



ROYAL MONETARY AUTHORITY OF BHUTAN

MOBILE PAYMENTS



CARD PAYMENTS



ONLINE BANKING



QR CODE



E-Wallet



POINT OF SALE



ATM

DEPARTMENT OF PAYMENT AND SETTLEMENT SYSTEMS

Preface

The Payment System Report (PSR) is part of an initiative undertaken by the RMA to present a comprehensive report analyzing the payment landscape in Bhutan and the exponential growth of digital payments and its impact on the growing economy.

The PSR 2020 reviews development in digital payments in Bhutan for the year 2020 (January to December). A summary of key developments undertaken during the year is also presented in this report.

We would like to thank all those who have contributed to the information contained in this Report.

1. Key Developments in 2020

RMA and the banks made substantial progress on digital payment ecosystem in 2020 by way of enhancement of acceptance infrastructure, boost to financial inclusion and adoption of enabling policies and regulatory frameworks to continually promote efficient, stable, and secure payment systems in pursuit of digital payments.

The year 2020 marked the “first step” of the Payment Systems Strategy 2020 which aims to create an ecosystem conducive for digital payments to be the most preferred choice for Bhutanese within a timeframe 2020-2022. Starting from the interoperable infrastructure, efforts to enhance payment system infrastructure through the adoption of Bhutan QR has paved way for payment services with innovations and modern technologies that allows merchants to scan customers QR code, and the promotion of cross-border payment systems connectivity through Rupay of India.

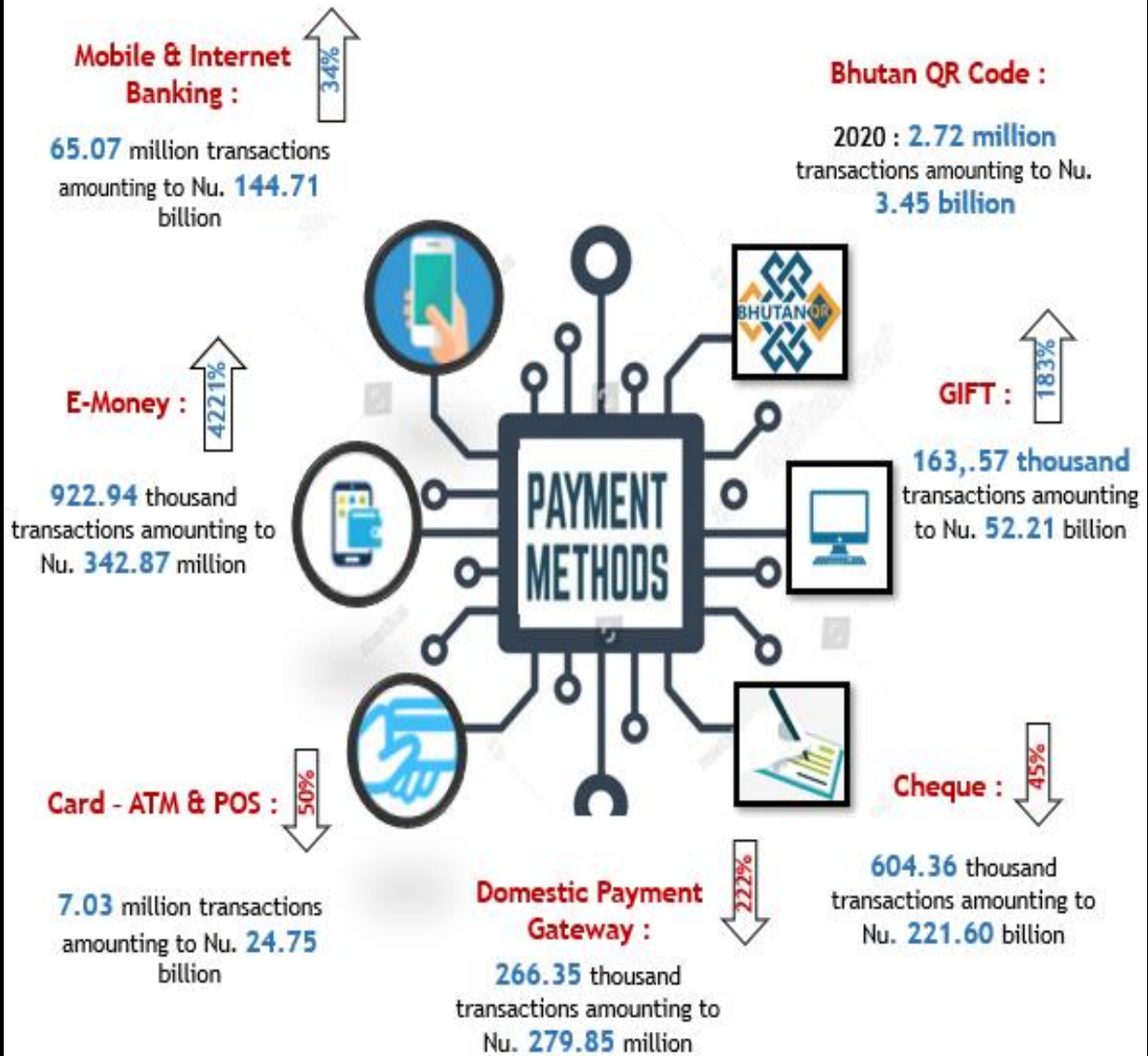
On the issuance or the supply side of the digital payment ecosystem, QR payment acceptance points have been expanded nationwide to small vendors and retail stores. At present, there are 14,962 QR payment acceptance points nationwide. Efforts also included improving digital payment usage of public-facing government agencies for fees and tax

and international payment service for tourists. On the regulatory front, new regulations/guidelines/policies were adopted in 2020 as another augmentation to support new financial products and service developments in e-commerce.

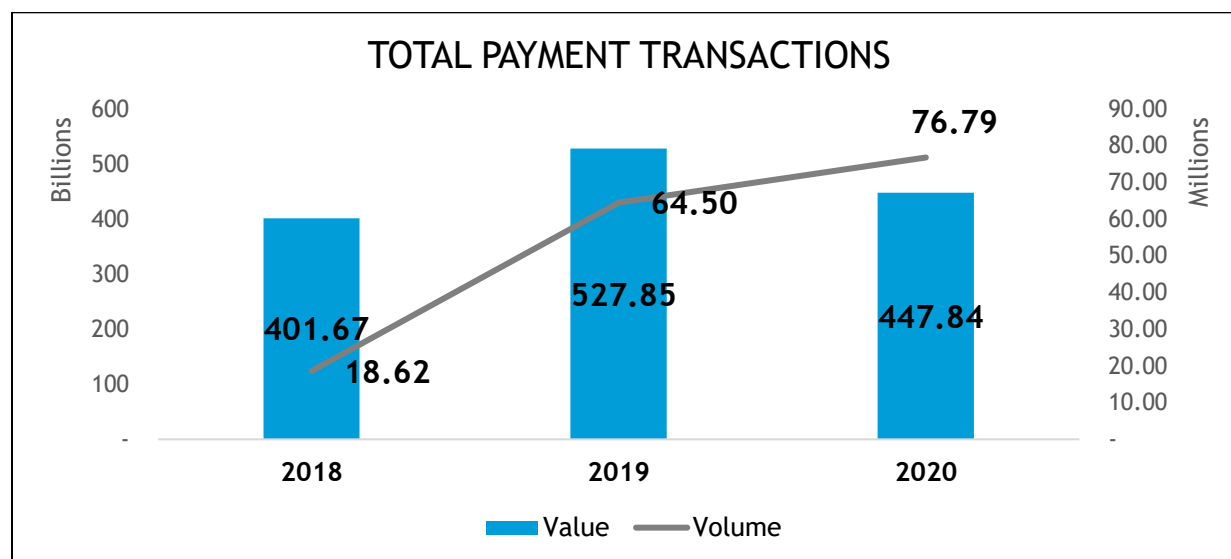
In order to boost the acceptance side, cost structures including pricing structure, interchange fees, interbank fund transfer limit and KYC processes were revised and simplified respectively to deepen adoption of digital payments amidst the global pandemic COVID-19 and subsequent lockdown in the country. In addition, dispute handling process for all digital payments were reviewed and revised to make digital payments convenient and easy to use for the customers.

2. Payment System Performance

PAYMENT TRANSACTIONS - 2020 IN FOCUS



The following chart shows total payment transactions, volumes and values, on a yearly basis over last 3 years.



In 2020, a total of 76.79 million transactions valued at Nu.447.84 billion were processed through payment channels viz. paper (cheques), Mobile and Internet Banking, Payment Gateway, E-money, Electronic Fund Transfer, and Cards (ATM and PoS).

