Payment Systems Review

FOR THE FISCAL YEAR ENDED JUNE 30, 2021

PREPARED BY

PAYMENT SYSTEMS POLICY AND OVERSIGHT DEPARTMENT

DIGITAL FINANCIAL SERVICES GROUP

STATE BANK OF PAKISTAN

Table of Contents

Payment Systems Snapshot

Items	As on end June, 2021[P]		As on end June, 2020	
Population (Million)[1]	211.93		208.31	
Currency in Circulation[2] (PKR Trillion)	7.4		6.7	
Number of Bank Accounts[3]	62,005,178		54,731,001	
Number of Banks (and their branches)	44 (16,308)		44 (16,067)	
Commercial/Specialized[4]	33 (15,087)		33 (14,827)	
Microfinance	11 (1,221)		11 (1,240)	
Number of Banks having				
ATMs	35		34	
Point of Sale	9		9	
Internet Banking	28		28	
Mobile Phone Banking	27		27	
Call Center Banking	23		23	
CDMs	8		8	
Number of				
PRISM Participants	51		50	
Registered e-Commerce Merchants	3,003		1,707	
ATMs	16,355		15,612	
Cash Deposits Machines (CDMs)	218		113	
Cash Deposits Machines with Cash Withdrawal facility	20		13	
Multipurpose ATMs (With Cash & Cheque Deposit & Cash Withdrawal)	60		35	
POS Machines	71,907		49,067	
Payment Cards	45,936,349		42,814,427	
Transactions Data	**Volume** (mn)	**Value** (PKR bn)	**Volume** (mn)	**Value** (PKR bn)
PRISM	4.2	444,574.2	2.6	394,293.0
e-Banking (Total)	1,183.1	86,482.3	905.9	65,987.3
RTOB	186.6	67,308.4	173.7	54,433.2
ATM	598.7	8,075.6	512.1	6,429.4
POS	88.8	453.1	70.3	364.2
Internet Banking	93.4	5,661.3	56.6	2,952.7
Mobile Phone Banking	193.4	4,915.2	82.8	1,763.6
Call Centers/ IVR Banking	0.3	8.1	0.2	9.3
E-Commerce	21.9	60.6	10.2	34.9
Paper-Based	395.8	151,615.1	424.6	131,193.8
Total Transactions	**1,583.1**	**682,671.6**	**1,333.1**	**591,474.1**

1 Population figures derived from Pakistan Bureau of Statistics – Gross Domestic Product of Pakistan
*2*As on May 2021, Monthly Statistical Bulletin, SBP
3 As on December 2020, Monthly Statistical Bulletin, SBP
4 Includes overseas branches

1 Executive Summary

In FY 2020-21, the State Bank of Pakistan (SBP) continued its pursuit for the development of a robust and efficient payments ecosystem in Pakistan and has been experiencing a major transformation in adopting digital payments. This transformation was further fueled by an unprecedented pandemic raging its way throughout the world coupled with a supportive regulatory environment, which resulted in a sustained momentum of growth across all the key areas of the payments ecosystem.

PRISM transactions recorded YOY growth of 60.0% by volume and 12.8% by value. e-Banking transactions registered YOY growth of 31.1% which implies an increase in the adaption of digital means for payments. This growth was spurred by major uptake in mobile banking (133.6% increase in transactions volume) and internet banking (65.1% increase in transactions volume). Whereas transactions against paper-based instruments showed a decline of 6.8% by volume and a rise of 15.6% by value. These trends point toward healthy growth in fostering a more digitally integrated economy.

As a regulator, SBP understands the importance of migrating from a cash-intensive economy towards a digital economy. With the objective of enhancing the digital payments landscape of Pakistan, SBP under the leadership of Governor SBP has arranged 5 stakeholders sessions which were attended by representatives from the payments and financial industry in Pakistan as well as from International Organizations like the World Bank and IFC and the leadership of other regulators and government organizations/ministries like PTA, FBR, NADRA, Ministries of IT and Commerce etc. The outcome of such sessions has led towards the development of a national synergy among all the relevant stakeholders towards a common goal i.e., digitizing the economy through SBP's regulatory framework for the larger good of the Pakistani population.

In the same spirit, several key initiatives and projects have been introduced. One of the most critical payment infrastructures was launched last year by the name of 'Raast'. As Pakistan's instant payment system, it has the potential of bringing a paradigm shift in the way retail payments are made. The system was launched by the Honorable Prime Minister of Pakistan on January 11, 2021. The first use case of the system which is Bulk Payment Processing is in live operations while the second module facilitating the person to person (P2P) payments will be rolled out by the end of 2021.

Fintechs are disrupting the banking and financial landscape around the globe and have been providing innovative solutions to solve the issue of financial inclusion through digitization. To leverage new technologies to digitize payments and to boost financial inclusion, SBP has continuously been engaging with new and established Fintech companies in order to help them launch their products and services in the country. The results of previously undertaken regulatory actions have also begun to materialize. Since the issuance of SBP Regulations in April 2019 for e-money Institutions (EMIs), significant progress has been made in inducting the non-bank entities to enhance payment ecosystems in Pakistan. As of June 30th, 2021, 5 Payment Systems Operators/Providers (PSO/PSPs) had commercially launched their operations.

As of end-June 2021, there were 45.9 million total cards in circulation which mainly comprised of Debit cards (65.0%), Social welfare cards (18.4%), ATM only cards (12.6%), Credit cards (3.7%), and Prepaid cards (0.3%). Collectively, these cards processed 708.7 million transactions amounting to PKR 8.4 trillion during FY21. The number of debit cards at the end of FY21 has been 29.8 million, observing a YOY growth of 11.8% and annualized growth of 13.8% during the last 4 years. Among others, high growth in the cards portfolio is mainly attributed to the mandate given by SBP to issue more secure Europay Master Visa (EMV) Chip and PIN compliant cards, thus adding more security without compromising customer experience. Since the issuance of Regulations on Payment Card Security by SBP in 2016 to transform the payment cards issued from magnetic stripe standard to a more secure EMV Chip & Pin Compliant standard, the payment landscape in the country

noticed growth. To further improve the situation, SBP this year has issued an extension to these regulations that are in line with the evolving global practices. These include disallowing fallback transactions on card processing infrastructure to prevent skimming frauds, mandating the use of EMV 3D secure for e-commerce transactions, and policy measures on contactless payments to name a few.

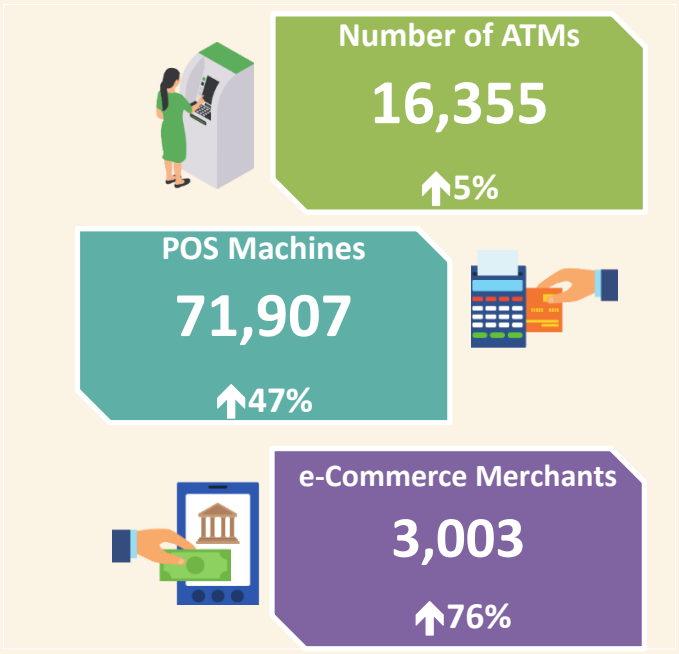
It is pertinent to mention that in a year marred by heightened uncertainty due to COVID, SBP continued to promote its agenda of digitization in the banking sector and encourage the use of digital channels by means of using a full range of regulatory instructions. Introduction of one card per account policy, mandating the position of Chief Digital Officer, introducing new conventions for payment card security, the extension of IBAN implementation guidelines on EMIs, issuance of instructions to Banks/MFBs to allow customers' repayment options for their consumer loans through their internet and mobile banking channels, rationalization of the Pricing of Inter-Bank Fund Transfer (IBFT) Transactions, etc. These are just a few of the many steps taken by SBP to build on the growth of the preceding years.

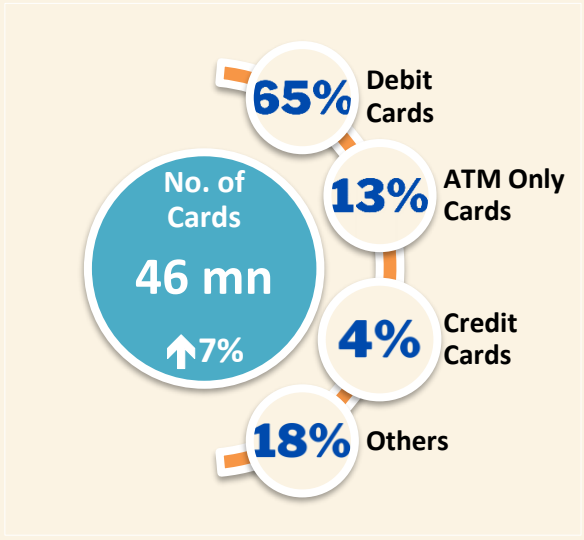
In recent years, a widespread preference and usage of mobile applications has been observed due to the increasingly easy access to smartphones across the country. In the last 5 years, significant progress has been observed in the usage of Internet Banking and Mobile Banking channels showing annualized transactions growth of 38.3% and 106.1% respectively. With the growth of digital access points, the associated risks are also evolving. SBP has been cognizant of the inherent risks in digital payments and is strengthening the oversight functions to ensure the security of digital payment systems and consumer protection.

