digital payment ecosystem.

On the other hand, managing liquidity risks and regulatory challenges necessitates innovative approaches. For PSPs and banks, utilizing dynamic liquidity management tools can mitigate risks associated with delayed interbank settlements by offering real-time liquidity insights. Furthermore, regulatory bodies are critical in ensuring transaction security and consumer protection by providing guidance and fostering stakeholder collaboration. Experimenting with alternative settlement models and establishing clear consumer protection measures, including transparent dispute resolution policies and compensation mechanisms, can balance the need for secure, irrevocable transactions with the flexibility required for effective liquidity management and consumer safeguarding in transaction errors or fraud cases.



### 6.3. INCLUSIVE DIGITAL AND TECHNOLOGICAL INFRASTRUCTURE



#### STRENGTHENING DIGITAL PAYMENT INFRASTRUCTURE FOR ENHANCED DFS ADOPTION AND TRUST

Robust digital infrastructure is crucial for the adoption of DFS, particularly in rural and remote areas. This necessitates significant investments from the public and private sectors to develop a comprehensive digital public infrastructure, ensuring widespread access to reliable ICT services. Governments need to endorse and support trust-based payment systems through official channels to foster consumer trust. Additionally, overcoming the financial challenges associated with capital mobilization for digital payment infrastructure demands collaborative efforts and regional partnerships.

There is a pressing need for substantial investment in supply-side infrastructure across the region, including the deployment of widespread payment devices such as QR codes, POS terminals, and ATMs. This investment is critical to enable all merchants to accept digital payments.

**Investing in a reliable and secure digital payment infrastructure reduces downtime and security breaches, which builds user trust and encourages the adoption of digital payments. Moreover, supporting technological innovation with industry-specific assistance and funding can significantly accelerate advancements in digital payment technologies, paving the way for a more inclusive and efficient digital payment ecosystem.**

Advancements in digital payments must be matched with enhanced measures to prevent financial crimes, ensuring risk management, such as fraud and money laundering, keeps pace with technological innovations.



#### PROMOTING INTEROPERABILITY IN DIGITAL PAYMENTS FOR REGIONAL INTEGRATION AND EFFICIENCY

It is vital to foster interoperability and technology sharing to enhance the digital payment ecosystem, aiming to establish an integrated and efficient national and regional payment network. Seamless communication and transactions between diverse

payment platforms can significantly improve the user experience. Given the substantial reliance on remittances within the region, leveraging regional collaboration to develop a unified payment infrastructure could streamline regulatory processes, harmonize standards, and enhance cross-border payment innovations. This approach involves enabling successful payment systems in one jurisdiction to operate across others, supported by central banks through MoUs for regulatory information exchange. Encouraging such interoperability has the potential to reduce transaction costs and complexity, offering tangible benefits to both users and businesses.



#### PROMOTING INCLUSIVE PAYMENT SOLUTIONS TO BRIDGE THE DIGITAL DIVIDE

To overcome the challenges posed by limited mobile and internet access, particularly in regions hindered by geographical and economic constraints, governments and regulators must advocate for the adoption of low-cost or no-cost payment innovations. Emphasizing technologies that work on basic phones and can operate with minimal or no internet connectivity, such as offline and USSD code-based solutions, can significantly bridge the digital divide. This strategy is especially effective in reaching individuals with low financial and digital literacy, including women and the rural poor, by making digital transactions more accessible and appealing. It achieves this through lower transaction costs and enhanced interoperability. Moreover, developing regulatory frameworks for prevalent payment systems is vital to ensuring that low-cost services contribute to the sustainability of FinTech innovations without being compromised by anti-competitive practices. Financial inclusivity can be expanded by facilitating payment solutions that do not rely on advanced technology or connectivity, empowering those in the most remote or underserved areas.

The abovementioned recommendations are instrumental in strengthening the digital payment ecosystem and ensuring that financial inclusion extends to all segments of society, thereby paving the way for a more inclusive financial landscape in South Asia.

**Through collaborative efforts and strategic initiatives in these areas, South Asia can foster a resilient, equitable, and accessible financial environment for all its citizens, driving sustainable economic growth and social development across the region.**

## ANNEX I: LIST OF INTERVIEWEES

SN	COUNTRIES	DIMENSION	INDICATOR
1.	BANGLADESH	Md. Motasem Billah	Director, Payment Systems Department, Bangladesh Bank
		Mhd. Nazrul Islam	Director, Financial Inclusion Department, Bangladesh Bank
2.	BHUTAN	Kesang Jigme	Director, Department of Payment and Settlement Systems, Royal Monetary Authority of Bhutan
3.	INDIA	Shailendra Trivedi	Chief-General Manager, Department of Information Technology, Reserve Bank of India
		Rajesh Bansal	Chief Executive Officer, Reserve Bank Innovation Hub
		Dilip Asbe	Managing Director, Chief Executive Officer, National Payments Corporation of India
4.	MALDIVES	Hawwa Latheef	Executive Director, Payment Systems and Oversight Division, Maldives Monetary Authority
		Hamida Shakeela	Executive Director, Banks and Other Financial Institutions Division, Maldives Monetary Authority
		Aminath Shaheeda	Assistant Executive Director, Banking and Payments Division, Maldives Monetary Authority
5.	NEPAL	Guru Prasad Poudel	Executive Director, Payments Systems Department, Nepal Rastra Bank
		Krishna Ram Dhunju	Director, Payments Systems Department, Nepal Rastra Bank
		Kiran Pandit	Director, Financial Inclusion and Consumer Protection, Nepal Rastra Bank
		Dr Pawan Kumar Sharma	Chairperson, Cyber Security Committee, Computer Emergency Response Team Nepal
		Neelesh Man Singh Pradhan	Chief Executive Officer, Nepal Clearing House Ltd
		Sanjib Subba	Chief Executive Officer, Nepal Electronic Payment Systems Ltd.
6.	PAKISTAN	Syed Sohail Javaad	Executive Director, Digital Financial Services Group, State Bank of Pakistan
7.	SRI LANKA	Dr Sujeetha Jegajeevan	Director, Economic Research Department, Central Bank of Sri Lanka
		K. V. K. Alwis	Director, Payments and Settlements Department, Central Bank of Sri Lanka
		S D Nilanka Chamindani	Deputy Director, Regional Development Department, Central Bank of Sri Lanka
		Dr K. Ambagahawita	Deputy Director, Payments & Settlements Department, Central Bank of Sri Lanka
8.	SAARC FINANCE	Shah Zia-ul Haque	Member Secretary, SAARC Payments Initiative