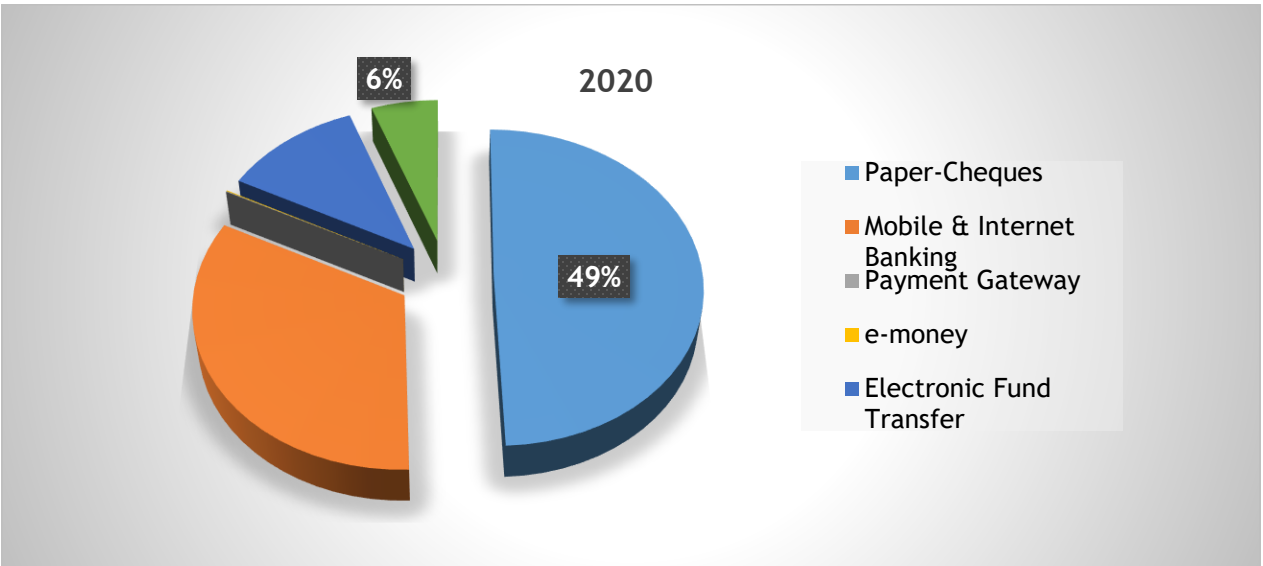
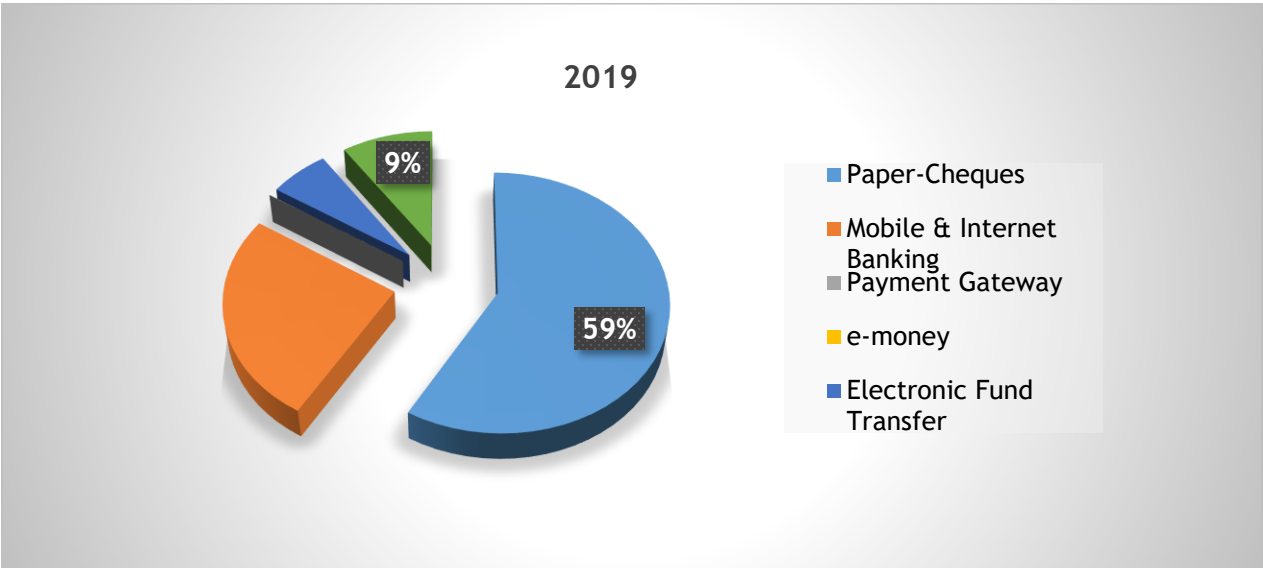
In terms of value, it declined by 15.2%

to Nu. 447.84 billion in 2020 from Nu. 527.85 billion in 2019. The decline in the value of transaction was largely due to significant drop in the usage of cheques during the year. The value of cheques and also ATM transacted in 2020 decreased by 28.2% (Nu. 87.17 billion) and 49.5% (Nu. 24.69 million) respectively.

Table 1: Value of Payment Transactions (in Millions)

Value of Payment Transactions (in Millions)				
Payment Channels	2018	2019	2020	% Change in 2020
Paper-Cheques	308,710.18	308,783.07	221,607.75	-28.2%
Mobile & Internet Banking	26,274.27	135,973.23	148,162.78	9.0%
Payment Gateway	-	86.98	279.85	221.7%
e-money	0.60	15.35	342.87	2133.7%
Electronic Fund Transfer	39,730.80	33,009.54	52,212.81	58.2%
Card Transactions	26,952.32	49,982.45	25,232.12	-49.5%
Total	401,668.17	527,850.63	447,838.19	-15.2%

Due to which, the share percentage of Cheques and Card transactions in the overall payment also declined from 59.0% and 9.0% in 2019 to 49.0% and 6.0% respectively in 2020.



However, in terms of volume, an annual growth of 19.1% equivalent to 12.29 million additional transactions were processed in 2020 compared to previous year.

The growth in the volume of payment transactions measured as a ratio to the population also observed a significant growth from 25.60 non-cash transactions per capita per annum in 2015 to 105.60 in 2020 meaning that the number of non-cash transaction made by a person in 2020 was 106 transactions compared to only 26 transactions in 2015.

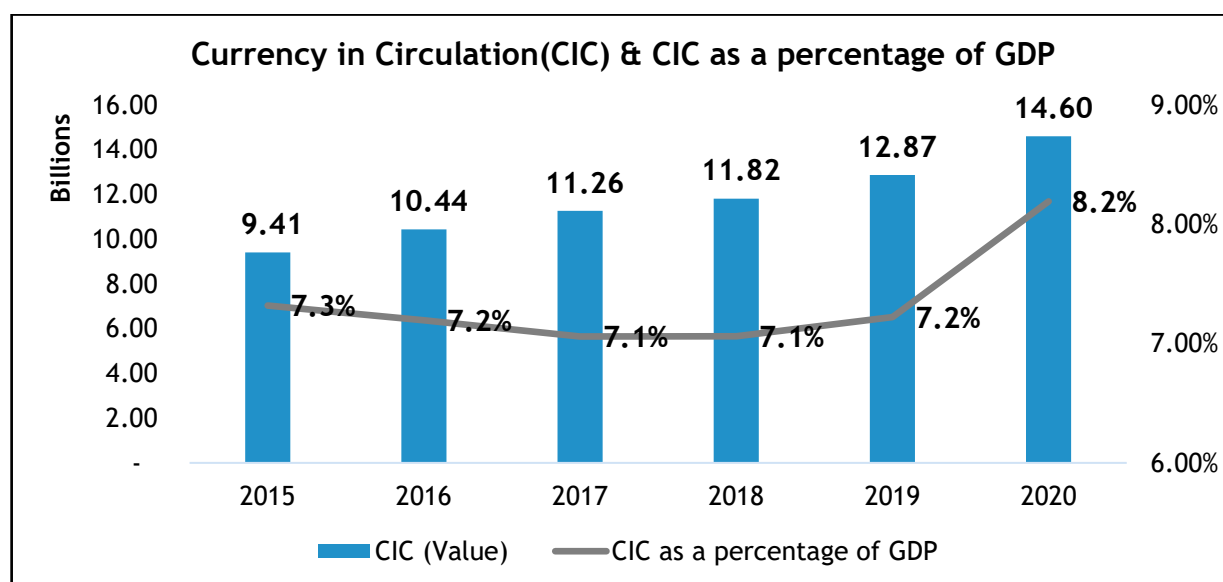
Table 2: Number of Cashless Transactions per Capita

No. of Cashless Transactions per capita					
Country	2015	2016	2017	2018	2019
Singapore	727.9	759	782.4	831.03	848.42
Sweden	428.8	481.4	497.9	522.96	549.61
China	48.9	70.4	96.7	142.14	223.89
Indonesia	23.4	28.4	34.0	40.67	44.67
India	4.06	5.44	10.73	13.15	22.42

Table 3: Cashless Transactions made over the years in Bhutan

	2018	2019	2020
Volume of Cashless Transactions	18,618,410	64,495,728	76,786,605
Population	727,145.00	727,145.00	727,145.00
Annual per capita transactions by volume	25.60	88.70	105.60

On the same note, the demand for cash for payment transactions in 2020 was Nu. 14.60 billion which was a growth of 13.4 percent (8.20% of GDP) from 2019 and comparatively higher than the growth in the previous years as shown below.



3. Payment Acceptance Infrastructure

Payment System Landscape In Bhutan



4. Status of Payment System Transactions

PART I: HIGH VALUE PAYMENT SYSTEMS

1. RTGS-GIFT System:

RTGS enables transfer of money from one bank account to another on a “real time” and on “gross” basis. The RTGS service window for customer’s transaction is available to banks from 10 am to 4 pm on weekdays and on a working Saturday from 10 am to 11:30 AM for settlement at the RMA.

RTGS transactions increased by **125.4%** in volume terms in 2020 compared to 2019 and the average value of transaction size is between Nu. 12.14 million and Nu.12.70 million in two years indicating that it is increasingly used for relatively high value business transactions.

RTGS is largely used by Government for G2B payments, by Corporations such as Druk Air, DGPC, MangdeChu, KholongChu Projects, RICBL, etc for C2C and C2B payments, and by Businesses for B2B and B2P payments.