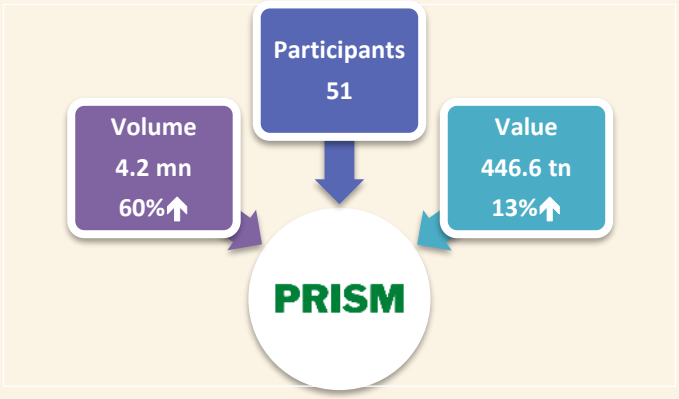
SBP is continuously engaged with the banks and financial institutions to work on implementing an interoperable payments regime in Pakistan, thus enabling all the customers and financial institutions to accept and process QR payments in a seamless manner.

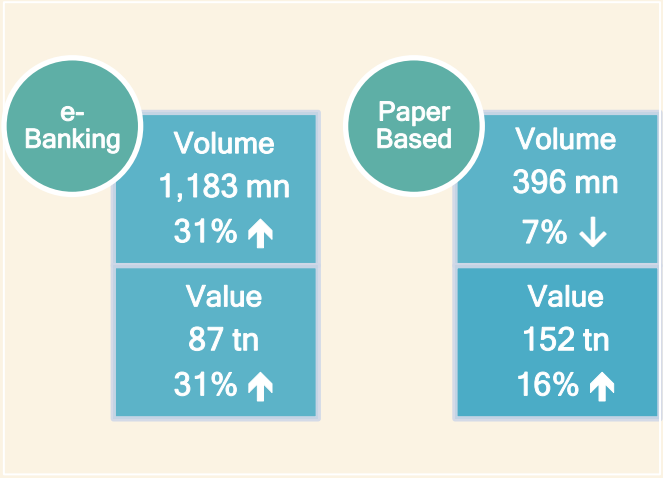
KEY STATISTICS FY 2021

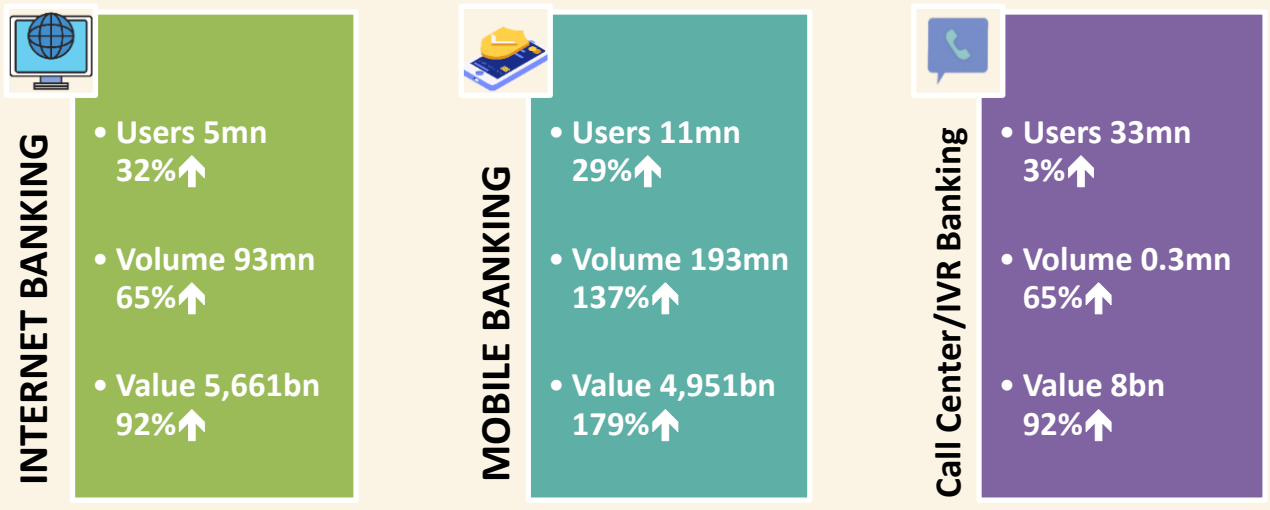
During FY21, all channels of payment systems showed growth compared to the previous year as highlighted below in the infographic[5]:











[5] All figures are rounded off. ↑ indicates an upward trend in figures compared to FY20.

2 Payment Systems Performance

SBP is the regulator of the country's payment systems and has adopted the roles of overseer, operator, and catalyst to achieve financial stability and enhance public confidence in payment systems. Presently, different types of payment systems are available through different platforms, and these can be categorized into two major categories i.e., Large-Value Payment System and Retail Payment Systems.

2.1 Large-Value Payment System

Large-value payment system of Pakistan i.e., PRISM is owned and operated by SBP. It enables its direct participants to settle their payment obligations in Real-Time and on gross basis. The system in addition to its fund transfer functionality allows settlement of Government securities trade as well as Multi-lateral Net Settlement Batches processed through Clearinghouse of paper-based instruments, Capital markets transactions through NCCPL, and settlement of electronic channels clearing through 1Link.

As on June 30, 2021, PRISM system has 51 Direct Participants, which include 34 Banks, 7 MFBs, 9 DFIs, and 1 non-bank that is Central Depository Company (CDC). During FY21, PRISM processed 4.2 million transactions amounting to PKR 444.6 trillion. It is important to mention that the number of PRISM participants is higher than the number of Banks because a few of the commercial banks operate separate Islamic windows and are registered separately as Direct Participants. Total transactions processed by PRISM system have seen a growth of 60.0% by volume and 12.8% by value on a YOY basis.

In the total volume of PRISM's transactions, the highest share of 89.1% pertains to 3rd Party customers' transfers. On the other hand, in the total value of PRISM transactions, Government securities settlement has the highest share of 68.1%, followed by an 18.7% share of interbank fund transfers, 9.3% share of 3rd Party fund transfers, and 3.8% of settlement ancillary payments. The volume and value-wise shares are depicted in Figure 2.1:

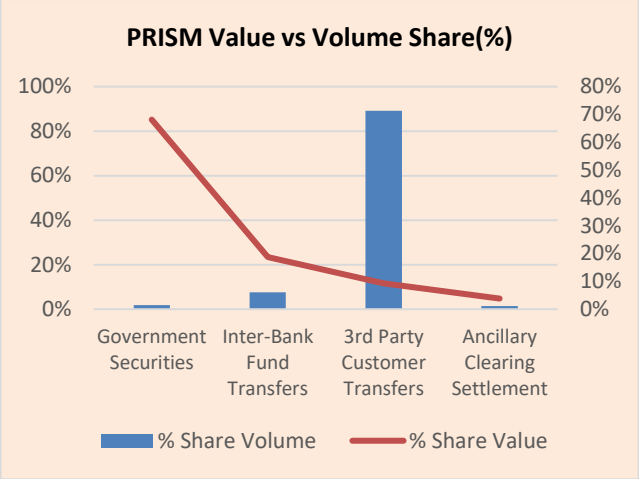


Figure 2.1: PRISM Value versus Volume Share (%) - FY2020-21

2.2 Retail Payment Systems

Retail Payment Systems (RPS) generally have higher transaction volumes and lower average values compared with large value/wholesale payments systems. Recent developments in retail payment systems provide customers with a wide array of choices with a greater level of efficiency and safety in their transactions. Further, the final settlement of many of these retail systems is done through PRISM, thus enhancing the safety and efficiency of the payment systems in the country. Transactional summary along with details on the retail payment systems of Pakistan are as follows:

2.2.1 E-Banking Infrastructure

e-Banking infrastructure has been growing at a rapid pace. As on June 30, 2021, the total number of installed ATMs reached to 16,355 from 15,612 of the previous year depicting YoY growth of 4.8%. These ATMs have been installed by 35 banks. Out of these ATMs, 13,434 (82.1%) were On-site ATMs whereas 2,909 (17.8%) were Off-Site ATMs, installed at corporate offices, hospitals, shopping malls, etc. Mobile ATMs were also got operational and doubled to reach 12 during FY21. Further, there are 218 Cash Deposits Machines (CDMs) with 60 CDMs with multipurpose functionality of cash and cheque deposit and cash withdrawals. All these ATMs are connected with one ATM interoperable Switch i.e., 1Link.

The number of POS machines has registered a growth of 46.5% during the last year going from 49,067 to

71,907. Further, Internet Banking and Mobile Phone Banking were being offered by 28 Banks/ MFBs, and the number of transactions processed through these channels has shown a considerable increase and the trend is quite promising.