## REFERENCES

- AFI.** 2016. National Financial Inclusion Strategies: A Toolkit. Available at: [https://www.afi-global.org/wp-content/uploads/2016/06/NFIS-Toolkit\\_2021.pdf](https://www.afi-global.org/wp-content/uploads/2016/06/NFIS-Toolkit_2021.pdf).
- AFI.** 2020. Digital Financial Services Supervision in Bangladesh. Available at: [https://www.afi-global.org/wp-content/uploads/2020/12/AFI\\_DFS\\_Bangladesh\\_AW3\\_digital.pdf](https://www.afi-global.org/wp-content/uploads/2020/12/AFI_DFS_Bangladesh_AW3_digital.pdf).
- AFI.** 2021. Policy Model for Digital Identity and Electronic Know Your Customer (E-KYC). Available at: [https://www.afi-global.org/wp-content/uploads/2021/09/AFI\\_GSP\\_digital-ID\\_eKYC\\_PM.pdf](https://www.afi-global.org/wp-content/uploads/2021/09/AFI_GSP_digital-ID_eKYC_PM.pdf).
- Asian Development Bank.** 2012. Worker Migration and Remittances in South Asia. Available at: <https://www.adb.org/sites/default/files/publication/29852/worker-migration-remittances-south-asia.pdf>.
- Asian Development Bank.** 2019. Is Mobile Remittance a Solution for South Asia? Available at: <https://development.asia/insight/mobile-remittance-solution-south-asia>.
- Bangladesh Bureau of Statistics.** 2022. Survey on ICT Use and Access by Individuals and Households. Available at: [https://bbs.portal.gov.bd/sites/default/files/files/bbs.portal.gov.bd/page/b343a8b4\\_956b\\_45ca\\_872f\\_4cf9b2f1a6e0/2023-01-08-07-00-667cde6536494c707e86d483c0b618a5.pdf](https://bbs.portal.gov.bd/sites/default/files/files/bbs.portal.gov.bd/page/b343a8b4_956b_45ca_872f_4cf9b2f1a6e0/2023-01-08-07-00-667cde6536494c707e86d483c0b618a5.pdf).
- Bank for International Settlements.** 2022. The journey so far: making cross-border remittances work for financial inclusion, FSI Insights No. 43. Available at: <https://www.bis.org/fsi/publ/insights43.htm>.
- Bank for International Settlements.** Supervisory Guidance for Managing Settlement Risk in Foreign Exchange Transactions. Available at: <https://www.bis.org/publ/bcbsc1310.pdf>.
- Bank of Bhutan.** GoBoB Digital Wallet. Available at: <https://www.bob.bt/personal-banking/digital-banking/gobob>.
- Bank of Maldives.** 2019. Available at: <https://twitter.com/bankofmaldives/status/1192384399867703296?lang=en>.
- Banking Mohtasib Pakistan.** Available at: <https://www.bankingmohtasib.gov.pk/Website/compliantForm.aspx>.
- Basel Committee on Banking Supervision.** Available at: <https://www.bis.org/publ/bcbs195.pdf>.
- Basel Institute of Governance.** 2021. Basel AML Index 2021: 10th Public Edition - Ranking money laundering and terrorist financing risks around the world. Available at: [https://index.baselgovernance.org/api/uploads/Basel\\_AML\\_Index\\_2021\\_10th\\_Edition\\_8a5d126c66.pdf](https://index.baselgovernance.org/api/uploads/Basel_AML_Index_2021_10th_Edition_8a5d126c66.pdf).
- BB.** 2014. Guidelines for Customer Services and Complaint Management. Available at: [https://www.bb.org.bd/aboutus/regulationguideline/ficsd/cipc\\_eng.pdf](https://www.bb.org.bd/aboutus/regulationguideline/ficsd/cipc_eng.pdf).
- BB.** 2019. Survey on Impact Analysis of Access to Finance in Bangladesh. Available at: [https://www.bb.org.bd/pub/research/sp\\_research\\_work/srw1903.pdf](https://www.bb.org.bd/pub/research/sp_research_work/srw1903.pdf).
- BB.** 2020. Guidelines on e-KYC. Available at: <https://www.bb.org.bd/mediaroom/circulars/aml/jan082020bfu25.pdf>.
- BB.** 2021. Annual Report 2020-21. Available at: <https://www.bb.org.bd/pub/annual/anreport/ar2021/index2021.php>.
- BB.** 2021. PSD Circular No. 401/2021. Available at: <https://www.bb.org.bd/mediaroom/circulars/psd/jan062021psd01.pdf>.
- BB.** 2022. Annual Report 2021-22. Available at: <https://www.bb.org.bd/pub/annual/anreport/ar2122.pdf>.
- BB.** 2023. Guidelines on ICT Security. Available at: [https://www.bb.org.bd/aboutus/draftguinotification/guideline/draft\\_ictpolicy.pdf](https://www.bb.org.bd/aboutus/draftguinotification/guideline/draft_ictpolicy.pdf).
- BB.** 2023. PSD Circular Letter No. 1. Available at: <https://www.bb.org.bd/mediaroom/circulars/psd/feb082023psdl01.pdf>.
- BB.** 2023. Quarterly Report on Remittance Inflows in Bangladesh (January-March 2023). Available at: [https://www.bb.org.bd/pub/quarterly/remittance\\_earnings/remittance%20january-march%202023.pdf](https://www.bb.org.bd/pub/quarterly/remittance_earnings/remittance%20january-march%202023.pdf).
- BB.** Determination of Platform Fees, Interoperable Fees and Service Charges for transactions through Interoperable Digital Transaction Platform. Available at: <https://www.bb.org.bd/mediaroom/circulars/psd/nov102022psd16.pdf>.
- BB.** Financial Integrity and Customer Services. Available at: [https://www.bb.org.bd/en/index.php/services/cipc\\_procedure](https://www.bb.org.bd/en/index.php/services/cipc_procedure).

**BB.** 2023. Review on e-Banking and e-Commerce Statistics.

**BRAC Institute of Governance & Development.** 2020. Digital Literacy of Rural Households in Bangladesh. Available at: [https://bigd.bracu.ac.bd/wp-content/uploads/2020/10/Working-Paper\\_Digital-Literacy-of-Rural-Households-in-Bangladesh.pdf](https://bigd.bracu.ac.bd/wp-content/uploads/2020/10/Working-Paper_Digital-Literacy-of-Rural-Households-in-Bangladesh.pdf).

**Carnegie Endowment for International Peace.** Timeline of Cyber Incidents Involving Financial Institutions 2007-2022. Available at: <https://carnegieendowment.org/specialprojects/protectingfinancialstability/timeline>.

**CBSL, Payments Bulletin.** Available at: <https://www.cbsl.gov.lk/en/publications/other-publications/statistical-publications/payments-bulletin>.

**CBSL.** 2020. Currency/Payments Management Policy. Available at: <https://www.cbsl.gov.lk/en/covid-19-currency-payments-management-policy>.

**CBSL.** 2021. Annual Report 2021. Available at: <https://www.cbsl.gov.lk/en/publications/economic-and-financial-reports/annual-reports/annual-report-2021>.