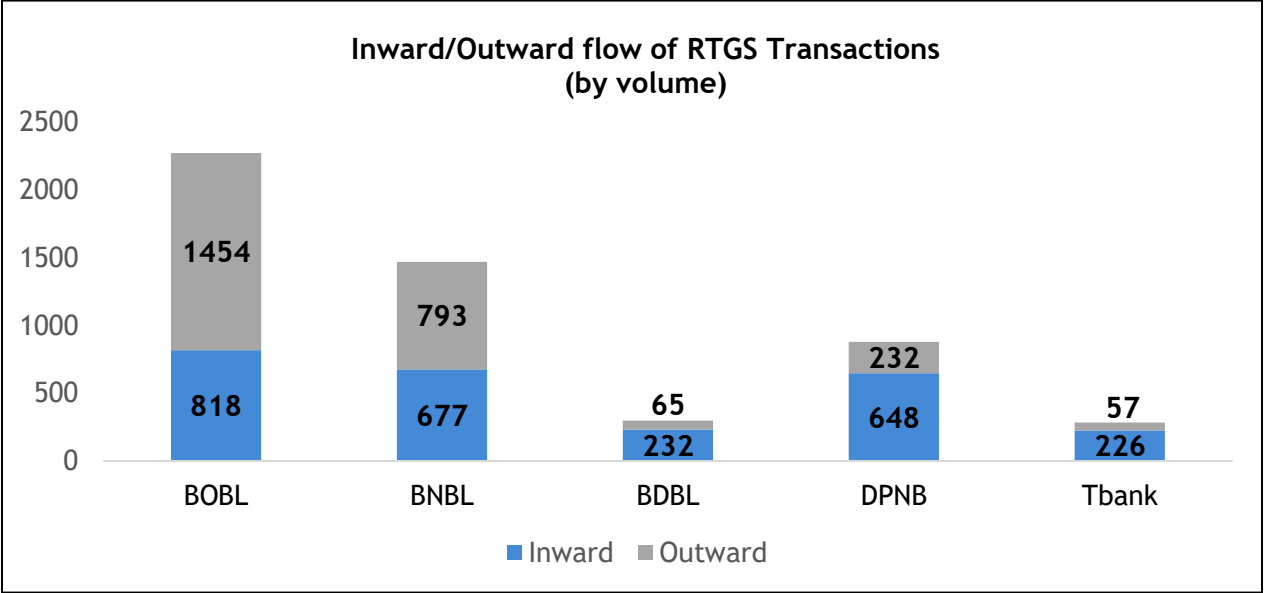
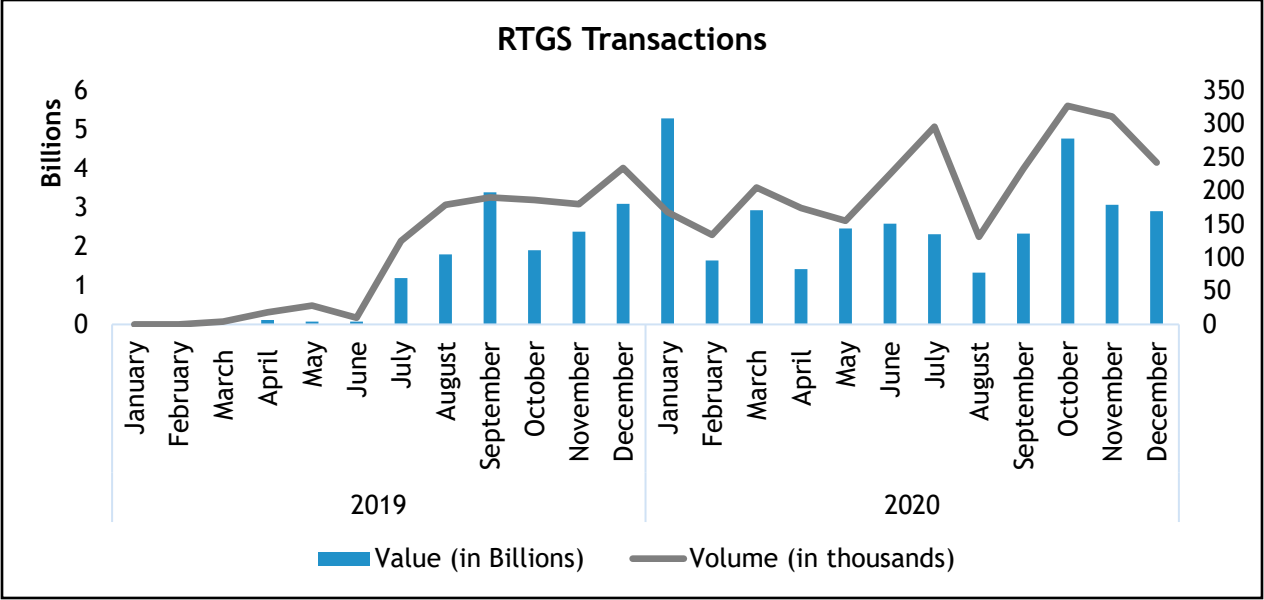
In addition, the following monthly trend and bank-wise transactions show that the highest number and value of RTGS were carried out in the month of January and October 2020 and among the banks, BoBL recorded the highest transactions both in terms of receiving fund inwards (Nu.15.30 billion) and remitting outward (Nu.14.84 billion) followed by BNBL (inward of Nu. 9.45

billion and outward Nu. 9.15 billion).

The following chart (next page) shows the growth in the volume and value of RTGS transactions since its launch in 2019.

Table 4: RTGS Transactions in 2019 & 2020

Year	Volume	Value (in millions)	Transaction size (Nu.)	Growth
2019	1154.00	14,011.89	12.14 million	125.4%
2020	2601.00	33,020.69	12.70 million	



2. PAPER (CHEQUES):

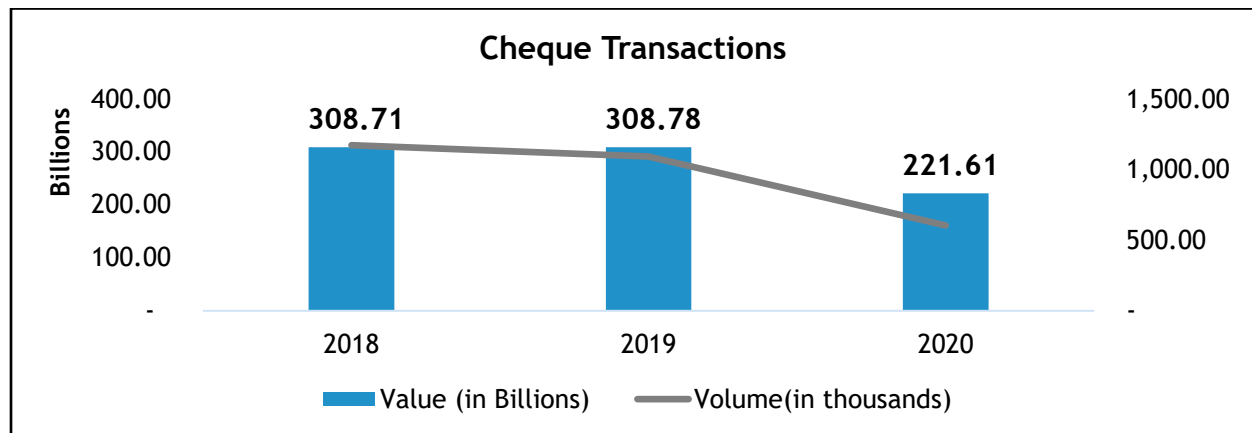
Cheques are still highly preferred mode of high value business transactions particularly by corporations and businesses for C2B, C2C, C2P, B2B, and B2P in the country. RMA host a very efficient cheque clearing infrastructure, which is largely used by member banks to clear cheques across the country, settling them by the next business day.

The average cheque size, over the past three years have varied between 263 thousand and 367 thousand indicating that it is used for relatively higher value transactions.

Table 5: Cheque Transactions over the years

Year	Volume	Value (in millions)	Transaction size (Nu.)	Growth
2018	1172.47	308,710.18	263.3 thousand	
2019	1092.21	308,783.07	282.71 thousand	-6.9%
2020	604.36	221,607.75	366.68 thousand	-44.7%

However, with increased digitization and availability of alternative payment channel such as RTGS-GIFT, the number of cheques transactions is decreasing at an increasing rate as shown below:

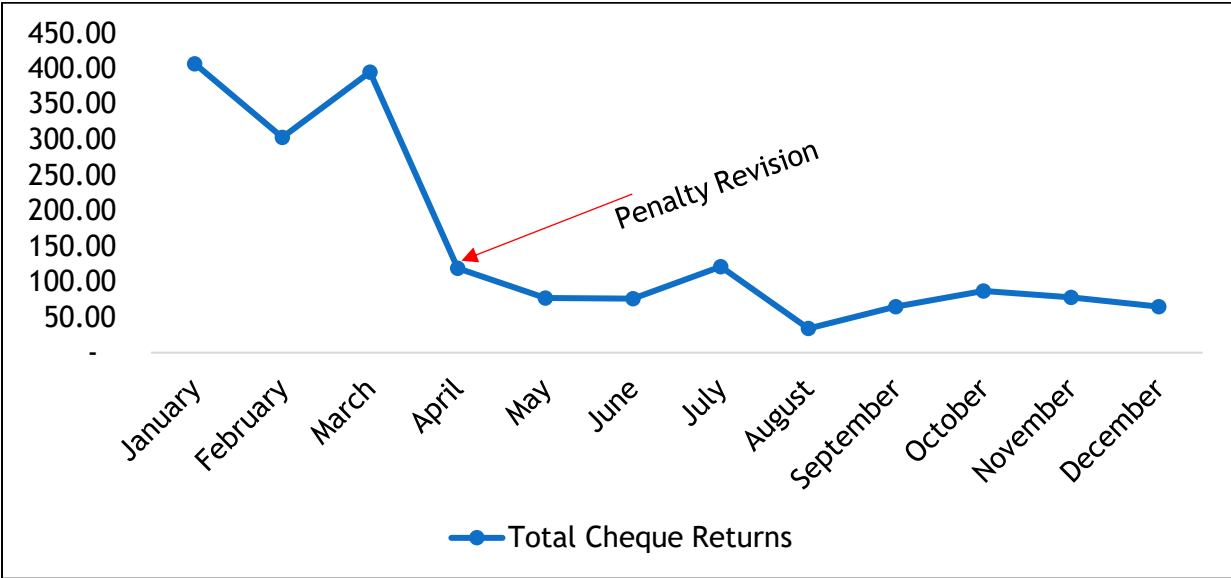


The number of cheques processed in 2020 was **44.7%** and **28.2%** less compared to 2019 in volume and value terms respectively. This decrease in the number of cheques could partially be due to the closure of banks and bank branches owing to COVID-19 pandemic and subsequent lockdown in the country.