The number of payment cards issued in Pakistan reached 45.9 million as of June 30, 2021, from 43.0 million as of June 30, 2020. These cards showed YoY growth of 7.3% compared to the previous year. The increase is encouraging as there is a sizable increase in debit cards and a declining trend towards ATM-only cards, mainly due to SBP mandating re-carding of conventional magstripe cards to more secure EMV Chip and PIN compliant cards. Out of these Cards, 65.0% are Debit Cards, 12.6% are ATMs only proprietary Cards, 18.4% are Social Welfare Cards, 3.7% are Credit Cards, and the remaining 0.03% are Pre-Paid Cards.

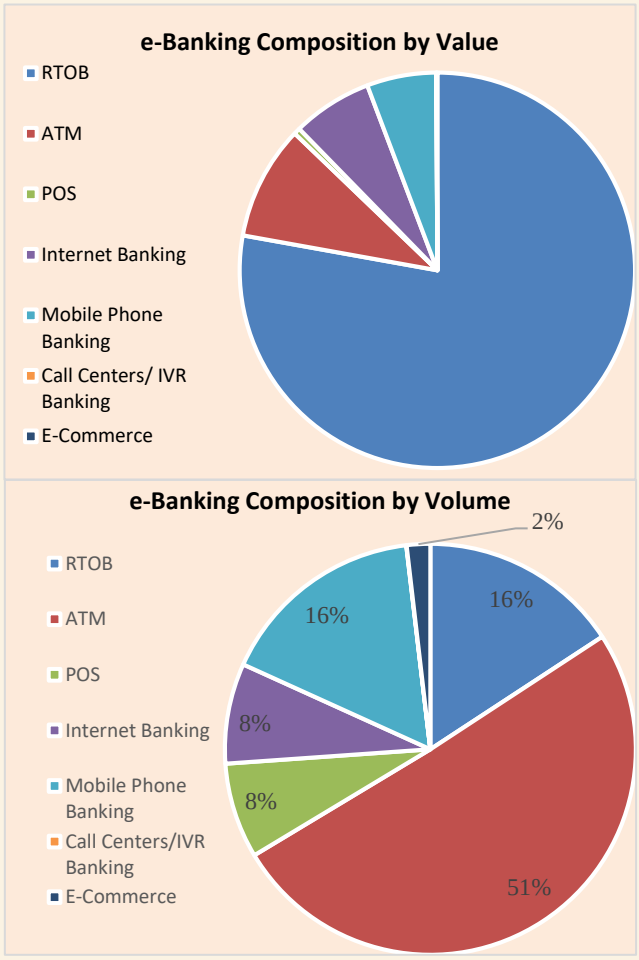


Figure 2.2: e-Banking Composition

2.2.2 E-Banking Transactions

During FY21, 1.2 billion transactions of PKR 86.5 trillion value were processed through retail e-Banking channels. These transactions showed YoY growth of 30.6% and 31.1% in volume and value of transactions respectively compared to the previous year. In total e-Banking transactions, RTOBs transactions accounted for the largest share of 77.8% in value of transactions with a volume share of 15.8% whereas ATMs have the largest share of 50.6% in volume of transactions with a value share of 9.3% only.

2.2.2.1 RTOB Transactions

RTOB channel provides online banking facility to all its customers across the whole branch network of the same bank. During the year under review, this channel processed 186.6 million transactions of PKR 67.3 trillion. These transactions depicted YoY growth of 7.4% and 23.7% in volume and value of transactions respectively.

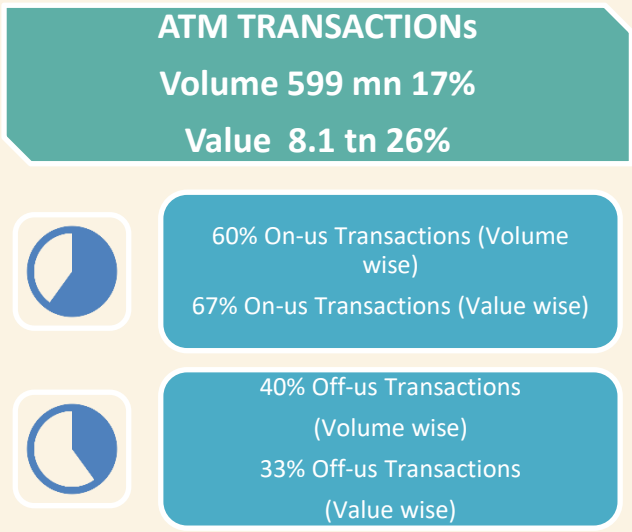
During FY21, in terms of the number of transactions, cash deposit transactions have the highest share of 46.6% (86.9 million) in total RTOB transactions volume-wise whereas intra-bank funds transfer transactions to other branches have the highest share of 70.0% (PKR 47.1 trillion) in terms of the value of total RTOB transactions.

2.2.2.2 ATM Transactions

Pakistan is one of those countries where cash is still the dominant mode of making payments and performing transactions. It is evident from a significant increase in ATM transactions that ATMs are still the most widely used payment channel across the country, particularly for cash withdrawal transactions.

As on end June 2021, the total number of ATMs was 16,355 in the country. This accounts for approximately 7.7 ATMs touchpoints for every 100,000 people. During FY21, ATMs processed 598.7 million transactions with a value of PKR 8.1 trillion. It amounts to a YoY change of 16.9% by volume and 25.6% by value. During the year under review, the average size of ATM transactions was approximately

PKR 13,489 per ATM transaction and 36,607 transactions were processed per ATM, compared with the average size of PKR 12,555 per ATM transaction and 32,801 transactions processed per ATM last year. Further, the ratio of On-Us versus Off-Us Cash withdrawal was approximately 60:40 by volume and 67:33 by value which shows that customers mostly prefer to withdraw cash from their own bank's ATMs.



2.2.2.3 Internet Banking Transactions

Banks are offering a variety of financial services through Internet Banking (IB) like Intra-bank & Interbank Fund transfer, scheduled fund transfers, Utility Bills Payments, Mobile Airtime top-ups, Intra-bank credit card payments, school fee payments, etc. As on end June 2021, 27 banks were offering Internet Banking and there were 5.2 million registered Internet Banking Users with these banks. During the year FY21, this channel processed 93.4 million transactions amounting to PKR 5.7 trillion. These transactions showed a YoY growth of 65.1% and 91.7% by volume and value respectively. In the total Internet Banking transactions, the share of Intra-Bank Funds transfer transactions is 35.0% (32.7 million) and 36.8% (PKR 2,084.2 billion) in volume and value of transactions respectively whereas the share of Inter-Bank Funds transfer transactions in volume and value of transactions is 41.5% (38.8 million) and 43.1% (PKR 2440.3 billion) respectively. Utility Bills Payments contributed 18.1% (16.9 million) in volume and 8.2% (PKR 464.5 billion) in value of transactions and the residuals share is contributed by other miscellaneous payments including merchant payments, mutual funds payments, zakat, charities, etc. The substantial growth witnessed during the last few years in the Internet Banking channel is quite encouraging. The push received from COVID-19 last year also resulted in remarkable growth in internet banking transactions in FY21.

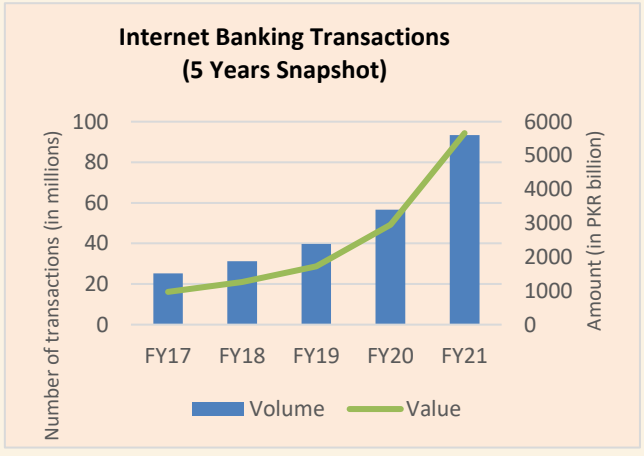


Figure 2.3: Internet Banking Transactions (5 Years Snapshot)

2.2.2.4 Mobile Banking Transactions

Mobile Phone/App-based Banking is being offered by 27 Banks/ MFBs to 10.8 million registered users as of June 2021. This Channel processed 193.4 million transactions worth PKR 4.9 trillion during FY21 showing a YoY growth of more than double the volume and value of transactions, more precisely, it registered a YoY growth of 133.6% and 178.7% in volume and value of transactions respectively. In the last 5 years, significant progress has been observed in the usage of Internet Banking and Mobile Banking channels showing annualized transaction growth of 38.3% and 106.1% respectively.