**CBSL.** 2021. CBSL Successfully Completes the Process of Developing and Testing a Blockchain Technology based Shared Know-Your-Customer (KYC) Proof-of-Concept (POC) Available at: <https://www.cbsl.gov.lk/en/news/cbsl-successfully-completes-the-process-of-developing-and-testing-a-blockchain-technology-based-shared-kyc-poc>.

**CBSL.** 2021. Financial Literacy Survey Sri Lanka. Available at: <https://rb.gy/rg2bai>.

**CBSL.** 2021. National Financial Inclusion Strategy for Sri Lanka 2021-24. Available at: [https://www.cbsl.gov.lk/sites/default/files/cbslweb\\_documents/NFIS%20Summary\\_%20English\\_2.pdf](https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/NFIS%20Summary_%20English_2.pdf).

**CBSL.** 2023. Financial Consumer Protection Regulations No. 1 of 2023. Available at: [https://www.cbsl.gov.lk/sites/default/files/cbslweb\\_documents/laws/cdg/fcrd\\_regulations\\_no\\_01\\_of\\_2023\\_e.pdf](https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/laws/cdg/fcrd_regulations_no_01_of_2023_e.pdf).

**CBSL.** 2023. Sri Lanka Socio-Economic Data. Available at: [https://www.cbsl.gov.lk/sites/default/files/cbslweb\\_documents/publications/otherpub/publication\\_sri\\_lanka\\_socio\\_economic\\_data\\_folder\\_2023\\_e.pdf](https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/publications/otherpub/publication_sri_lanka_socio_economic_data_folder_2023_e.pdf).

**Deloitte Touche Tohmatsu Ltd.** 2020. The Next Wave Emerging digital life in South and Southeast Asia. Available at: <https://rb.gy/fs4ppu>.

**Deloitte TT Ltd.** 2021. Open banking: Unleashing the power of data and seizing new opportunities. Available at: <https://www2.deloitte.com/content/dam/Deloitte/in/Documents/financial-services/in-fs-open-banking-report-noexp.pdf>.

**Dhaka Tribune.** 2019. BB received 5,731 complaints against banks in 2018. Available at: <https://www.dhakatribune.com/business/banks/166285/bb-received-5-731-complaints-against-banks-in-2018>.

**Dhaka Tribune.** 2023. National Identity Registration Bill 2023 placed in JS to transfer operation to home ministry. Available at: <https://www.dhakatribune.com/bangladesh/324433/bill-placed-in-js-to-shift-nid-operations-from-ec>.

**Domingos Mondego, Understanding the influence of trust on mobile payment systems adoption: A literature review, International Journal of Research in IT and Management,** Vol. 8, Issue 5, May 2018. Available at: <https://rb.gy/r0alf2>.

**Economic Times.** 2022. No consideration to levy any charges for UPI services: Finance Ministry. Available at: <https://economictimes.indiatimes.com/tech/technology/no-consideration-to-levy-any-charges-for-upi-services-finance-ministry/articleshow/93695449.cms>.

**Embassy of India in Bhutan.** Launch of BHIM UPI in Bhutan. Available at: [https://www.indembthimphu.gov.in/adminpart/PressRelease\\_BHIM.pdf](https://www.indembthimphu.gov.in/adminpart/PressRelease_BHIM.pdf).

**Financial Action Task Force.** 2010. Money Laundering Using New Payment Methods: FATF Report. Available at: <https://fatf-gafi.org/content/dam/fatf-gafi/reports/ML%20using%20New%20Payment%20Methods.pdf>.

**Financial Institutions (Customer Due Diligence) Rules** No. 01 of 2016

**Finck, Michèle, and Frank Pallas.** 2020. "They Who Must Not Be Identified—Distinguishing Personal from Non-Personal Data under the GDPR." International Data Privacy Law 10 (1). Oxford University Press (OUP): 11-36. doi:10.1093/idpl/ipz026.

**Fonepay.** 2023. Fonepay and NIPL coming up with cross border QR code-based payment solution between Nepal and India. Available at: <https://fonepay.com/blogs/fonepay-and-nipl-cross-border-qr-code-based-payment-solution-between-nepal-and-india>.

**Gateway Payment Service.** UPI Nepal: New Product Coming Soon. Available at: <https://gatewaypayment.com.np/upinepal>.

**Global Government FinTech.** 2022. Nepal adopts India's UPI payment platform. Available at: <https://www.globalgovernmentfintech.com/nepal-adopts-indias-upi-payments-platform>.

**Government of Bangladesh, the Ministry of Finance, Social Protection Programs: Fiscal Year 2021-22, 2022.** Available at: <https://rb.gy/y8n32g>.

**Government of Bangladesh, the Ministry of Finance.** 2022. Return to the Path of Development Leaving the COVID-19 Behind: National Budget Speech 2022-23. Available at: [https://mof.portal.gov.bd/sites/default/files/files/mof.portal.gov.bd/page/b29661b6\\_927f\\_4012\\_9f83\\_5ac47dbd6ebd/BG%20Press\\_Speech%202022-23%20English%20Final.pdf](https://mof.portal.gov.bd/sites/default/files/files/mof.portal.gov.bd/page/b29661b6_927f_4012_9f83_5ac47dbd6ebd/BG%20Press_Speech%202022-23%20English%20Final.pdf).

**Government of Bangladesh.** 2014. Payment and Settlement Systems Regulations. Available at: <https://www.bb.org.bd/aboutus/regulationguideline/bpss.pdf>.

**Government of India, Ministry of Electronics and Information Technology.** 2022. Indian Computer Emergency Response Team: Annual Report. Available at: <https://www.cert-in.org.in/Downloader?pageid=22&type=2&fileName=ANUAL-2023-0001.pdf>

**Government of India, Ministry of Health and Family Welfare.** 2021. Rural Health Statistics 2021-22. Available at: [https://main.mohfw.gov.in/sites/default/files/RHS%202021-22\\_2.pdf](https://main.mohfw.gov.in/sites/default/files/RHS%202021-22_2.pdf).

**Government of India, Ministry of Health and Family Welfare.** 2021. Rural Health Statistics 2021-22. Available at: [https://main.mohfw.gov.in/sites/default/files/RHS%202021-22\\_2.pdf](https://main.mohfw.gov.in/sites/default/files/RHS%202021-22_2.pdf).

**Government of India, National Informatics Centre.** 2023. Direct Benefit Transfer - A blessing during the time of Pandemic. Available at: <https://www.nic.in/blogs/direct-benefit-transfer-a-blessing-during-the-time-of-pandemic>.

**Government of India, the Ministry of Finance, Department of Financial Services.** 2023. Progress Report. Available at: <https://pmjdy.gov.in/account>.

**Government of India.** 2007. Payment and Settlement System Act. Available at: [https://www.indiacode.nic.in/handle/123456789/2082?sam\\_handle=123456789/1362#:~:text=India%20Code%3A%20Payment%20and%20Settlement%20Systems%20Act%2C%202007&text=Long%20Title%3A,connected%20therewith%20or%20incidental%20thereto](https://www.indiacode.nic.in/handle/123456789/2082?sam_handle=123456789/1362#:~:text=India%20Code%3A%20Payment%20and%20Settlement%20Systems%20Act%2C%202007&text=Long%20Title%3A,connected%20therewith%20or%20incidental%20thereto).