Similarly, the share of cheque in the overall payment system is decreasing at an increasing rate with **77.0%** in 2018 and **58.0%** in 2019 to only **49.0%** in 2020. However, its share is still the largest in value terms.

In April 2020, the RMA reviewed and revised the pricing structure of various payment instruments as part of payments reform to make digital payments affordable for Bhutanese. Additionally, for cheques, administrative penalty for chargeable return cheques in interbank settlement were enhanced to **10.0%** of the value of cheques specially to discourage presentment of cheques with insufficient account balance as the number of cheques returned on this account was major and increasing.

Prior April 2020, the ratio of chargeable cheques to the total cheques returned was more than **70.0%**. However, post the revision of fees, the ratio dropped to **23.0%** along with the overall number of cheques returned from the RMA clearing house.



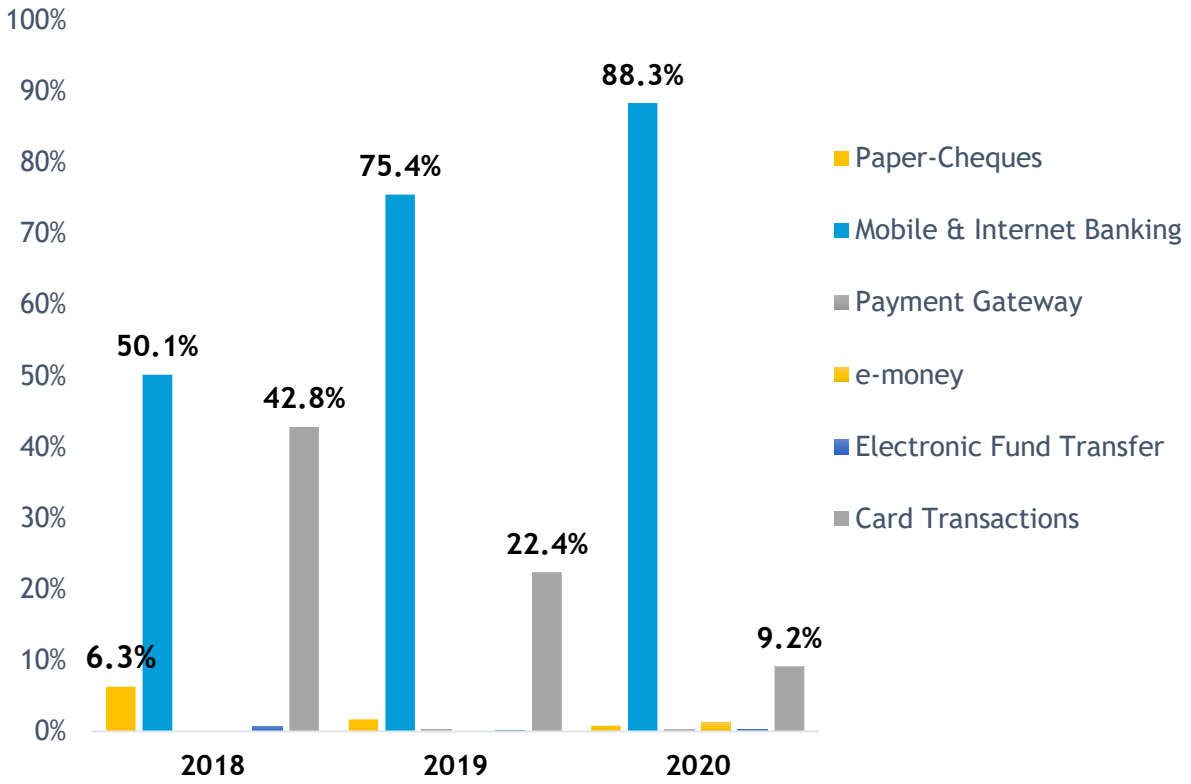
1. MOBILE AND INTERNET BANKING

Mobile and internet banking have become more prevalent with increasing usage and coverage of smart phones and internet connectivity in the country. The payment features on the mobile banking apps are also evolving over the years with the changing preference of Bhutanese for digital payments. Today a Bhutanese can use the mobile app to make P2P payments, B2B payments, P2G payments with account holders of the same bank or different bank, QR payments, check bank account, withdraw card-less cash from the ATM, and recharge prepaid mobile accounts. Users can also pay utility bills (water, electricity, telecommunication services), house rents (NPPF), donations, taxes to Thromde, flight tickets, and insurance payments through the app.

Consequently, over the past two years, the number of mobile/internet banking accounts had grown at an increasing rate, more so during the national lockdown. The number of mobile/internet banking accounts in 2020 increased by 141.16 thousand accounts to 347.05 thousand accounts. As a result, the number of transactions had risen significantly.

In 2020, mobile and internet banking transactions dominated the payment ecosystem with **88.3%** of the total payment transactions effected through it in volume terms and the share is increasing at an increasing rate over the years. The volume of transactions registered at 67.79 million transactions, while the value of the transactions totaled Nu. 148.16 million, equivalent to a growth of **39.3%** and **9.0%**, respectively, compared to the year earlier. Such growth was driven by the convenient, fast, and secure services, together with the promotion of Mobile Payments and QR payments.

Payment transactions by volume



Measures adopted during the year:

Following the outbreak of the COVID-19 pandemic, RMA adopted several measures to encourage the use of mobile banking in the country. The policy measures for mobile banking can be categorized into three broad areas:

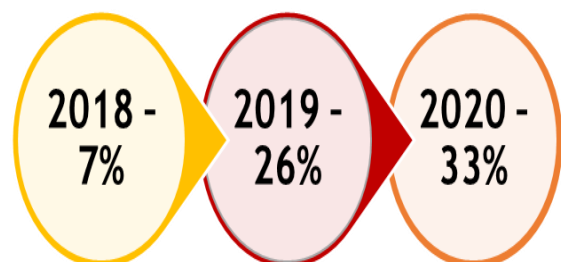
1. **Increased transaction limits:** The transaction limit on interbank fund transfer through mobile banking app and QR payment was increased from Nu. 100,000 per day to Nu. 200,000 during the first nationwide lockdown and then to Nu 1 million during the second nationwide lockdown.
2. **Flexible KYC onboarding:** certain provision of KYC requirements was eased during the lockdowns to facilitate and encourage individuals to open account online and also to onboard more users on mobile banking apps.
3. **Efficient dispute handling process:** for failed transactions with the introduction of forced credit application.

Mobile/Internet Banking usage behavior:

Mobile and Internet banking includes P2P payments, B2B payments, P2B payments with account holders of the same bank or different bank, card-less cash withdrawal at the ATM terminals, recharge prepaid mobile accounts, and also payment of utility bills (water, electricity, telecommunication services), house rents (NPPF)), donations, taxes to Thromde, flight tickets, and insurance payments through the app.

The average value of per transactions continued to decline from Nu. 2,816 in 2018 to Nu. 2,224 in 2020, suggesting increasing uses in daily life. Analysis of transactions by volume also reveals that majority transactions were done for making small value payments largely for telecommunication services viz. air time top up, mobile recharge, bills etc.

Examining payment behaviors by objective revealed that the **fund transfer** option on the mobile banking app for P2P and B2B payments dominated the value space. As a result of which, its share percentage in the total payment transactions witnessed an increasing growth from 26 percent in 2019 to 33 percent in 2020. Such growth again resulted with more businesses and entities migrating to digital payments and fund transfers made viable with the enhanced transaction limits during the year.