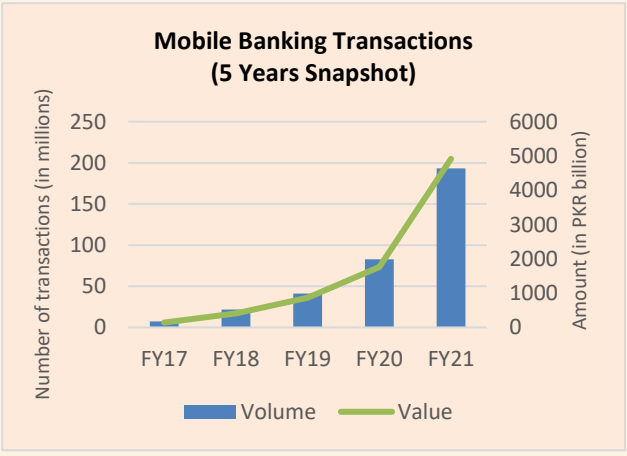


Figure 2.4: Mobile Banking Transactions (5 Years Snapshot)

Intra-bank and Inter-bank fund transfers were the main contributors in total Mobile Phone Banking transactions. Intra-bank fund transfers contributed 20.1% (38.9 million) transactions by volume and 34.6% (PKR 1,702.8 billion) transactions by value while Interbank fund transfers contributed 44.8% (86.6 million) transactions by volume and 51.2% (PKR 2,516.0 billion) transactions by value. Utility Bills Payments had the volume of 31.1% (60.1 million) transactions and 2.2% (PKR 106.2 billion) transactions by value within overall Mobile Banking volume and value of transactions respectively and insignificant residual share is contributed by miscellaneous payments using Mobile Phone Apps. The channel depicted a growing trend of transactions. During the year, FY21, it showed a substantial growth compared to the previous years, as is evident from the trend shown in figure 2.5 above. It is quite evident that Mobile Banking has been the preferred source of conducting transactions and making payments by the consumers, just because of the fact that the channel has observed more than double increase in terms of both volume and value of transactions during the year under review.

2.2.2.5 Call Center/ IVR Banking Transactions

During the year FY21, Call Centers/ IVR Banking Channel processed 0.3 million transactions amounting to PKR 8.1 billion. This channel facilitates both Intra and Inter-Bank Funds transfers. Mostly Banks/MFBs high valued customers are also allowed to use this channel for Utilities Bill Payments. As on the end-June 2021, there were 33.4 million Call Centers/IVR Banking Channel registered users.

2.2.2.6 Digital Adaption by Merchants

Despite the economic downturn during the COVID-19 pandemic, it is quite promising that e-commerce transactions during recent years have seen continuous growth, leading to the belief that the general consumers are realizing the benefits of paying through cards instead of paying through cash, which includes transparency in payments, no hassle of carrying change, paying any amount directly from the account, and avoiding unnecessary carrying of cash at all times.

2.2.2.6.1 ***Card Present - POS Transactions***

In Pakistan 5 banks are in the business of open-loop POS acquiring whereas, 4 banks are providing closed-loop services on POS. The turnover of 88.8 million POS transactions valuing PKR 453.1 billion was recorded in FY21 as compared to 70.3 million transactions valuing PKR 364.2 billion in FY20, showing a YoY growth of 26.3% by volume and 24.4% by value of transactions. POS transactions have a 7.5% share in the total volume of transactions with a value share of 0.5% showing low uptake of merchant onboarding and insignificant usage of debit cards for retail transactions. The increase in POS transactions can be attributed to the reopening of shops and markets as the lockdown was gradually lifted on an on-and-off basis.

2.2.2.6.2 ***Card-not-Present - eCommerce***

There were 3,003 locally registered e-Commerce Merchants having their merchant accounts in 6 banks as of end-June 2021 compared to 1,707 Merchants last year, showing significant growth of 75.9% boarding of e-Commerce merchants in the country. In Pakistan, International Payment Gateway Services (IPGs) are being provided by 4 banks, whereas 2 microfinance banks were also working as merchant aggregators and are providing e-commerce gateway to their clients while leveraging on 4 IPGs in Pakistan. Consumers carried out 21.9 million online transactions worth PKR 60.6 billion on these locally registered e-Commerce Merchants during the year FY21 through cards. These transactions showed significant YoY growth of 114.8% and 74.1% by volume and value of transactions respectively.

In addition to the above, domestically issued Debit, Credit, and Pre-paid cards collectively processed 33.6 million transactions of PKR 124.6 billion on local and international e-commerce merchants. Debit cards took the lead with the highest share of transactions i.e., 67.0% (22.5 million) in volume; when it comes to value, credit cards registered the highest share with 49.8% (PKR 62.0 billion). It is worth mentioning that the number of transactions per debit card issued (0.75 transactions) is very less when compared with e-commerce transactions processed per credit card issued (6.4 transactions), leaning to infer that credit

cards still remain the preferred instrument to perform e-commerce transactions.

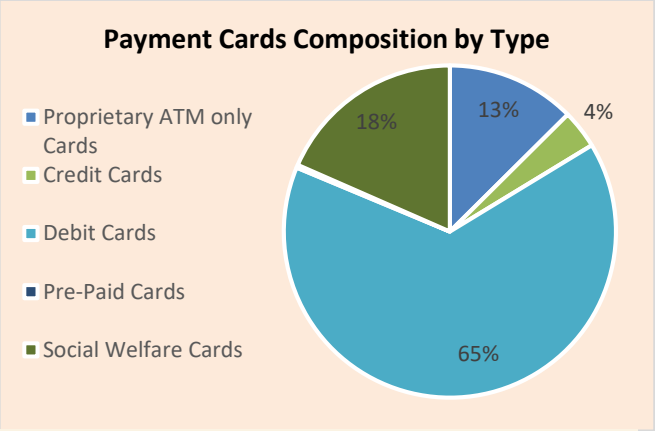


Figure 2.5: Payment Cards Composition by Type

2.2.2.7 Payment Cards Transactions

In Pakistan, payment cards can be categorized as Credit, Debit, Proprietary ATM, Social Welfare, and Pre-Paid Cards. As on end-June 2021, there were 45.9 million total cards in circulation. Collectively, these cards processed 708.7 million transactions amounting to PKR 8.4 trillion.

2.2.2.7.1 *Credit Cards*

As on end-June 2021, the number of reported Credit Cards in circulation is 1.7 million. These cards processed 47.4 million transactions of value PKR 270.1 billion during the year FY21. The total volume of Credit Card transactions has 76.2% share on POS transactions and 23.1% share in e-Commerce transactions whereas in terms of value, these transactions have 75.8% share of usages on POS, 23.1% share of usage for e-Commerce and the residual share of transactions pertains to ATMs. The average transactions size of Credit Cards is PKR 5,699 (down from PKR 5,770 last year) whereas, on average, each credit card conducted 28 transactions (up from 25 transactions last year).

2.2.2.7.2 *Debit Cards*

The number of debit cards at the end of FY 2021 has been 29.8 million, observing a YOY growth of 11.8%, whereas exhibiting annualized growth of 13.8% during the last 4 years. It is point worthy to note that the number of debit cards increased mainly due to the mandate given by SBP to issue more secure Europay Master Visa (EMV) Chip and PIN Compliant cards, thus adding more security without compromising customer experience.

During the year under review, these debit cards processed 634.1 million transactions worth PKR 7.9 trillion, showing a YoY growth of 24.0% by volume and 30.1% by value of transactions. In the total volume of transactions processed by Debit Cards, ATMs transactions have 86.3% share with a value share of 95.8% whereas POS transactions have a 10.2% share in volume and 3.4% share in the value of transactions. The residual share of Debit Cards is contributed by e-Commerce transactions for online purchases of the Card Not Present (CNP) environment. The average transactions size by Debit Cards is PKR 12,395 whereas 21 transactions on average were processed by a single card.

2.2.2.7.3 *Proprietary ATMs only Cards*

Proprietary ATMs only cards are issued by 12 banks for cash withdrawals on ATMs. As on end-June 2021, there were 5.7 million ATMs only cards in circulation and these cards processed 25.1 million transactions worth PKR 278.1 billion. These transactions showed a YoY decline of 45.3% and 44.5% by volume and value of transactions respectively, mainly due to the fact that the banks are in the continuous process of migrating their existing ATM-only card portfolio towards EMV Chip and PIN cards.

2.2.2.7.4 *Social Welfare Cards*

Social welfare cards are issued by the Government of Pakistan or provisional governments to support needy and disaster-affected people. As on end-June 2021, there were 8.4 million Social Welfare cards in circulation. During the year FY21, these cards processed 1.5 million transactions worth PKR 5.6 billion.

2.2.2.7.5 *Prepaid Cards*

Prepaid cards are being issued by a few banks in Pakistan in order to ensure that customers can enjoy flexibility while paying at merchant locations or online e-commerce portals. As on end-June 2021, there were 0.13 million cards in circulation. These

cards processed 0.6 million transactions worth PKR 2.3 billion during the year FY21.

With the growth of digital access points, the associated risks are also evolving. SBP has been cognizant of the inherent risks in digital payments, therefore, it has been strengthening the oversight functions to ensure the security of digital payment systems and consumer protection.

2.2.3 Paper-based Transactions

Paper currency continues to be an important means of payment. In addition to this, paper-based payment instruments such as Cheques, Pay Orders, Demand Drafts, etc. are also operational to make payments in the country. Among these paper-based instruments, Cheques are the preferred mode of transactions for cash withdrawals, funds transfer, and Private/Government payments transactions. During the year under review, 395.8 million transactions worth PKR 151.6 trillion were carried out using paper-based instruments. These transactions showed a decline of 6.8% in volume of transactions but registered a growth of 15.6% in the value of transactions.

3 Innovations and Developments in Payment Systems Regulatory Framework

As a regulator, SBP understands the importance of migrating from a cash-intensive economy towards a digital economy. With the objective of enhancing the digital payments landscape of Pakistan, SBP under the leadership of Governor SBP has arranged multiple stakeholders sessions which have been attended by the top brass of the payments and financial sector, Heads of the International Associations like World Bank, IFC, etc., the leaders of national regulators like PTA, SECP, FBR, etc. and Government representatives. Since the last year, SBP has arranged 2 sessions to discuss the adoption of innovative technologies including Open Banking, Instant Payment System, Adoption of QRs, Central Bank Digital Currency (CBDC), Digital Banks, e-KYC, Digital onboarding of customers, etc. The outcome of such sessions has led towards the development of a national synergy among all the relevant stakeholders towards a common goal – i.e., digitizing the economy through SBP's regulatory framework for the larger good of the Pakistani population.