**Government of India.** 2023. Digital Personal Data Protection Act. Available at: <https://www.meity.gov.in/writereaddata/files/Digital%20Personal%20Data%20Protection%20Act%202023.pdf>.

**Government of India.** Unstarred question no. 388. Available at <https://pqars.nic.in/annex/253/A388.pdf>.

**Government of Nepal.** 2008. Electronic Transactions Act. Available at: <http://www.tepc.gov.np/uploads/files/12the-electronic-transaction-act55.pdf>.

**Government of Nepal.** 2018. Privacy Act. Available at: <https://www.lawcommission.gov.np/en/wp-content/uploads/2019/07/The-Privacy-Act-2075-2018.pdf>.

**Government of Nepal.** 2021. National Population and Housing Census Report. Available at: <https://censusnepal.cbs.gov.np/results>.

**Government of Pakistan.** 2005. Payment Systems and Electronic Fund Transfers Act. Available at: [https://www.sbp.org.pk/lsd/ps\\_eft\\_act\\_2005.pdf](https://www.sbp.org.pk/lsd/ps_eft_act_2005.pdf).

**Government of Pakistan.** 2016. Prevention of Electronic Crimes Act. Available at: [https://na.gov.pk/uploads/documents/1470910659\\_707.pdf](https://na.gov.pk/uploads/documents/1470910659_707.pdf).

**Government of Pakistan.** 2021. National Cyber Security Policy. Available at: <https://moitt.gov.pk/SiteImage/Misc/files/National%20Cyber%20Security%20Policy%202021%20Final.pdf>.

**Government of Pakistan.** 2022. Electronic Transactions Ordinance. Available at: <https://www.pakistanlaw.com/eto.pdf>.

**Government of Sri Lanka, the Ministry of Finance.** 2021. Sri Lanka Labour Force Survey: Annual Report. Available at: [http://www.statistics.gov.lk/Resource/en/LabourForce/Annual\\_Reports/LFS2021.pdf](http://www.statistics.gov.lk/Resource/en/LabourForce/Annual_Reports/LFS2021.pdf).

**Government of Sri Lanka.** 2005. Payment and Settlement Systems Act No. 28 of 2005. Available at: [https://www.cbsl.gov.lk/sites/default/files/cbslweb\\_documents/laws/acts/en/Payment\\_settlement\\_sys\\_act.pdf](https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/laws/acts/en/Payment_settlement_sys_act.pdf).

**Government of Sri Lanka.** 2022. Personal Data Protection Act. Available at: <https://www.parliament.lk/uploads/acts/gbills/english/6242.pdf>.

**Government of Sri Lanka.** 2023. Cyber Security Bill. Available at: <https://cert.gov.lk/wp-content/uploads/2023/08/Cyber-Security-Bill-13-07-2023.pdf>.

**Government of the Maldives, National Center for Information Technology.** eFaas portal. Available at: <https://efaas.egov.mv>.

**Government of the Maldives.** 2021. National Payment System Law No. 8/2021. Available at: [https://www.mma.gov.mv/documents/Laws/National%20Payment%20System%20Act%208-2021%20\(english\).pdf](https://www.mma.gov.mv/documents/Laws/National%20Payment%20System%20Act%208-2021%20(english).pdf).

**Guidelines for Non Face-to-Face Customer Identification and Verification Using Electronic Interface Provided by the Department for Registration of Persons,** No. 3 of 2020

**Guidelines for Non-Face-to-Face Customer Identification and Verification Using Electronic Interface Provided by the Department for Registration of Persons** No. 3 of 2020, Financial Intelligence Unit, Central Bank of Sri Lanka

**Hua Xin et al., Exploring the influence of trust on mobile payment adoption, Pacific Asia Conference on Information Systems 2013 Proceedings,** June 2013, available at: <https://core.ac.uk/download/pdf/56363727.pdf>.

**IMF eLibrary.** 2023. Stacking up the Benefits: lesson from India's Digital Journey. Available at <https://www.elibrary.imf.org/view/journals/001/2023/078/article-A001-en.xml>.

**IMF.** 2021. The Global Cyber Threat. Available at: <https://www.imf.org/external/pubs/ft/fandd/2021/03/pdf/global-cyber-threat-to-financial-systems-maurer.pdf>.

**India Today.** 2022. Beware of QR code scam or lose money: how to identify and be safe from such scams. Available at: <https://www.indiatoday.in/technology/features/story/beware-of-qr-code-scam-or-lose-money-how-to-identify-and-be-safe-from-such-scams-2310094-2022-12-16>.

**Indian Express.** 2023. Aadhar-enabled payment scam hits citizens registering properties in Karnataka police suspect intermediaries' role. Available at: <https://indianexpress.com/article/cities/bangalore/aadhaar-enabled-payment-citizens-karnataka-8990185>.

**Insurers** (Customer Due Diligence) Rules No. 1 of 2019 as amended from time to time

**International Bank for Reconstruction and Development and The World Bank.** 2021. Consumer Protection in the Context of Fast Payments. Available at: [https://fastpayments.worldbank.org/sites/default/files/2021-10/Consumer\\_Protection\\_Final.pdf](https://fastpayments.worldbank.org/sites/default/files/2021-10/Consumer_Protection_Final.pdf).

**Kathmandu Post.** 2022. Poor digital literacy hinders growth in Nepal. Available at: <https://kathmandupost.com/money/2022/05/02/poor-digital-literacy-hinders-growth-in-nepal>.

**KPMG.** 2023. Rising Financial Crime Risks in Digital Payments. Available at: <https://kpmg.com/kpmg-us/content/dam/kpmg/pdf/2023/rising-financial-crime-risks-in-digital-payments.pdf>.

**LankaPay.** Homepage. Available at: <https://www.lankapay.net/products-and-services/lankaqr>.

**LankaPay.** LankaQR. Available at: <https://www.lankapay.net/products-and-services/lankaqr>.

**LankaPay.** Payment Exchange Name. Available at: [https://www.lankapay.net/products-and-services/pen/#:-:text=Payment%20Exchange%20Name%20\(PEN\)%20is,Fund%20Transfer%20Switch%20\(CEFTS\)](https://www.lankapay.net/products-and-services/pen/#:-:text=Payment%20Exchange%20Name%20(PEN)%20is,Fund%20Transfer%20Switch%20(CEFTS)).

**Making Access Possible.** Nepal Financial Inclusion Roadmap 2017-22. Available at: [https://nepalindata.com/media/resources/items/12/bFinancial\\_Inclusion\\_Roadmap.pdf](https://nepalindata.com/media/resources/items/12/bFinancial_Inclusion_Roadmap.pdf).