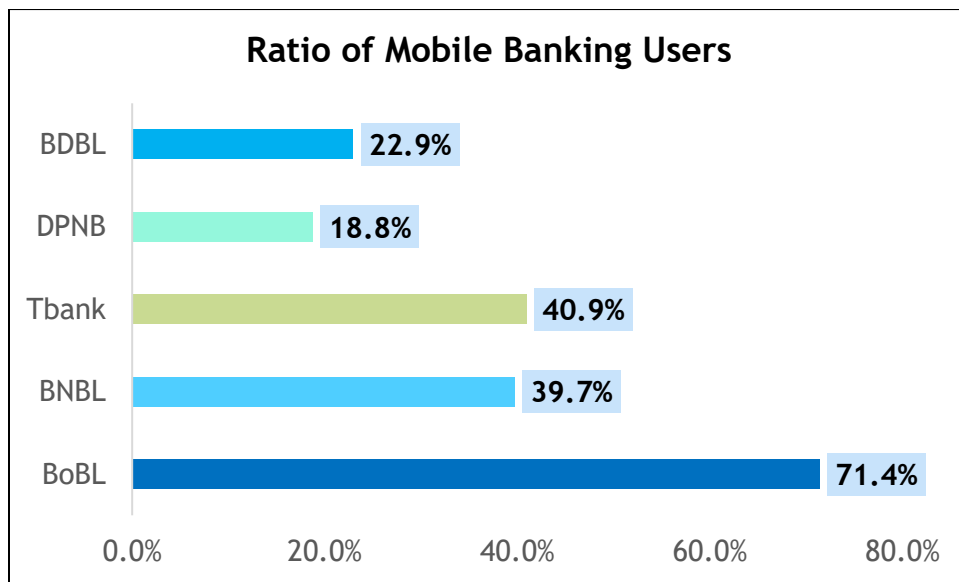


Mobile Banking service provider:

As of 2020, all five commercial banks have introduced their individual mobile banking apps which are interoperable through the Bhutan Financial Switch (BFS/BIPS) hosted at the RMA.

As per the bank-wise analysis of transactions, **84.0%** of the total

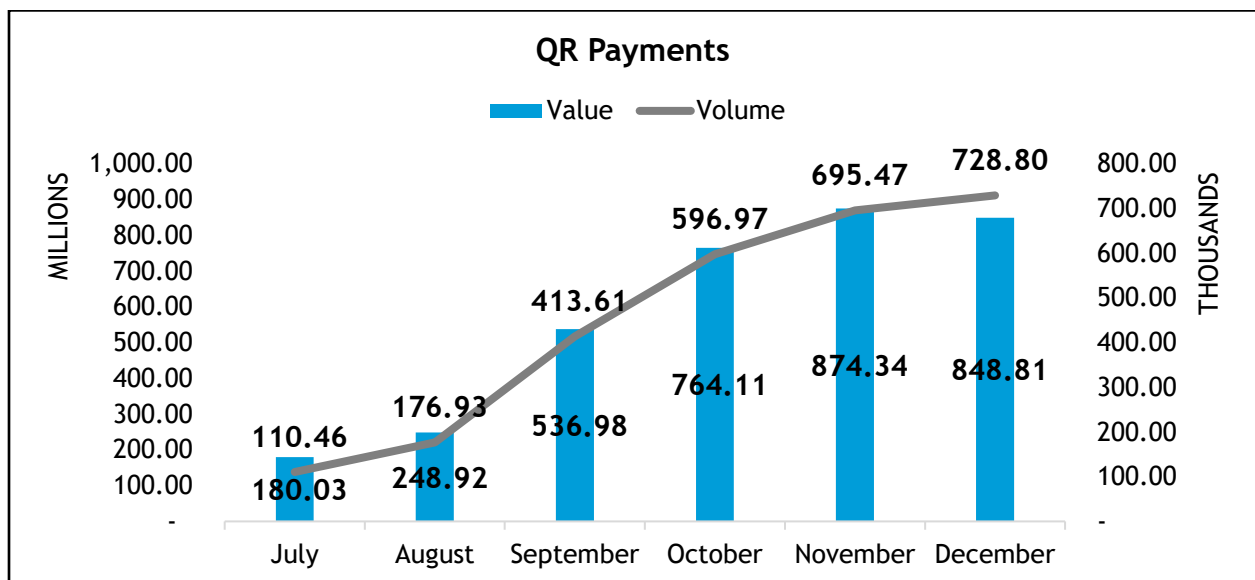
transactions were carried out through BoBL indicating the pervasiveness of MBoB. Based on the ratio of mobile banking users to the total account holder (CASA) of the banks, it can also be seen that the number of new users onboarding mobile banking apps is highest percent for BoBL.



2. QR PAYMENTS

Bhutan QR Code was a significant turning point in the Bhutanese payment systems as it allows users to make payments conveniently, easily, and safely. Since its launch in July 2020, Bhutan QR has stimulated exponential growth of mobile banking transactions. Bhutanese are increasingly adopting QR payments for their daily payments, mainly for paying for goods and services. It has been adopted by various businesses, ranging from large wholesalers to street vendors, shops, taxis, fuel stations all across the country. As of December 2020, the number of QR payment acceptance points has increased exponentially to

14.96 thousand acceptance points. The volume of transactions totaled 2.72 million transactions, equivalent to Nu. 3.45 billion in value with an upward trajectory of **52.0%** monthly average growth rate. The highest growth was recorded in the month of September 2020 coinciding with the first nationwide lockdown where increased number of businesses, distributors, and also account holders migrated to digital payments to minimize the fall out of COVID-19 pandemic.

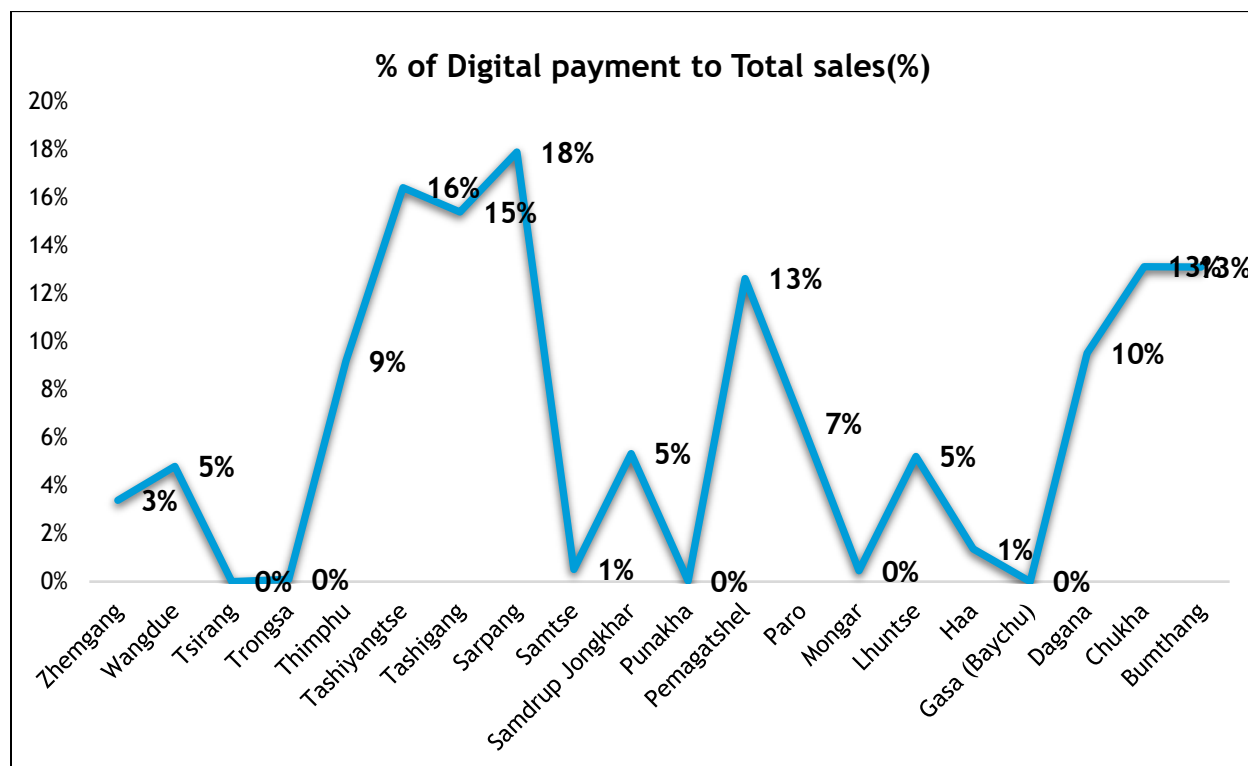


Payments at Fuel Stations

Prior to 2019, Nu. 78.38 million (4.0% of the total sales) were digitally made using debit cards at the PoS terminals available at select Dzonkhags such as Thimphu and Phuentsholing. The remaining (96 percent) transaction was all done in cash.

However, with the rigorous drive initiated by the RMA, fuel stations, relevant Govt, Ministries and the commercial banks, the value of transaction done digitally (Mobile Banking and QR payments) has increased to Nu. 699.73 million in 2020. Since, the fuel payment for government agencies are made using fuel cards and GIFT

system, these payments are payments made by individuals using mobile banking app and QR payments. Further, the number of dzongkhags accepting these payments have increased from 2 in 2019 to all 20 Dzongkhags during the period. Although the value of digital payments made in Thimphu (Nu. 1.68 billion) and Chukha Dzongkhag (Nu. 1.54 billion) are higher in value compared to other dzongkhgs, in terms of its percentage to total sale of fuel and other related products in respective dzongkhag, the percentage is highest in other dzongkhags such as Sarpang (18.0%) followed by Trashiyangtse (16.0%).

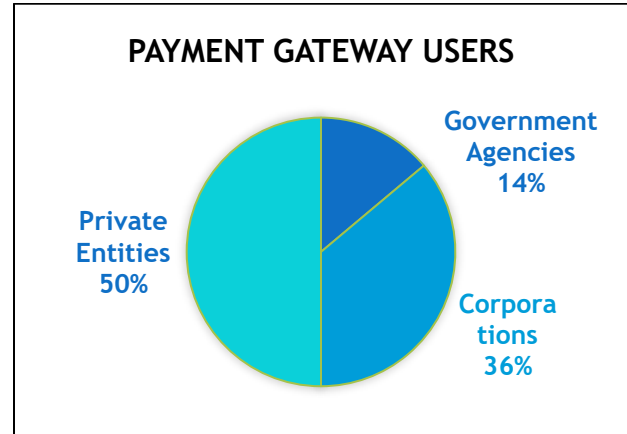


3. DOMESTIC PAYMENT GATEWAY:

Payment gateway facilitates payment transaction on the merchant's payment portal (websites and mobile application) through exchange of payment instructions between the merchant and acquiring banks, is hosted and operated at the RMA.