To further the agenda of digitization, SBP has recently launched the 'Raast' - Pakistan's first instant payment system. In the first phase, SBP has launched the bulk payment module that at present facilitates the e-dividend payments of customers and corporates through CDC. In the next financial year, Raast will be enabled to process person-to-person payments (P2P) and Person to Merchant (P2M) payments

3.1 Fintech Regulatory Landscape in Pakistan

Fintechs are disrupting the banking and financial landscape around the globe and have been providing innovative solutions to solve the issue of financial inclusion through digitization. To leverage new technologies to digitize payments and to boost financial inclusion, SBP has continuously been engaging with new and established Fintech companies in order to help them launch their products and services in the country.

In April 2019, SBP issued Regulations for new entities called E-Money Institutions (EMIs). EMIs are those fintechs that offer innovative, user-friendly, and cost-effective low-value digital payment instruments like wallets and prepaid cards and will digitize cashless payments like merchant checkouts, e-commerce, government receipts, bill payments, cross border remittances, etc. As of June 30th, 2021, 5 Payment Systems Operators/Providers (PSO/PSPs) had commercially launched their operations.

Globally, Open Banking is transforming the financial services industry by breaking the data silos of traditional banks. Open banking regimes allow fintechs and other innovators to access customer data, including transaction data, and use these data to develop new products and services that are better suited to the needs of consumers. For emerging and developing economies (EMDEs), open banking holds out the promise to foster innovation and lower costs in ways that will make it more economical to serve the underserved and unbanked and offer products and services better suited to their needs. In line with global best practices, SBP is now exploring the opening banking regime in the context of Pakistan. For this, a cross-functional Working Group (WG) comprising of various stakeholders has been formed. The working group is exploring areas such as challenges for policymakers to balance innovation, security, and data privacy for fostering innovation and financial inclusion.

3.2 Understanding New Market Infrastructure: Raast

3.2.1 Raast – Introduction

As an integral part of the National Payments Strategy, Raast is an Instant Payment Systems (IPS) that facilitates bank account to bank account transactions (across the industry) at a relatively low cost and - as the name implies - at near to real-time.[6] The system shall be rolled over in the following three phases: Bulk Transfers, P2P and P2M. Initially, 13 banks were on-boarded on the launch date (11th January 2021) for the first phase and this number has now increased to 30 in June 2021. Currently, thirty banks and Central Depository Company (CDC) are participants of the Raast for the bulk payment use case.

Digital payments increased dramatically in the last decade due to improved mobile technology. The market needs fast, secure, and easy-to-use payment systems. Real-Time Payments system is an answer to modern needs. Most of these IPS have common characteristics: instant clearing confirmation to support instant or near to real-time posting by the banks, 24/7/365 (or very near) operations, and a drive for a richer data standard, such as ISO 20022.[7]

IPS is seen as one of the many models (others include card networks and closed-loop stored value wallets) that can expand the adoption and use of digital payments. Properly designed and implemented IPS acts as a set of bank-centric rails upon which digital payments are made and embedded within the digital economy. Evidence from over 54 countries suggests that a successful implementation of IPS makes basic services more accessible to the consumers, encourages the development of new services, and creates a rich data source that can be used to optimize and improve the infrastructure:

- In India, the IPS (Unified Payments Interface – UPI) crossed two billion monthly transactions in October 2020, in less than 5 years after launch.[8]
- In Thailand, the IPS led to a 60% increase in merchant onboarding within a year of launch.[9]
- In the UK, the IPS has enabled the development of a new business model such as immediate availability of funds after online loan approval.[10]

Within the Pakistani context, the original goals of Raast are two-fold. First, it aims to bring true interoperability - defined as the ability of users from different digital finance providers to interact with one another - to the Pakistani financial market. Second, it aims to improve the country's financial inclusion status too.

3.2.2 Benefits of Raast

Raast is built to provide instant transfers to the end consumers using their existing bank/mobile accounts. It will be able to extend full interoperability across alternative payment methods, for example, payments via QR codes. It is based on the ISO 20022 messaging standard, which is increasingly becoming the de facto international standard for IPS. ISO 20022 is a "data-rich, structured, and extensible"[11] messaging standard that not only carries payment information but also business information. It allows for several granular data fields and carries through the richness of data

[6]" Real-Time Payment Systems and Third Party Access" (Google Payments, November 2019), retrieved from https://static.googleusercontent.com/media/pay.google.com/en//about/business/static/data/gpay-rtp-2019-whitepaper.pdf.
[7] "The Global Adoption of Real-Time Retail Payments Systems (RT-RPS)" (2015), retrieved from https://www.swift.com/swift-resource/4716/download?language=en
[8] "The Remarkable Rise of UPI in 2020," PwC, December 2020, retrieved from https://www.pwc.in/consulting/financial-services/fintech/dp/the-remarkable-rise-of-upi-in-2020.html.
[9] State Bank of Pakistan, "Developing Pakistan's Future Payment Ecosystem" (Industry forum document, Karachi, October 25, 2019), retrieved from https://dnb.sbp.org.pk/PS/PDF/Second%20industry%20forum.pdf.
[10]" Digital Payments Transformation: From Transactions to Consumer Interactions" (Accenture, n.d.), retrieved from https://www.accenture.com/t20150707T195226__w__/us-en/_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Industries_5/Accenture-Digital-Payments-Transformation-From-Transaction-Interaction.pdf.
[11]" Quality Data Means Quality Payments: How We Share the Benefits of ISO 20022," Third-party toolkit (Swift, n.d.).

end-to-end (i.e., from the payment sender to the recipient). It not only allows for better analytics but also allows for greater compliance with risk-related requirements meaning a much lower probability of failed payments.

Under Raast, settlement shall take place in real-time i.e. Within seconds for both customers and merchants in phase 2 and phase 3 respectively. Currently, Banks positions in Pakistan Real Time Interbank Settlement Mechanism (PRISM) are settled twice a day after the clearing session is executed in Raast. Instant settlement generates greater trust within the system across all parties; in particular, merchants can receive value quickly and the credit risk for the recipient's bank (which is inevitable with deferred net settlement) is eliminated.

In Raast, each bank account will be linked to a simplified alias contained within a Directory of Individuals under the Centralized Addressing Scheme (CAS). The simplified alias can be a phone number, email address, or any other chosen moniker. Fundamentally, linking to a short alias should help significantly improve the UX for interbank transactions.

Beyond bringing significant improvement to market interoperability, once fully implemented, Raast has the potential to unlock new functionalities, new players, and new business models. Examples of these include the following; this list is not exhaustive and only provides a small snapshot of the type of capabilities an IPS can operationalize:

Push payments - Request-To-Pay (R2P): Today digital payments in Pakistan are entirely push-based; using a retail example, this means that customers proactively initiate and "push" the payment to the merchant. Under pull payments, a retailer would be able to pull money from the customer's account, provided there is a confirmation mechanism or a pre-existing authorization from the customer. A common example of pull payments is direct debit.

Bulk Payments: With an IPS in place, bulk payments are made possible. One example of a bulk payment flow that will be optimized with IPS is G2P social transfers. In the current scenario, funds are first sent from the program account holding bank to the recipients' account holding banks after which funds are released to qualifying individuals. Using Raast, the program account holder will be able to send funds to individual recipient accounts. In this new world, a recipient will be able to hold an account with any bank (no need to restrict to contracted banks), and transfer fees to the recipient institution will be eliminated. Consequently, not only will beneficiary choice expand (they can choose any of the participating banks in the scheme to host their accounts), increasing market competition to capture these consumers, but the government will also see cost savings.

IPS deployment allows third parties such as fintechs access to a much bigger set of customers. In turn, third parties bring innovation to the digital payment ecosystem and can help traditional financial institutions integrate with different parties such as merchants, resulting in a win-win for all parties. Critically, the success of an IPS is inextricably linked to the "overlay of services that improve usability and give consumers the frictionless payments they need and want" which ultimately have the power to drive participation at scale and accelerating financial inclusion efforts in the country.

For example, in India under UPI, customer experience has been delinked from account ownership, meaning that customers can use any *App* in the market to initiate and complete a UPI-backed payment regardless of who holds their account.[12] Even players that do not directly participate in the scheme can access it indirectly via a separately negotiated agreement with a participant. This is the model that Google Pay has adopted in India. Integral to this, the whole capability is if and how fintechs are permitted to connect with the system.

[12] "Comparing India's UPI and Brazil's New Instant Payment System, PIX," accessed March 17, 2021, https://www.cgap.org/blog/comparing-indias-upi-and-brazils-new-instant-payment-system-pix.

3.2.3 Details of Infrastructure of Raast

An IPS is not a standalone piece of technology that exists in a vacuum; instead, it works with a broader array of infrastructures, specifically:

- A broad distribution network of the financial access point allows for CICO into the financial system
- Either one or several unique identification systems allow individuals to be uniquely identified within a system. This is particularly important for keeping track of G2P social welfare recipients
- Well-designed directories of individuals that link ID numbers with payment addresses

The CAS directory forms the foundation of the aliasing capability for individuals. The directory benefits P2P and B2P flows by simplifying and improving the customer experience, and benefit G2P flows by ensuring that programs sending beneficiaries money need not input each individual's payment address, nor keep track of changes to an individual's address.[13]

How addressing works in practice can make or break its value addition. To date, UPI has had the most success in this realm. There are three key aspects to this:

- *What types of aliases are allowed?* The wider the optionality the better.