**Maldives Independent.** 2017. Major cyberattacks disrupt internet service across the Maldives. Available at: <https://maldivesindependent.com/business/cyber-attacks-disrupt-internet-service-across-the-maldives-128366>.

**McKinsey & Company.** 2019. Financial crime and fraud in the age of cybersecurity. Available at: <https://www.mckinsey.com/capabilities/risk-and-resilience/our-insights/financial-crime-and-fraud-in-the-age-of-cybersecurity#>.

**McKinsey & Company.** 2022. Managing financial crime risk in digital payments. Available at: <https://www.mckinsey.com/capabilities/risk-and-resilience/our-insights/managing-financial-crime-risk-in-digital-payments>.

**MediaNama.** 2023. What made it easier for fraudsters to access people's biometrics, Aadhar details in Kolkata? Available at: <https://www.medianama.com/2023/10/223-aadhaar-enabled-payment-system-fraud-kolkata>.

**MMA.** 2021. Invitation for bids: Provision of Consultancy for the development of an e-KYC Regulation & Related Guidelines. Available at: <https://www.gazette.gov.mv/iulaan/163735>.

**MMA.** 2022. Guidelines on Consumer Protection on Electronic Fund Transfers. Available at: [https://www.mma.gov.mv/documents/Laws/Eletronic%20Funds%20Transfer%20Guideline%20\(english\).pdf](https://www.mma.gov.mv/documents/Laws/Eletronic%20Funds%20Transfer%20Guideline%20(english).pdf).

**MMA.** 2022. National Financial Inclusion Survey. Available at: <https://www.mma.gov.mv/documents/National%20Financial%20Inclusion%20Survey/2022/NFI-Survey-2022.pdf>.

**MMA.** 2022. National Financial Inclusion Survey. Available at: <https://rb.gy/7f7j7n>.

**MMA.** 2022. Payments Bulletin 2019-2022. Available at: <https://www.mma.gov.mv/documents/Payments%20Bulletin/2023/PB-Oct-2023.pdf>.

**My Republica.** 2020. Foodmandu's website hacked, 50 thousand users' data dumped. Available at: <https://myrepublica.nagariknetwork.com/news/foodmandu-s-website-hacked-50-thousand-users-data-dumped>.

**National Centre for Financial Education.** 2019. Financial Literacy and Inclusion in India: Final Report 2019. Available at: [https://ncfe.org.in/images/pdfs/reports/NCFE%202019\\_Final\\_Report.pdf](https://ncfe.org.in/images/pdfs/reports/NCFE%202019_Final_Report.pdf).

**National Payment Corporation of India.** Unified Payment Interface homepage. Available at: <https://www.npci.org.in/what-we-do/upi/product-overview>.

**National Payments Corporation of India.** e-RUPI: Prepaid e-Voucher - Product Booklet. Available at: <https://www.npci.org.in/PDF/npci/e-rupi/Product-Booklet.pdf>.

**Nepal Clearing House Ltd.** ConnectIPS Transaction Fee Schedule. Available at: <https://www.connectips.com/images/files/cipsfeesandcharges2077.pdf>.

**Nepal Clearing House Ltd.: Overview.** Available at: <https://nchl.com.np/about>.

**Nepal Clearing House.** 2023. UPI of India and NPI of Nepal to enable cross border payments. Available at: <https://nchl.com.np/news/182>.

**Nepal Telecommunications Authority.** Annual Report 2078/79. Available at: <https://www.nta.gov.np/uploads/contents/Approved-Annual-Report-2078-79.pdf>.

**NFCW.** 2023. Table: Contactless payment transaction limit increases around the world. Available at: <https://www.nfcw.com/2020/03/26/366173/table-contactless-payment-transaction-limit-increases-around-the-world>.

**NRB.** 2018. Nepal Financial Inclusion Action Plan. Available at: [https://un.org.np/sites/default/files/doc\\_publication/2018-08/MAP%20Nepal%20Financial%20Inclusion%20Action%20Plan.pdf](https://un.org.np/sites/default/files/doc_publication/2018-08/MAP%20Nepal%20Financial%20Inclusion%20Action%20Plan.pdf).

**NRB.** 2020. Financial Consumer Protection and Grievance Management Manual 2020. Available at: <https://www.nrb.org.np/contents/uploads/2020/09/Financial-consumer-protection-and-grievance-management-manual.pdf>.

**NRB.** 2021. Impact of Remittances on Rural Poverty in Nepal: Evidence from Cross-Section Data. Available at: <https://www.nrb.org.np/contents/uploads/2021/08/NRB-WP-53-Impact-of-Remittances-Rohan-and-Mira-1.pdf>.

**NRB.** 2021. Nepal QR Standardization Framework and Guidelines. Available at: <https://www.nrb.org.np/contents/uploads/2021/01/QR-Code-Guidelines-and-Framework-and-Specifications.pdf>.

**NRB.** 2022. Baseline Survey on Financial Literacy in Nepal. Available at: <https://rb.gy/h6gvc9>.

**NRB.** 2022. Concept Report on CBDC: Identifying appropriate policy goals and design for Nepal. Available at: <https://www.nrb.org.np/contents/uploads/2022/10/CBDC-for-Nepal.pdf>.

**NRB.** 2022. Monetary Policy for 2022-23. Available at: [https://www.nrb.org.np/contents/uploads/2022/08/Monetary-policy-in-English-2022\\_23-Full-text.pdf](https://www.nrb.org.np/contents/uploads/2022/08/Monetary-policy-in-English-2022_23-Full-text.pdf).

**NRB.** 2022. Payment System Oversight Report 2021-22. Available at: <https://www.nrb.org.np/contents/uploads/2023/02/Payment-Oversight-Report-2021-22-Final.pdf#:~:text=The%20E2%80%9CPayment%20System%20Oversight%20Report,efficient%2C%20safe%2C%20and%20healthy%20payment>.

**NRB.** 2023. Cyber Resilience Guidelines 2023. Available at : <https://www.nrb.org.np/contents/uploads/2023/08/Cyber-Resilience-Guidelines-2023.pdf>.

**NRB.** 2023. Payment Systems Oversight Report 2022-23. Available at: [https://www.nrb.org.np/contents/uploads/2024/01/Payment-Oversight-Report-2022-23-V3\\_2023-12-29-1.pdf](https://www.nrb.org.np/contents/uploads/2024/01/Payment-Oversight-Report-2022-23-V3_2023-12-29-1.pdf).

**Observer Research Foundation.** 2019. The weaponisation of cashbacks on UPI by Google Pay. Available at: <https://www.orfonline.org/expert-speak/the-weaponisation-of-cashbacks-on-upi-by-google-pay-57099>.

**Pakistan Telecommunications Authority.** 2022. Annual Report. Available at: <https://www.pta.gov.pk/en/media-center/single-media/pta-annual-report-2022-100123>.

**RBA.** 2022. Annual Payment System Report 2022. Available at: <https://www.rma.org.bt/RMA%20Publication/DPSS/Annual%20Payment%20System%20Report%202022.pdf>.