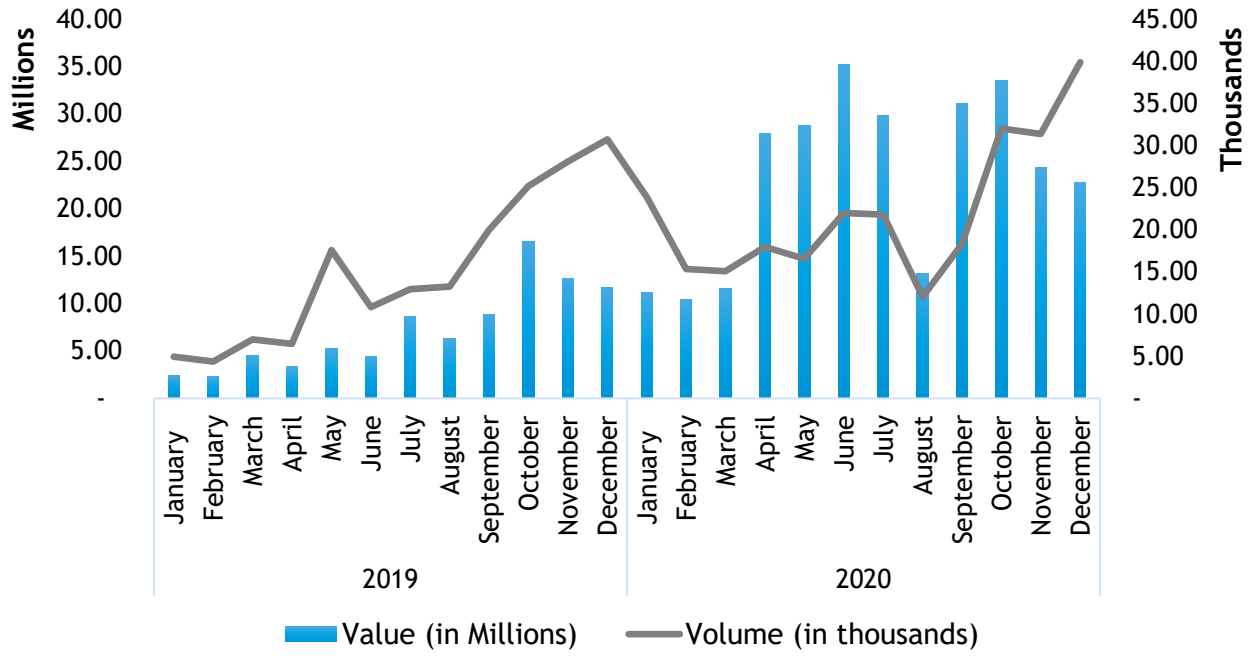
Any entity wishing to avail the payment gateway service in Bhutan is required to register and apply to the RMA to integrate to the system. It is gaining popularity among the users as a platform to pay for government services such as land tax, utility bills such as water bill, electricity bill, fees and fines such as vehicle renewal fees, Insurance premium and etc.

Since its launch in 2016, it is largely used by e-commerce businesses, online retailers, government agencies, and corporates to receive payments for their goods and services. As of 2020, there are 36 merchants registered with the RMA. Out of which, majority (50.0%) are private e-commerce business and online retailers such as Druk Bees and Bhutan Smart Shop. Corporations include RICBL, Tbank, BPC, Druk Air, BT, BIL, NRDC etc, while Government agencies are G2C, Thromde (Thimphu and Phuentsholing).



As per the transaction data report, 266.35 thousand transactions amounting to Nu.279.85 million was done on the payment gateway in 2020 which is a growth of **46.75%** from 2019. The Monthly trend also depicts m-o-m growth in all the months compared to previous year. Since majority of the transactions are on account of Government services and utility payments, the rise in the volume and value of transactions indicate increased usage of digital services over cash for these type of services in the country.

Payment Gateway Transactions



4. E-MONEY

e-money is an electronic payment medium that fulfills the new generations preference for convenience and speed in their daily life. With various service options, mobile applications for payment for goods and service at retail outlets, e-money has gained growing popularity especially during the national lockdowns owing to COVID-19, denoting by the continued increase in the number of subscribers and transactions each year.

There are two e-money service providers at the end of 2020 licensed under the e-money Issuers Rules and Regulations 2019.

The number of e-money accounts at the end of 2020 totaled at 111,666 accounts, increased by 120 percent from the previous year as follows:

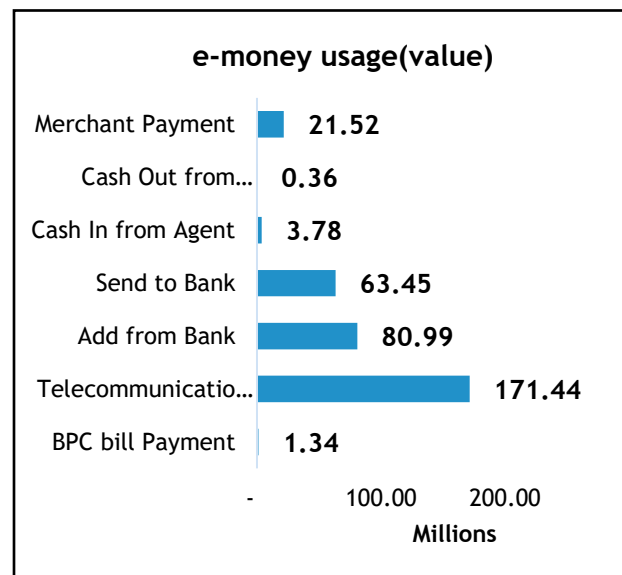
Table 6: e-Money Issuer Transactions

Issuer	2019	2020
BNgul	50,983	55,105
e-Teeru	-	56,561
Total	50,983	111,666

E-Money Usage: In 2020, the use of e-money continued to grow with the launch of e-teeru during the year. The total transaction volume was 921.94 thousand transactions, equivalent to a total value of Nu. 342.87 million, exhibiting an exorbitant growth from 21.34 thousand transactions in 2019.

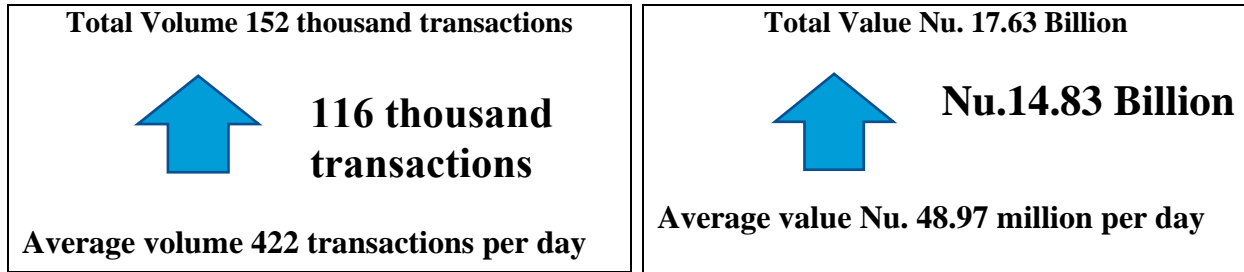
E-money Spending Behavior: Although e-money subscribers are permitted to make fund transfer, utility payments, cash-in and cash out options, most e-money usages were for payment for telecommunication related services particularly air time payments (mobile phone top-up), representing the highest proportion of **82.0%**.

The usage pattern of two e-money service providers is shown below:



As depicted in the table above, 82 percent of the total e-money transactions, equivalent to Nu.171.44 million was used for making payment for telecommunication services. The average value per transaction was approximately Nu. 226 in terms of value, lower than the overall value per transactions (Nu.329), indicating daily usages for making small payments such as air time top up mostly.

5. BULK-GIFT



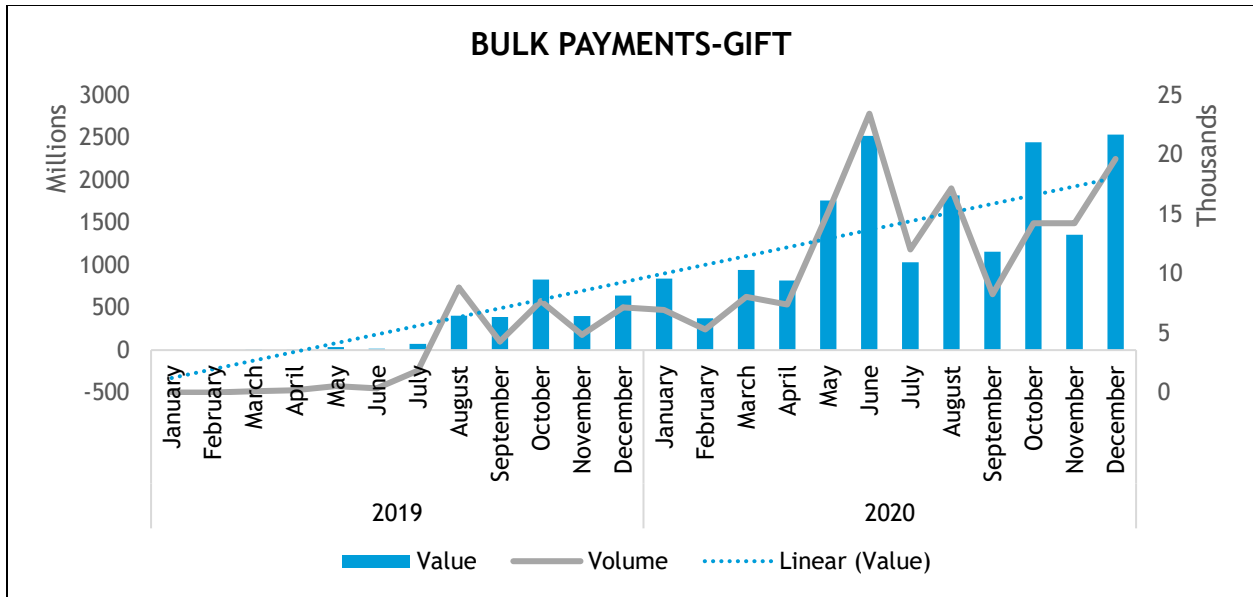
BULK-GIFT is an instant settlement system that facilitates fund transfer of all sorts, often referred to as “bulk payments” where multiple beneficiaries are to be credited from a single account.