- *What information needs to be provided in addition to the alias to make a transaction? Is on-network and off-network navigation the same?* The more standardized the navigation the better.

- *How is user data stored?* A centralized directory where data is held at a single source means that more data is shared with the payment system during the address resolution and routing process. On the flip side, it also creates a serious data security risk. A decentralized model where an individual's alias data is stored within their provider's database means that some mechanism to accurately identify a recipient's account and financial information is required. On the positive end, in this model, a recipient's privacy and the broader security of the system are better protected. Raast has opted for a centralized directory with bare minimum information maintained centrally.

[13] Gregory Chen, Joep Roest, and Silvia Baur-Yazbeck, "The Future of G2P Payments: Expanding Customer Choice," Focus Note (CGAP, n.d.), https://www.cgap.org/sites/default/files/publications/2019_09_FocusNote_Future_G2P_Payments_0.pdf.

3.3 Rationale on the Pricing of Inter-Bank Fund Transfer (IBFT) Transactions

3.3.1 Background on IBFT Transactions

The interbank fund transfer (IBFT) facility was introduced by 1Link (SBP authorized Payment System Operator and the only Interbank ATM Switch in the country) in 2006 to facilitate the inter-bank online transfer of funds by customers of banks. Initially, the uptake of this new feature was slow, but later on, banks started offering it on their digital channels including internet banking channels and mobile apps, after which it started gaining acceptance. But still, the existing pricing structure was on the higher side due to which the adoption and usage of IBFT among the masses remained low.

3.3.2 Impact of Free IBFT on the Financial Industry

In March 2020, SBP along with many measures introduced a zero-pricing regime on all IBFTs amidst the COVID-19 pandemic, which had included strict lockdowns. The result of free IBFT was so remarkable that 1Link, which registered less than 150,000 IBFTs per day on average, started to process in excess of 800,000 IBFTs per day by December 2020, an increase of more than 5 times. SBP believes that while a host of other factors including measures taken by SBP in 2019 to promote digital payments may have played a part in this increase but the waiver of charges on IBFT played the role of catalyst in the rapid usage of not only IBFT but adoption of digital channels as a whole. Changes in the behavior of customers and businesses at the retail and B2B level were also observed where IBFT became the preferred mode of payment over other conventional means.

3.3.3 Rationale of Revised IBFT Pricing

Since the change, banks particularly agent-based branchless banking players kept approaching SBP to allow them to charge fees on IBFTs as they were incurring heavy operational and maintenance costs. The costs were higher for branchless banking players, as they had to bear additional agent costs for each transaction, resulting in booking heavy losses.

In early 2021, with the improvement of the pandemic situation, SBP reviewed the current IBFT pricing mechanism, so that the growth of IBFTs and usage of digital channels is not hindered, and the financial institutions are enabled to offer these services on a long-term sustainable basis. SBP while making a decision, was keen on devising a pricing mechanism and find a perfect balance, whereby the general masses are not affected and are still offered free IBFTs, while the financial institutions can at least cover their operational costs.

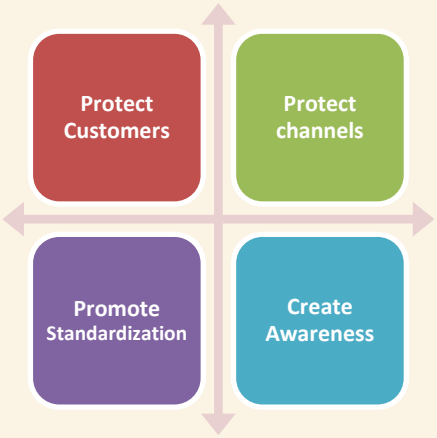
While reviewing the data, we observed that approximately 80% of the IBFT transactions were less than the amount of PKR 25,000. This number helped us to determine a pricing mechanism, whereby Financial Institutions are not allowed to charge any amount, but also facilitate the majority of the population of the whole. The pricing regime also involved the study of the international practices, consultations with external and independent stakeholders, and assessment of the pricing regime across the world.

The new instructions allowed the financial industry to charge a minimal fee of 0.1% on high-value transactions while protecting and encouraging the low-income segments of the population to continue using digital transactions free of cost. SBP directed the industry to provide free-of-cost digital fund transfer services to individual customers up to, at least, a minimum aggregate sending limit of PKR 25,000 per month per account/wallet. While making a decision, SBP also advised the industry that all digital fund transfer transactions between different accounts within the same bank (intra-bank fund transfers) shall remain free. Further, incoming interbank transactions shall also remain free.

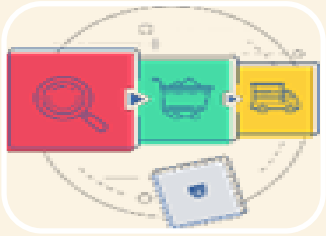
It is pertinent to mention that SBP made a conscious decision that no financial institution will be free to charge any amount to its customers on IBFT transfers and will also make sure that the pricing decision, although made carefully and after detailed thorough analysis, will continuously be monitored by SBP with the prime focus of benefitting the population.

3.4 Cybersecurity in Payment Systems

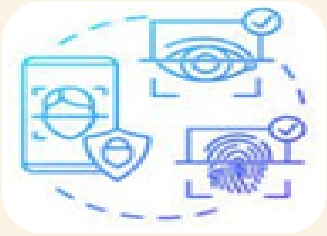
Safe and efficient operation of financial market infrastructures (FMIs) is essential to maintaining and promoting financial stability and economic growth. SBP has been continuously working to enhance the cyber resilience of FMIs by following a three-pronged strategy. During the last 3 years, SBP has intensified its efforts to enhance the cyber resilience of FMIs in the country that resulted in:



Re-carding of entire payment cards portfolio in Pakistan to globally accepted EMV Chip & PIN standards



Enablement of ecommerce transactions using international 3DS security standards for CNP transactions



Mandatory 2-Factor Authentication for digital banking channels such as mobile apps and web-based internet banking services

Mandatory sending of free transaction alerts on customers mobile phones for all digital transactions

Enabling customers to register complaints using mobile apps, call centers and internet banking services of their banks without the need to visit bank branches

Cyber threat intelligence and information sharing between banks and with SBP on 24/7 basis. Dedicated cyber threat intelligence units and emeregncy response teams in finanical institutions

Dissemination of cyber threat advisories by SBP on major global cyber threat incidents including SolarWinds breach BeagleBoyz and AppleJues threat etc.

Mandatory deployment of real-time fraud monitoring tools by banks to detect potential fraudulent activities on digital payment systems

Customer awareness campaigns on how to guard against social engineering frauds on digital financial services

Annexures

Annexure A: Annual Payment Systems Data

Annual Payment Systems Data is appended on following pages:

Table A-1: Payment Systems Infrastructure

(Actual Numbers)

Number of	FY17	FY18	FY19	FY20	FY21[P]
Bank Branches	14,293	14,970	15,598	16,067	16,308
Real time Online Branches	14,150	14,850	15,481	15,922	16,170
ATMs	12,689	14,019	14,722	15,612	16,355
POS Machines	54,490	53,511	56,911	49,067	71,907
Registered Internet Banking Users	2,347,026	3,113,728	3,278,611	3,983,235	5,239,301
Registered Mobile Phone Banking Users	2,484,044	3,385,889	5,626,137	8,451,997	10,872,844
Registered Call Center/IVR Banking Users	22,389,113	26,484,765	29,748,743	32,322,973	33,436,122

Table A-2: Payment Cards Composition

(Actual Numbers)

Number of	FY17	FY18	FY19	FY20	FY21[P]
Proprietary ATM only Cards	8,043,044	8,586,819	8,485,391	6,943,385	5,771,429
Credit Cards	1,292,136	1,453,867	1,589,120	1,655,030	1,720,949
Debit Cards	17,857,561	21,712,069	24,831,777	26,698,046	29,849,278
Pre-Paid Cards	315,865	234,098	228,417	134,586	127,670
Social Welfare Cards	9,124,.363	8,932,140	7,103,294	7,383,380	8,467,023
Total	**36,632,969**	**40,918,993**	**42,237,999**	**42,814,427**	**45,936,349**

Table A-3: Payment System Transactions (Summary)

(Volume in million & Value in Billion-PKR)

Transaction Type	FY17		FY18		FY19		FY20		FY21P	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
PRISM System	**1.1**	**279,464.4**	**1.7**	**361,048.2**	**2.5**	**398,168.9**	**2.6**	**394,293.0**	**4.2**	**444,574.2**
e-Banking	**625.6**	**37,061.9**	**756.2**	**47,403.7**	**869.8**	**58,820.7**	**905.9**	**65,987.3**	**1,183.1**	**86,482.3**
RTOB	143.6	31,126.4	165.7	39,857.7	187.4	49,430.7	173.7	54,433.2	186.6	67,308.4
ATM	397.7	4,562.2	470.6	5,549.4	523.3	6,399.6	512.1	6,429.4	598.7	8,075.6
POS	50.5	246.0	63.5	297.0	72.4	366.2	70.3	364.2	88.8	453.1
Internet Banking	25.2	968.7	31.2	1,262.4	39.7	1,722.2	56.6	2,952.7	93.4	5,661.3
Mobile Phone Banking	7.4	141.4	21.8	409.8	41.1	866.8	82.8	1,763.6	193.4	4,915.2
Call Centers/IVR Banking	0.3	7.8	0.3	8.7	0.3	9.2	0.2	9.3	0.3	8.1
E-Commerce	1.2	9.4	3.4	18.7	5.7	26.1	10.2	34.9	21.9	60.6
Paper Based[14]	**451.8**	**139,590.6**	**466.5**	**150,362.1**	**465.3**	**145,853.9**	**424.6**	**131,193.8**	**395.8**	**151,615.1**
Total	**1,078.5**	**456,116.9**	**1,224.4**	**558,814.0**	**1,337.6**	**602,843.4**	**1,333.1**	**591,474.1**	**1,583.1**	**682,671.6**