**RBI.** 2016. Master Direction: KYC Direction. Available at: [https://www.rbi.org.in/scripts/bs\\_viewmasdirections.aspx?id=11566](https://www.rbi.org.in/scripts/bs_viewmasdirections.aspx?id=11566).

**RBI.** 2018. Storage of Payment System Data. Available at: <https://rbidocs.rbi.org.in/rdocs/notification/>

**RBI.** 2019. National Strategy for Financial Inclusion. Available at: <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/>

**RBI.** 2020. National Strategy for Financial Education 2020-2025. Available at: <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/NSFE202020251BD2A32E39F74D328239740D4C93980D.PDF>.

**RBI.** 2021. Annual Report 2020-21. Available at: [https://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/ORBIAR202021\\_F49F9833694E84C16AAD01BE48F53F6A2.PDF](https://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/ORBIAR202021_F49F9833694E84C16AAD01BE48F53F6A2.PDF).

**RBI.** 2021. Reserve Bank - Integrated Ombudsman Scheme. Available at: [https://rbidocs.rbi.org.in/rdocs/content/pdfs/RBIOS2021\\_amendments05082022.pdf](https://rbidocs.rbi.org.in/rdocs/content/pdfs/RBIOS2021_amendments05082022.pdf).

**RBI.** 2022. Annual Report 2022-23. Available at: <https://rbidocs.rbi.org.in/rdocs/AnnualReport/>

**Royal Government of Bhutan.** 2018. The Payment and Settlement Systems Rules and Regulations. Available at: <https://www.rma.org.bt/pssd/Rules/Payment%20&%20Settlement%20Systems%20Rules%20and%20Regulations,%202018.pdf>.

**Royal Government of Bhutan.** 2021. National ICT Household Survey Report. Available at: <https://www.tech.gov.bt/sites/default/files/Final%20ICT%20HH%20Survey%20report.pdf>.

**Royal Government of Bhutan.** 2023. National Digital Identity Act of Bhutan 2023. Available at: <https://parliament.bt/national-digital-identity-act-of-bhutan-2023>.

**Royal Government of Bhutan.** 2023. Statistics at a Glance (as of September 2023). Available at: [https://www.bicma.gov.bt/bicmanew/?page\\_id=495](https://www.bicma.gov.bt/bicmanew/?page_id=495).

**Royal Government of Bhutan.** 2023. National Digital Identity Act of Bhutan. Available at: <https://parliament.bt/national-digital-identity-act-of-bhutan-2023>.

**Royal Monetary Authority of Bhutan.** 2018. National Financial Inclusion Strategy 2018-23. Available at: <https://www.rma.org.bt/RMA%20Publication/papers/National%20Financial%20Inclusion%20Strategy%202018-2023.pdf>.

**Royal Monetary Authority of Bhutan.** 2018. National Financial Literacy Strategy 2018-23. Available at: <https://www.rma.org.bt/RMA%20Publication/papers/National%20Financial%20Literacy%20Strategy%202018-2023.pdf>.

**Royal Monetary Authority of Bhutan.** 2019. Consumer Protection for Financial Services Rules and Regulations. Available at: [https://www.rma.org.bt/consumer\\_protection/rules/consumer\\_protection\\_2019.pdf](https://www.rma.org.bt/consumer_protection/rules/consumer_protection_2019.pdf).

**Royal Monetary Authority of Bhutan.** 2019. Directives on Cybersecurity Framework Implementation 2019. Available at: <https://www.rma.org.bt/Notifications,%20Circular%20&%20Directives/Directives/Directives%20on%20Cybersecurity%20framework%20implementation%20&%20framework.pdf>.

**Royal Monetary Authority of Bhutan.** 2020. Annual Payment Systems Report 2020. Available at: <https://www.rma.org.bt/RMA%20Publication/DPSS/Annual%20Payment%20System%20Report%202020.pdf>.

**Royal Monetary Authority of Bhutan.** 2020. Guideline for Bhutan QR Payments 2020. Available at: <https://www.rma.org.bt/pssd/Rules/Guideline%20for%20Bhutan%20QR%20Payments%202020-converted.pdf>.

**Royal Monetary Authority of Bhutan.** 2021. Data Residency Policy for Payment Systems Data. Available at: <https://www.rma.org.bt/>

**Royal Monetary Authority of Bhutan.** 2021. Guidelines on Data Privacy and Data Protection 2021. Available at: [https://www.rma.org.bt/assets/images/news\\_image/DPDP%20for%20FSPs.pdf](https://www.rma.org.bt/assets/images/news_image/DPDP%20for%20FSPs.pdf).

**Royal Monetary Authority of Bhutan.** 2021. Pilot Project on Central Bank Digital Currency. Available at: <https://www.rma.org.bt/pressrelease/PRESS%20RELEASE%20CBDC.pdf>.

**Royal Monetary Authority of Bhutan.** 2022. Annual Payment Systems Report 2022. Available at: <https://www.rma.org.bt/RMA%20Publication/DPSS/Annual%20Payment%20System%20Report%202022.pdf>.

**Royal Monetary Authority of Bhutan.** 2022. Bhutan Inter-Bank Real Time (BIRT) - Fund Transfer System. Available at: [https://www.rma.org.bt/what\\_news.jsp?newId=350](https://www.rma.org.bt/what_news.jsp?newId=350).

**Royal Monetary Authority of Buthan.** 2020. Launch of Bhutan Quick Response Code to drive QR Code Payment. Available at: <https://www.rma.org.bt/pressrelease/Press%20Release%20Bhutan%20QR%20Code.pdf>.

**Royal Monetary Authority of Buthan.** 2021. BHIM UPI to foray into Bhutan in collaboration with Royal Monetary Authority (RMA) of Bhutan. Available at: <https://www.npci.org.in/PDF/npci/press-releases/2021/NPCI-Press-Release-BHIM-UPI-to-foray-into-Bhutan-in-collaboration-with-Royal-Monetary-Authority-RMA-of-Bhutan.pdf>.

**Royal Monetary Authority of Buthan.** Payment Systems Background. Available at: <https://www.rma.org.bt/paymentsystem.jsp>.

**SBP.** 2019. National Financial Inclusion Strategy. Available at: <https://www.finance.gov.pk/NFIS.pdf>.

**SBP.** 2021. Customer's Digital Onboarding Framework. Available at: <https://www.sbp.org.pk/bprd/2021/C2.htm>.

**SBP.** 2021. Financial Stability Review. Available at: <https://www.sbp.org.pk/FSR/2021/Complete.pdf>.

**SBP.** 2022. Customer's Digital Onboarding Framework. Available at: <https://www.sbp.org.pk/bprd/2022/CL15-Annex.pdf>.

**SBP.** 2022. Payment system review for the fiscal year ended June 30, 2022. Available at: <https://www.sbp.org.pk/PS/PDF/FiscalYear-2021-22.pdf>.