This payment system is mostly used by Government, Corporations, Businesses, and other entities to make G2P (Government-to-Person) and Employer-to-Person Payments E.g. Salaries, pension payments, loan repayments etc. Currently there are forty plus entities besides DPA namely NPPF, DGPC, DHI, RICBL, RMA etc availing this payment service.

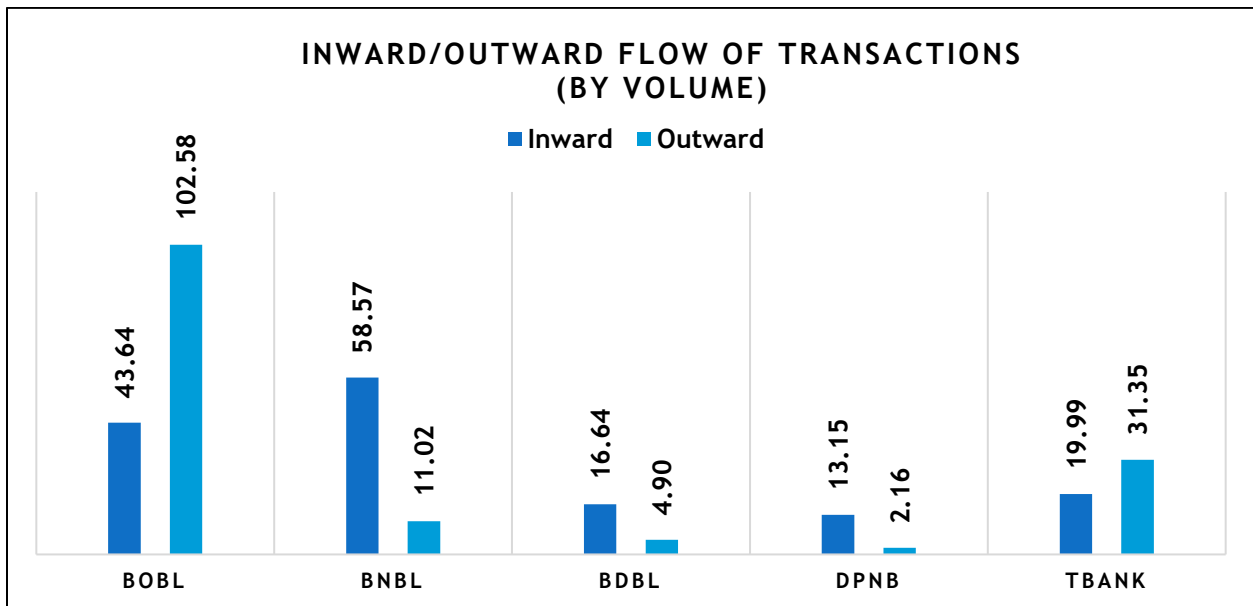
The volume of fund transfers through the system continued to increase steadily since its official launch in July 2019. In 2020, on an average, 422 transactions were processed per day totaling to 152 thousand transactions in

a year. While, in 2019 only 35.88 thousand transactions with an average of 120 transactions per day were processed.

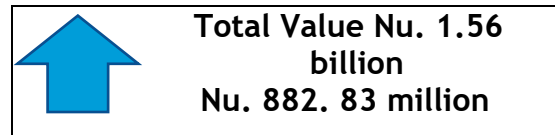
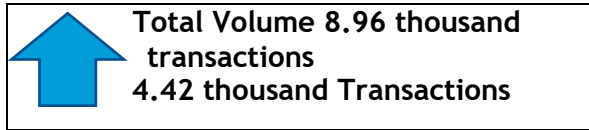
The total value of fund transfers also increased substantially in 2020 to Nu. 17.63 billion from Nu. 2.8 billion in 2019. Consequently, the average value per transactions also increased from 78.06 thousand in 2019 to Nu. 115.97 thousand in 2020.



A comparison of the volume of funds transfer by transaction types indicated that most of the transactions were fund transfer from DPA, MOF to corporates, businesses and individuals. Among these, small value payments worth less than Nu. 20,000 to individuals account for majority of the transactions.



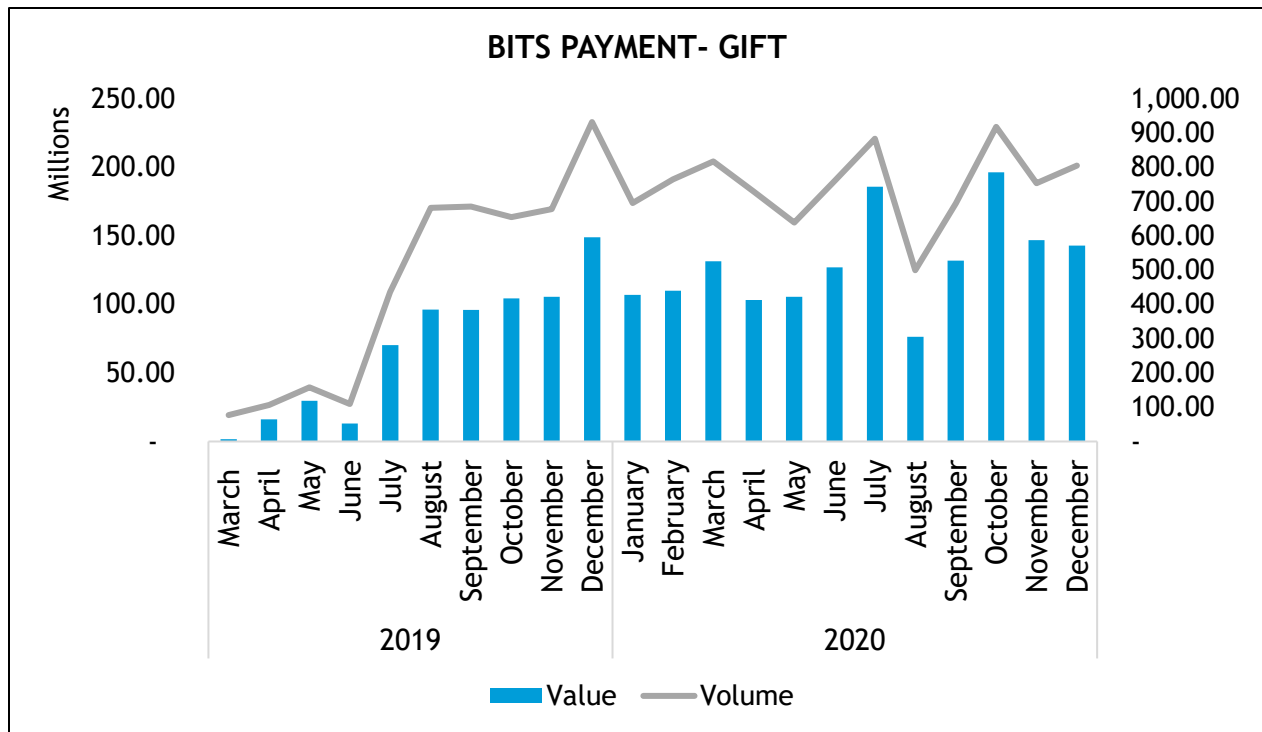
6. BITS- GIFT



BITS-GIFT is a batched settlement system that allows interbank retail fund transfer of amount below 1 million. This system is mostly used by businesses mostly for B2B transactions.

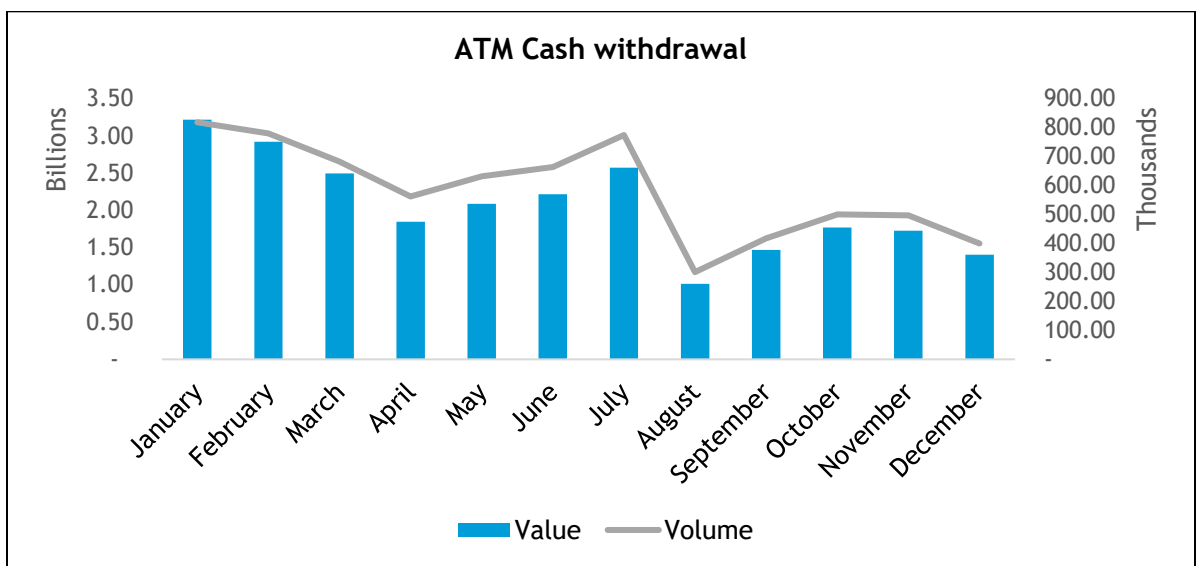
The number of transactions have been consistently increasing except a small dip in August 2020 which was observed due to closure of banks in the country owing to first nation-wide lockdown.