14 In the figures of FY17 the numbers of cash deposit transactions over the counter (OTC) are also added

Table A-4: PRISM System Transactions

(Volume in Thousand & Value in Trillion-PKR)

Transactions Type	FY17		FY18		FY19		FY20		FY21P	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Government Securities	63.9	189.7	63.5	256.4	62.3	274.9	83.1	262.7	76.7	302.9
Inter-Bank Fund Transfers	271.7	56.5	230.4	65.6	272.0	76.3	290.9	80.4	314.8	83.1
3rd Party Customers Transfers	714.8	19.7	1,334.1	24.6	2,091.2	31.4	2,173.8	35.5	3,679.8	41.6
Ancillary[15] Payments Settlement	60.4	13.7	61.6	14.5	61.1	15.6	59.0	15.7	60.1	17.1
Total	**1,110.8**	**279.5**	**1,689.6**	**361.0**	**2,486.7**	**398.2**	**2,606.9**	**394.3**	**4,131.4**	**444.5**

Table A-5: Real-Time Online Branches (RTOBs) Transactions[16]

(Volume in Million & Value in Billion-PKR)

Transactions Type (Other online branches)	FY17		FY18		FY19		FY20		FY21P	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Cash Deposits	65.9	6,652.9	75.9	7,815.8	89.0	9,790.7	82.5	10,906.7	86.9	14,056.2
Cash withdrawals	31.9	2,502.0	34.5	2,927.1	37.1	3,559.5	35.8	4,461.1	40.3	6,157.3
Fund transferred	45.8	21,971.5	55.3	9,114.8	61.3	36,080.4	55.4	39,065.5	59.5	47,094.9
Total	**143.6**	**31,126.4**	**165.7**	**39,857.7**	**187.4**	**49,430.7**	**173.7**	**54,433.2**	**186.6**	**67,308.4**

15 It includes Settlement of NIFT, NCCPL, and 1LINK
16 Transaction within RTOB branches

Table A-6: ATMs Transactions

(Volume in Million & Value in Billion-PKR)

Transactions Type	FY17		FY18		FY19		FY20		FY21P	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Cash Withdrawal	375.2	3,880.3	446.7	4,838.3	498.7	5669.0	492.7	5,833.8	577.3	7,292.4
Intra Bank Fund Transfers	7.6	232.6	9.3	304.6	8.7	340.0	6.3	226.0	6.2	243.3
Inter Bank Fund Transfers (IBFT)	9.5	433.1	8.0	380.7	7.4	349.1	6.5	323.3	8.8	434.7
Utility Bills Payment	5.3	10.7	6.2	13.6	7.9	20.5	6.0	19.0	5.4	21.3
Cash /Deposits of Payment Instruments	0.2	5.4	0.3	12.1	0.5	20.2	0.5	27.4	1.0	83.2
Total	**397.8**	**4,562.2**	**470.6**	**5,549.4**	**523.3**	**6398.9**	**512.1**	**6,428.8**	**598.7**	**8,075.1**

Table A-7: Internet Banking Transactions

(Volume in Million & Value in Billion-PKR)

Transactions Type	FY17		FY18		FY19		FY20		FY21P	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Intra-Bank Fund Transfers	6.6	258.2	7.7	323.8	9.3	437.5	22.3	1,208.5	32.7	2,084.2
Inter-Bank Fund Transfers	7.5	310.1	10.0	462.1	14.9	767.4	17.7	1,024.2	38.8	2,440.3
Utility Bills Payment	9.0	18.6	11.0	29.7	12.6	63.7	13.5	150.1	16.9	464.5
Other Payments through Internet	2.1	381.8	2.5	446.8	2.9	453.6	3.2	569.9	4.9	672.3
Total	**25.2**	**968.7**	**31.2**	**1,262.4**	**39.7**	**1,722.2**	**56.6**	**2,952.7**	**93.4**	**5,661.3**

Table A-8: Mobile Phone Banking Transactions

(Volume in Million & Value in Billion-PKR)

Transactions Type	FY17		FY18		FY19		FY20		FY21P	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Intra-Bank Fund Transfers	2.1	60.0	5.8	186.2	10.9	364.7	20.2	730.2	38.9	1,702.8
Inter-Bank Fund Transfers	2.0	69.3	5.0	196.4	9.1	367.2	23.2	765.4	86.6	2,516.0
Utility Bills Payment	3.1	6.0	10.1	10.5	18.8	20.6	34.4	43.5	60.1	106.2
Other Payments through Mobile App	0.3	6.1	0.9	16.7	2.3	114.4	5.0	224.6	7.9	590.2
Total	**7.4**	**141.4**	**21.8**	**409.8**	**41.1**	**866.8**	**82.8**	**1,763.6**	**193.4**	**4,915.2**

Table A-9: Call Center/ IVR Banking Transactions

(Volume in Millions & Value in Billion-PKR)

Transactions Type	FY17		FY18		FY19		FY20		FY21P	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Intra-Bank Fund Transfers	0.0	0.4	0.0	0.7	0.0	0.8	0.0	1.4	0.0[17]	1.4
Inter-Bank Fund Transfers	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Utility Bills Payment	0.1	0.6	0.1	0.9	0.1	1.1	0.0	0.5	0.1	0.5
Other Payments through Call Centers/ IVR Banking	0.2	6.6	0.2	7.1	0.2	7.3	0.1	7.4	0.2	6.3
Total	**0.3**	**7.8**	**0.3**	**8.7**	**0.3**	**9.2**	**0.2**	**9.3**	**0.3**	**8.1**

[17] Difference is due to rounding-off.

Table A-10: Payment Cards vs. Channel Transaction

(Volume in Million & Value in Billion-PKR)

Transactions Type	ATM				POS				e-Commerce			
	FY20		FY21[p]		FY20		FY21[p]		FY20		FY21[p]	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
ATMs only Cards	45.7	498.7	25.1	278.1	0.1	1.9	-	-	-	-	-	-
Debit Cards	447.6	5,768.8	547.1	7,527.8	48.5	193.1	64.6	270.3	10.0	30.8	22.5	62.0
Credit Cards	0.2	3.0	0.3	3.1	33.5	192.2	36.1	204.7	7.5	42.5	11.0	62.3
Pre-Paid Cards	0.4	2.6	0.3	1.8	0.1	0.2	0.1	0.2	0.2	0.3	0.1	0.3
Social Welfare Cards	2.1	9.5	1.4	4.2	0.1	0.2	0.1	1.4	-	-	-	-
Total	**496.0**	**6,282.3**	**574.2**	**7,815.0**	**81.5**	**386.2**	**100.9**	**476.7**	**17.7**	**73.7**	**33.6**	**124.6**

Annexure B: Quarterly Payment Systems Data

Quarterly Payment Systems Data is appended on following pages:

Table B-1: Payment Systems Transactions – Summary

(Volume in Million & Value in PKR Billion)

Transaction Type	Quarter-4 FY20		Quarter-1 FY21		Quarter-2 FY21		Quarter-3 FY21		Quarter-4 FY21[P]	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
PRISM System	**0.7**	**90,996.8**	**1.0**	**92,246.2**	**1.0**	**94,910.0**	**1.1**	**109,370.5**	**1.1**	**148,047.5**
E-Banking	**206.5**	**15,276.5**	**253.7**	**19,124.4**	**296.7**	**21,474.7**	**309.5**	**22,483.4**	**323.4**	**23,399.9**
RTOB	32.2	12,161.7	42.7	15,238.5	49.3	16,904.2	49.3	17,398.1	45.3	17,767.5
ATM	114.9	1,525.6	134.9	1,785.2	152.6	2,028.3	153.5	2,084.5	157.8	2,177.6
POS	11.4	61.9	16.8	92.3	23.1	115.0	24.9	123.8	24.2	122.0
Internet Banking	17.0	894.2	18.9	1,085.9	22.1	1,293.1	24.5	1,561.7	28.0	1,720.7
Mobile Phone Banking	28.6	621.8	36.4	908.7	44.0	1,117.0	51.7	1,297.9	61.3	1,591.6
Call Centers/ IVR Banking	0.1	1.8	0.1	1.9	0.0	2.0	0.0	2.1	0.0	2.1
E-Commerce	2.3	9.4	3.9	11.9	5.6	15.0	5.6	15.3	6.8	18.4
Paper-Based	**78.5**	**29,864.3**	**97.1**	**36,238.2**	**104.8**	**37,234.0**	**100.2**	**37,657.9**	**93.7**	**40,485.0**
Total	**285.7**	**136,137.6**	**351.8**	**147,608.8**	**402.5**	**153,618.7**	**410.8**	**169,511.8**	**418.2**	**211,932.4**