**SBP.** 2022. Standard for Interoperable QR Code for Person-to-Person and Merchant Payments. Available at: <https://www.sbp.org.pk/disd/2022/CL2-Annex.pdf>.

**SBP.** 2023. Payment system review for the fiscal year 2022-23. Available at: <https://www.sbp.org.pk/PS/PDF/FiscalYear-2022-23.pdf>.

**SBP.** Banking on Equality. Available at: <https://www.sbp.org.pk/boe/BankingonEquality.pdf>.

**SBP.** Financial Literacy and Capacity Building. Available at: <https://rb.gy/b8e3ar>.

**SBP.** Key Statistics on Roshan Digital Accounts. Available at: <https://www.sbp.org.pk/RDA/Progress.html>.

**SBP.** Raast Payments: Frequently Asked Questions. Available at: <https://www.sbp.org.pk/dfs/Raast-FAQS.html>.

**SBP.** Raast-Pakistan's IPS. Available at: <https://www.sbp.org.pk/dfs/Raast.html>.

**SBP.** Regulations for Electronic Money Institutions. Available at: <https://www.sbp.org.pk/psd/2019/C1-Annex-A.pdf>.

**SBP.** Roshan Digital Account: SBP Initiative for Digital Onboarding of Overseas Pakistanis. Available at: <https://www.sbp.org.pk/rda/index.html>.

**SBP.** Rules for Payment system operators and payment system providers. Available at: <https://www.sbp.org.pk/psd/2014/C3-Annex.pdf>.

**Shareef, Mohamed, Adegboyega Ojo, and Tomasz Janowski.** 2010. "Exploring Digital Divide in the Maldives." IFIP Advances in Information and Communication Technology. Berlin, Heidelberg: Springer Berlin Heidelberg, 51-63. doi:10.1007/978-3-642-15479-9\_5.

**Telecom Regulatory Authority of India.** 2023. Consultation Paper on Digital Inclusion in the Era of Emerging Technologies. Available at: [https://www.trai.gov.in/sites/default/files/Cons\\_P\\_14092023.pdf](https://www.trai.gov.in/sites/default/files/Cons_P_14092023.pdf).

**Telecom Regulatory Authority of India.** 2023. Highlights of Telecom Subscription Data as on 31st March, 2023. Available at: [https://www.trai.gov.in/sites/default/files/PR\\_No.46of2023.pdf](https://www.trai.gov.in/sites/default/files/PR_No.46of2023.pdf).

**The Business Standard.** 2022. Why hundi is so popular in Bangladesh. Available at: <https://www.tbsnews.net/thoughts/why-hundi-so-popular-bangladesh-502294>.

**The Dhaka Tribune.** 2015. Biometric SIM registration begins. Available at: <https://www.dhakatribune.com/bangladesh/bangladesh-others/116001/biometric-sim-registration-begins>.

**The Economic Times.** 2021. Cybersecurity experts questions CERT-IN inaction on rampant data breaches. Available at: <https://economictimes.indiatimes.com/tech/information-tech/air-india-bigbasket-dominos-why-no-action-against-data-breach-ask-cybersecurity-experts/articleshow/82943377.cms>.

**The Economic Times.** 2023. SEBI to tweak account aggregator framework to curb misuse of financial information. Available at: <https://economictimes.indiatimes.com/markets/stocks/news/sebi-to-tweak-account-aggregator-framework/articleshow/102331522.cms>.

**The Economic Times.** 2023. This new Aadhar-related banking fraud is on the rise why you need to lock your Aadhar biometrics now. Available at: <https://economictimes.indiatimes.com/wealth/save/new-aadhaar-related-banking-fraud-is-on-the-rise-why-you-need-to-lock-your-aadhaar-biometrics-now/articleshow/104575645.cms>.

**The Express Tribune.** 2023. Cybersecurity breach at NIFT puts national security at risk. Available at: <https://tribune.com.pk/story/2423324/cybersecurity-breach-at-nift-puts-national-security-at-risk-1>.

**The Hindu Business Line.** 2023. Google rolls out stricter loan app norms, players fear short-term disruptions. Available at: <https://www.thehindubusinessline.com/money-and-banking/google-rolls-out-stricter-loan-app-norms-players-fear-short-term-disruptions/article66920574.ece>.

**The Hindu.** 2023. Google has removed 2,500 fraudulent loan apps from its Play Store, says Finance Minister Sitharaman. Available at: <https://www.thehindu.com/news/national/google-has-removed-2500-fraudulent-loan-apps-from-its-play-store-says-finance-minister-sitharaman/article67650300.ece>.

**The Hindustan Times.** 2023. Caught in deadly loan trap: How dubious lending apps caused 60 deaths. Available at: <https://www.hindustantimes.com/india-news/instan-loan-apps-trap-torture-harassment-60-deaths-india-china-link-101697013563581.html>.

**The India Express.** 2018. Aadhar to bank data: what your pay apps share with third parties. Available at: <https://indianexpress.com/article/india/payment-apps-user-data-personal-information-shared-with-third-parties-paytm-whatsapp-google-tez-phonepe-amazon-pay-5133793>.

**The Island.** 2023. Contactless Card-Based Payment System Boosts Tourism Business. Available at: <https://island.lk/contactless-card-based-payment-system-boosts-tourism-business-avanthi-colombage>.

**The Kathmandu Post.** 2017. 19 Govt Sites breached in latest cyberattack. Available at: <https://kathmandupost.com/valley/2017/11/04/19-govt-sites-breached-in-latest-cyberattack>.

**The Kathmandu Post.** 2017. NIC Asia cash stolen in cyber heist. Available at: <https://kathmandupost.com/valley/2017/10/23/nic-asia-cash-stolen-in-cyber-heist>.

**The Kathmandu Post.** 2019. Millions stolen by ATM hackers exposes vulnerability of Nepali Banks. Available at: <https://kathmandupost.com/money/2019/09/01/millions-stolen-by-atm-hackers-exposes-vulnerability-of-nepali-banks>.

**The Kathmandu Post.** 2020. Digital payments gaining popularity among Nepali online shoppers. Available at: <https://rb.gy/t9brvw>.

**The Kathmandu Post.** 2022. Central Bank working to amend Act to issue digital currency. Available at: <https://kathmandupost.com/national/2022/08/07/central-bank-working-to-amend-act-to-issue-digital-currency>.

**The Kathmandu Post.** 2023. How Nepali's vulnerability grows amid changing nature of cybercrimes. Available at: <https://kathmandupost.com/national/2023/05/14/how-nepalis-vulnerability-grows-amid-changing-nature-of-cyber-crimes>.

**The Kathmandu Post.** 2023. Nepal, India sign pact for cross-border digital payment. Available at: <https://kathmandupost.com/money/2023/06/01/hed-nepal-india-sign-pact-for-cross-border-digital-payment>.