Out of total 8.96 thousand transactions in 2020, majority of the transactions pertained to remittance of fund from BNBL to BOBL.



7. CARDS- ATM

Although most Bhutanese are still accustomed to using cash for their everyday purchase, the volume of cash withdrawals from the ATMs in 2020 declined by **50.4%** in terms of volume compared to previous year. The decline was despite the increase in the number of ATM terminals and the additional features supporting card-less withdrawal using mobile app on the ATM terminals. The banks deployed additional 25 ATM terminals and 29.71 thousand debit cards during the year. However, the value of cash withdrawn also saw equivalent decline of 50.2 percent from Nu. 49.98 billion in 2019 to Nu. 25.23 billion in 2020. The average value per transactions however, remained constant at approximately Nu. 3,500 per transaction.

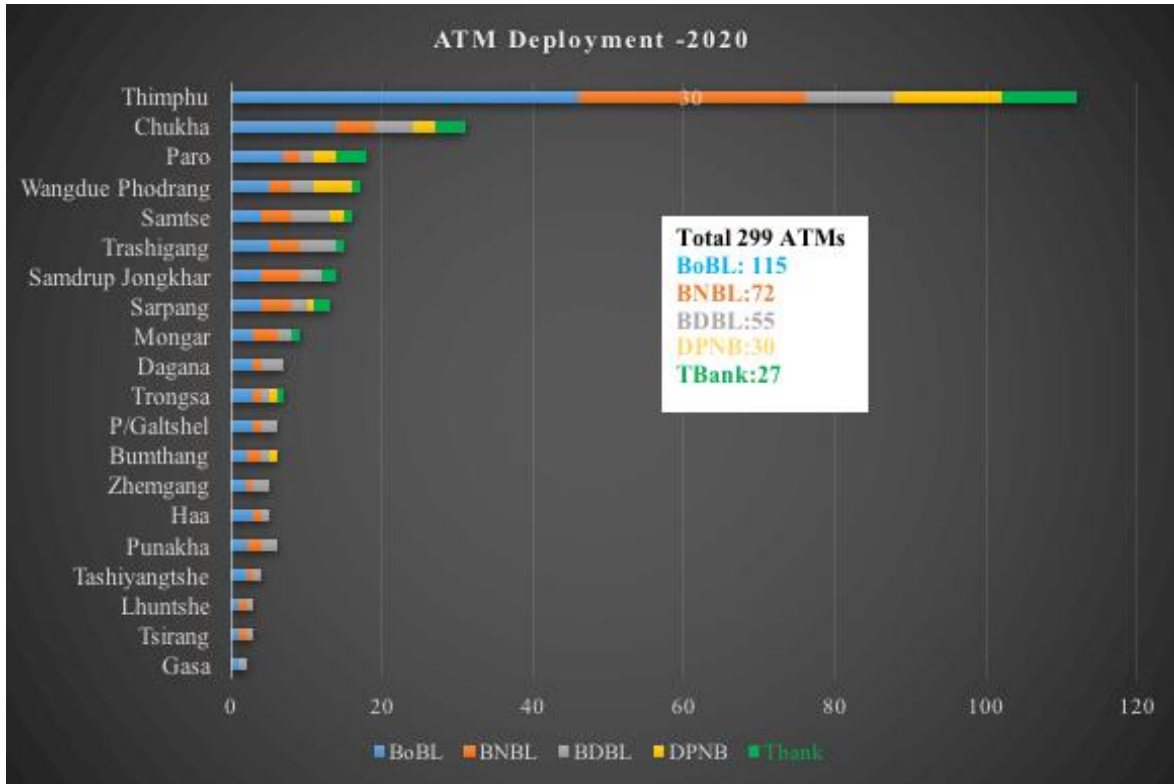


The decline of cash withdrawal was partly because of the growing concern of using cash and ATM terminals, and imposed movement restrictions during the nationwide lockdown that prompted bank customers to switch to mobile/internet banking/QR payments for retail payments and fund transfer instead of visiting ATM terminals for cash. The other reason behind these drops is because of the interchange fees levied both for financial and non-financial transactions made at the ATM terminals.

The monthly transaction data reveals that the drop in the ATM transaction was the highest in August and September coinciding with the first nationwide lockdown due to outbreak of COVID-19 pandemic. Thereafter even though the number of transactions increased, the rate of increase was far lesser than pre-lockdown indicating the continued use of digital payments for transactions by bank customers.

The ATM terminals in Bhutan are mostly for cash withdrawal purpose only. As of December 2020, there were 299 ATM terminals deployed in all 20 Dzongkhags,

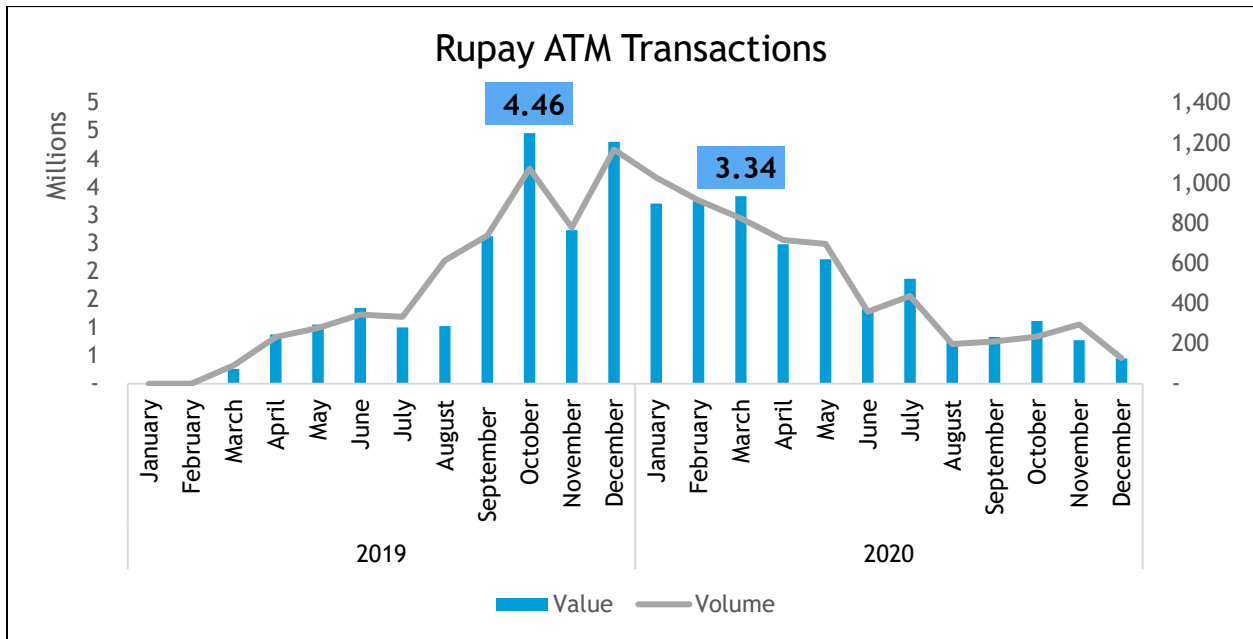
collectively by five commercial banks with majority (38.5%) of the ATMs owned by BoBL. Out of that, 112 ATMs (37.4%) are deployed in Thimphu alone and the remaining in other Dzongkhags in descending order as shown in the chart below.



PART II: CROSS-BORDER PAYMENT SYSTEMS

1. RUPAY (ACQUIRING):

Since its launch in July 2019, all five commercial banks acquire Rupay cards issued by banks in India at the ATM and POS terminals in Bhutan. A total of 11.69 thousand transactions equivalent to INR 41.31 million was acquired as of 31st December 2020. Out of which, despite the closure of international borders, **52.0%** (6.03 thousand) of the transactions valued at INR 21.62 million was carried out in 2020.



2. RUPAY (ISSUING):

In continuation to RuPay acquiring, His Excellency Shri Narendra Modi, the Hon'ble Prime Minister of India and His Excellency Dr. Lotay Tshering, the Hon'ble Prime Minister of Bhutan, jointly e-launched the RuPay card issuance by the Bhutan National Bank Limited (BNBL) on 20th November 2020.

The RuPay card scheme is a cross-border payment initiative made through interconnection of Bhutan Financial Switch (BFS) with India's National Financial Switch (NFS), operated by the National Payment Corporation of India.

So far, BNBL is the only Issuing bank in Bhutan and since its launch, 209 debit cards have been issued to Bhutanese customers including students, medical students, monks etc. The total transactions recorded in 2020 amounts to Nu. 242,700.