Table B-2: PRISM Transactions

(Volume in Thousand & value in Trillion-PKR)

Transaction Type	Quarter-4 FY20		Quarter-1 FY21		Quarter-2 FY21		Quarter-3 FY21		Quarter-4 FY21P	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Government Securities	18.8	59.4	18.6	60.1	18.1	59.8	18.8	74.2	21.2	108.7
Inter-Bank Fund Transfers	61.5	18.3	72.7	19.1	82.6	20.8	81.4	21.1	78.1	22.1
3rd Party Customer Transfers	622.4	8.8	866.5	9.3	909.7	10.3	953.3	10.1	950.3	11.8
Ancillary Clearing Settlement	13.5	4.2	14.6	3.7	15.8	4.0	15.0	3.9	14.6	5.4
Total	**716.2**	**90.9**	**972.5**	**92.2**	**1,026.2**	**94.9**	**1,068.5**	**109.4**	**1,064.2**	**148.0**

Table B-3: Real-Time Online Branches (RTOBs) Transactions

(Volume in Million & Value in Billion-PKR)

Transaction Type	Quarter-4 FY20		Quarter-1 FY21		Quarter-2 FY21		Quarter-3 FY21		Quarter-4 FY21P	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Cash Deposits	14.3	2,305.8	19.8	3,184.9	23.4	3,591.4	23.4	3,705.8	20.3	3,574.2
Cash Withdrawals	7.1	930.9	9.2	1,311.5	10.7	1,563.6	10.6	1,726.4	9.7	1,555.8
Intra-Bank Funds Transfers	10.8	8,925.0	13.7	10,742.1	15.2	1,749.3	15.3	11,966.0	15.2	12,637.5
Total	**32.2**	**12,161.7**	**42.7**	**15,238.5**	**49.3**	**16,904.2**	**49.3**	**17,398.1**	**45.3**	**17,767.5**

Table B-4: ATM Transactions

(Volume in Million & Value in Billion-PKR)

Transaction Type	Quarter-4 FY20		Quarter-1 FY21		Quarter-2 FY21		Quarter-3 FY21		Quarter-4 FY21[p]	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Cash withdrawals	110.7	1,382.4	129.8	1,603.8	147.2	1,827.6	148.0	1,885.8	152.2	1,975.2
Intra-Bank Fund Transfer	1.1	45.9	1.6	61.6	1.6	63.7	1.5	59.9	1.4	58.1
Inter-Bank Fund Transfers	1.8	85.3	2.0	102.9	2.2	112.1	2.2	106.0	2.4	113.7
Utilities Bill Payments	1.1	3.4	1.3	7.4	1.3	4.3	1.4	3.7	1.4	5.9
Cash/Instrument Deposits	0.1	8.4	0.1	9.3	0.3	20.5	0.3	29.0	0.3	24.5
Total	**114.9**	**1,525.6**	**134.9**	**1,785.1**	**152.6**	**2,028.2**	**153.4**	**2,084.4**	**157.8**	**2,177.6**

Table B-5: Internet Banking Transactions

(Volume in Million & Value in Billion-PKR)

Transaction Type	Quarter-4 FY20		Quarter-1 FY21		Quarter-2 FY21		Quarter-3 FY21		Quarter-4 FY21[p]	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Intra-Bank Fund Transfers	6.3	368.0	6.5	407.9	7.8	488.2	8.6	559.3	9.8	628.8
Inter-Bank Fund Transfers	5.9	342.6	7.2	447.8	8.9	527.4	10.3	697.5	12.4	767.6
Utilities Bill Payments	4.0	37.4	3.7	63.5	4.2	99.3	4.4	144.6	4.6	157.0
Misc. Payment Through Internet Banking	0.8	146.3	1.5	166.7	1.1	178.1	1.1	160.3	1.2	167.2
Total	**17.0**	**894.2**	**18.9**	**1,085.9**	**22.1**	**1,293.1**	**24.5**	**1,561.7**	**28.0**	**1,720.7**

Table B-6: Mobile Banking Transactions

(Volume in Million & Value in Billion-PKR)

Transaction Type	Quarter-4 FY20		Quarter-1 FY21		Quarter-2 FY21		Quarter-3 FY21		Quarter-4 FY21[P]	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Intra-Bank Fund Transfers	5.7	234.0	7.4	320.1	9.3	398.5	10.3	451.7	11.9	532.6
Inter-Bank Fund Transfers	10.0	300.5	14.2	426.9	18.8	550.5	24.0	684.1	29.5	854.5
Utilities Bill Payments	11.6	14.4	12.9	34.2	13.9	21.0	15.8	21.3	17.5	29.7
Misc. Payment Through Mobile Phone Banking	1.3	72.8	1.9	127.5	2.0	147.0	1.6	140.8	2.4	174.9
Total	**28.6**	**621.8**	**36.4**	**908.7**	**44.0**	**1,117.0**	**51.7**	**1,297.9**	**61.3**	**1,591.6**

Table B-7: Call Center/IVR Banking Transactions

(Volume in Thousands & Value in Billion-PKR)

Transactions Type	Quarter-4 FY20		Quarter-1 FY21		Quarter-2 FY21		Quarter-3 FY21		Quarter-4 FY21[P]	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Intra-Bank Fund Transfers	6.6	0.4	4.7	0.4	4.0	0.3	4.1	0.4	3.8	0.3
Inter-Bank Funds Transfers	0.2	0.0	0.3	0.0	0.2	0.0	0.2	0.0	0.1	0.0
Utilities Bill Payments	6.1	0.1	7.9	0.1	6.4	0.1	4.9	0.1	7.0	0.1
Misc. Payment Through Call Centers/IVR Banking	36.1	1.3	32.3	1.4	32.1	1.6	29.9	1.6	28.9	1.7
Total	**49.1**	**1.8**	**45.2**	**1.9**	**42.6**	**2.0**	**38.9**	**2.1**	**39.9**	**2.1**

Table B-8: ATM Transactions - By Payment Cards

(Volume in Million & Value in Billion-PKR)

Transaction Type	Quarter-4 FY20		Quarter-1 FY21		Quarter-2 FY21		Quarter-3 FY21		Quarter-4 FY21[P]	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
ATMs only Cards	7.7	90.0	7.7	90.8	6.9	79.4	5.9	62.0	4.6	45.9
Debit Cards	100.2	1,374.5	125.8	1,690.2	138.0	1,873.2	139.9	1,941.6	143.3	2,022.8
Credit Cards	0.1	0.6	0.1	0.8	0.1	0.8	0.1	0.7	0.1	0.8
Pre-Paid Cards	0.1	0.5	0.1	0.5	0.1	0.5	0.1	0.4	0.1	0.4
Social Welfare Cards	0.2	1.1	0.2	0.7	0.6	1.8	0.2	0.6	0.4	1.1
Total	**108.3**	**1,466.6**	**134.0**	**1,783.0**	**145.7**	**1,955.6**	**146.1**	**2,005.4**	**148.5**	**2,071.0**

Table B-9: POS Transactions - By Payment Cards

(Volume in Million & Value in Billion-PKR)

Transaction Type	Quarter-4 FY20		Quarter-1 FY21		Quarter-2 FY21		Quarter-3 FY21		Quarter-4 FY21[P]	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
ATMs only Cards	-	-	-	-	-	-	-	-	-	-
Debit Cards	8.3	34.2	13.2	53.1	16.2	70.7	17.8	74.0	17.4	72.6
Credit Cards	5.8	32.9	8.1	44.3	9.3	52.8	9.5	54.1	9.3	53.5
Pre-Paid Cards	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0
Social Welfare Cards	0.0	0.0	0.0	0.5	0.0	0.1	0.0	0.7	0.0	0.0
Total	**14.1**	**67.2**	**21.3**	**98.0**	**25.5**	**123.7**	**27.3**	**128.8**	**26.7**	**126.2**

Table B-10: e-Commerce Transactions - By Payment Cards

(Volume in Million & Value in Billion-PKR)

Transaction Type	Quarter-4 FY20		Quarter-1 FY21		Quarter-2 FY21		Quarter-3 FY21		Quarter-4 FY21[P]	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Debit Cards	2.9	8.4	3.9	11.1	5.8	15.4	6.0	16.9	6.8	18.6
Credit Cards	1.7	8.4	2.2	12.9	2.8	16.4	2.8	16.2	3.2	16.8
Pre-Paid Cards	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
Total	**2.9**	**8.4**	**6.1**	**24.1**	**8.7**	**31.9**	**8.8**	**33.1**	**10.0**	**35.5**

Annexure C: Acronyms

ATM	Auto Teller Machine
CDM	Cash Deposits Machine
CNP	Card Not Present
IVR	Interactive Voice Response
MFB	Microfinance Bank
MPG	Micropayment Gateway
NIFT	National Institutional Facilitation Technologies (Pvt.) Ltd
OTC	Over the Counter
PRISM	Pakistan Real-time Interbank Settlement Mechanism
PSD	Payment Systems Department
PSPOD	Payment Systems Policy and Oversight Department
DISD	Digital Innovation and Settlements Department
RTGS	Real-Time Gross Settlement System
RTOB	Real-time online Branches

The Payment Systems Review – FY21 (July 2020 to June 2021) is based on the data reported by Banks/ Microfinance Banks (MFBs). The difference may exist due to the reason that the data of ATMs and POS is based on reporting of the acquiring banks, whereas Card-wise data of the same channels is based on the reporting of the card-issuing banks. 'P' is used for Provisional.

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