**The Kathmandu Post.** 2023. Nepali public questions rationale of national ID card. Available at: <https://kathmandupost.com/national/2023/03/23/nepali-public-questions-rationale-of-national-id-card>.

**The Ministry of Finance of Bangladesh and BB.** 2021. National Financial Inclusion Strategy. Available at: [https://www.bb.org.bd/aboutus/regulationguideline/nfis\\_eng.pdf](https://www.bb.org.bd/aboutus/regulationguideline/nfis_eng.pdf).

**The Ministry of Finance of India.** 2021. Know all about Account Aggregator Network-a financial data-sharing system. Available at <https://pib.gov.in/PressReleaselframePage.aspx?PRID=1753713>.

**The Nepal Live Today.** 2023. Global IME bank introduces cashback on digital 'Dakshina' transfers. Available at: <https://rb.gy/rwq7rj>.

**The Times of India.** 2023. Data sharing, cybersecurity top concern areas for banks, customers: Deloitte. Available at: <https://timesofindia.indiatimes.com/data-sharing-cybersecurity-top-concern-areas-for-banks-customers-deloitte/articleshow/81376803.cms>.



**The Tribune.** 2023. Phone Scams to Data Leaks: Securing Pakistan's Digital frontier. available at: <https://tribune.com.pk/story/2444854/phone-scams-to-data-leaks-securing-pakistans-digital-frontier>.

**UNCDF.** Digitizing Social Security Allowances in Nepal. Available at: <https://www.uncdf.org/download/file/127/585/rh-nepal-digitizing-ssapdf>.

**United Nations Office on Drugs and Crime.** Money Laundering. Available at: <https://www.unodc.org/unodc/en/money-laundering/overview.html>.

**World Bank Blogs.** 2021. Social Engineering as a corruption risk. Available at: <https://blogs.worldbank.org/governance/social-engineering-corruption-risk>.

**World Bank Blogs.** 2023. Capital Controls and Parallel Exchange Rates in South Asia. Available at: <https://blogs.worldbank.org/endpovertyinsouthasia/capital-controls-and-parallel-exchange-rates-south-asia>.

**World Bank Group.** 2020. COVID-19 G2P-Cash-Transfer Payments (Country Brief: Pakistan). Available at: <https://rb.gy/518sn6>.

**World Bank Group.** 2021. Cross-Border Fast Payments: Part of the World Bank Fast Payments Toolkit, Focus Note. Available at: [https://fastpayments.worldbank.org/sites/default/files/2021-10/Cross\\_Border\\_Fast\\_Payments\\_Final.pdf](https://fastpayments.worldbank.org/sites/default/files/2021-10/Cross_Border_Fast_Payments_Final.pdf).

**World Bank Group.** 2021. Risks in fast payment systems and implications for national payments systems oversight: World Bank Fast Payments Toolkit. Available at: [https://fastpayments.worldbank.org/sites/default/files/2021-10/Oversight\\_Final\\_0.pdf](https://fastpayments.worldbank.org/sites/default/files/2021-10/Oversight_Final_0.pdf).

**World Bank Group.** 2021. The Global Findex Database 2021 Report: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19. Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/37578/9781464818974.pdf>.

**World Bank Group.** 2022. South Asia's Digital Economy: An Opportunity to Build Back Better, Digitally. Available at: <http://hdl.handle.net/10986/37292>.

**World Bank.** 2018. The Little Data Book on Financial Inclusion 2018. Available at: <http://hdl.handle.net/10986/29654>.

**World Bank.** 2021. Digital Technologies can help Maldives build back better from COVID-19 shock. Available at: <https://www.worldbank.org/en/news/>

[press-release/2021/04/15/digital-technologies-can-help-maldives-build-back-better](https://www.worldbank.org/en/press-release/2021/04/15/digital-technologies-can-help-maldives-build-back-better).

**World Bank.** 2022. Realising a Digital Future for Maldives. Available at: <https://www.worldbank.org/en/news/feature/2022/02/08/realising-a-digital-future-for-maldives>.

**World Bank.** 2022. The Little Data Book on Financial Inclusion 2022. Available at: <http://hdl.handle.net/10986/38148>.

**World Bank.** 2023. Remittance flows reached an all-time high in 2022 in South Asia. Available at: <https://blogs.worldbank.org/peoplemove/remittance-flows-reached-all-time-high-2022-south-asia>.

## LIST OF ABBREVIATIONS

<b>BB</b>	Bangladesh Bank	<b>NIDs</b>	National Identity Cards
<b>BFI</b> s	Banks and Financial Institutions	<b>NPCI</b>	National Payments Corporation of India
<b>CBDC</b>	Central Bank Digital Currency	<b>NRB</b>	Nepal Rastra Bank
<b>CBSL</b>	Central Bank of Sri Lanka	<b>OTP</b>	One-time Password
<b>CEFTS</b>	Common Electronic Fund Transfer Switch	<b>P2M</b>	Peer-to-Merchant
<b>CIRT</b> s/ <b>CERT</b> s	Computer Incident/Emergency Response Teams	<b>P2P</b>	Peer-to-Peer
<b>CSIRT-Fin</b>	Computer Security Incident Response Team-Finance Sector	<b>POS</b>	Point of Sale
<b>DBT</b>	Direct Benefit Transfer	<b>PSP</b> s	Payment System Providers
<b>DDOS</b>	Distributed Denial of Services	<b>PSO</b> s	Payment Service Operators
<b>DFS</b>	Digital Financial Service	<b>RBI</b>	Reserve Bank of India
<b>DFSG</b>	Digital Financial Services Group	<b>RMA</b>	Royal Monetary Authority of Bhutan
<b>e-KYC</b>	Electronic Know Your Customer	<b>SARFII</b>	South Asia Region Financial Inclusion Initiative
<b>ETC</b>	Electronic Toll Collection	<b>SBP</b>	State Bank of Pakistan
<b>FICSD</b>	Financial Integrity and Consumer Services Department	<b>TPSP</b> s	Third-Party Service Providers
<b>FIU</b>	Financial Intelligence Unit	<b>UPI</b>	Unified Payment Interface
<b>FSP</b>	Financial Service Provider		
<b>G2P</b>	Government-to-Person		
<b>ICT</b>	Information and Communications Technology		
<b>IPS</b>	Instant Payment System		
<b>MDR</b>	Merchant Discount Rate		
<b>MFS</b>	Mobile Financial Services		
<b>MMA</b>	Maldives Monetary Authority		
<b>NCHL</b>	Nepal Clearing House Limited		
<b>NFC</b>	Near Field Communication		
<b>NFIS</b>	National Financial Inclusion Strategy		



**Alliance for Financial Inclusion**

AFI, Sasana Kijang, 2, Jalan Dato' Onn, 50480 Kuala Lumpur, Malaysia  
t +60 3 2776 9000 e info@afi-global.org [www.afi-global.org](http://www.afi-global.org)

 Alliance for Financial Inclusion  AFI.History  @NewsAFI  @afinetwork