

ROYAL MONETARY AUTHORITY OF BHUTAN



ANNUAL PAYMENT SYSTEM REPORT



2019



DEPARTMENT OF PAYMENT AND SETTLEMENT SYSTEM



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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 electronic payments and its impact on the growing economy.

The PSR 2019 reviews development in payment and settlement systems in Bhutan for the year 2019. A summary of initiatives undertaken during the years is also presented in this report.

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

Key developments in Payment Systems in 2019

Developing a safe and robust payment system infrastructure that enables the efficient functioning of economic activities, while promoting financial innovation has always been one of the foremost priorities for the RMA.

As such, the RMA achieved some of the very important milestones during the year 2019. On the domestic front, a platform based on the latest and futuristic technologies Global Interchange for Financial Transaction (GIFT) was operationalized in July 2019. The new system GIFT is a complete overhaul of the NEFT and NECS system with additional feature that enables transfer of large value fund from one bank to any other bank on a "real time" and on a "gross" settlement basis, and supports the electronic Public Expenditure Management System (e-PEMS) of the Government.

Beyond building an ecosystem to facilitates digital payments, in order to drive consumer adoption, the RMA lead initiatives to digitalize the fuel stations in Thimphu with QR payment in collaboration with relevant agencies and the commercial banks. Similarly, for the first time, the RMA initiated to conduct nationwide campaign to promote and implement QR payment at all retail outlets including fuel stations, vegetable vendors, and other popular places wherein usage of cash is high. The campaign is carried out in phased manner targeting the Thromdes first and extending to other satellite towns all across the country.



The RMA also issued license to Tashi InfoComm as one of the non-bank e-money issuer. With that there are currently two non-bank (Telcos) e-money issuers in Bhutan.

On the regional and international fronts, the historic connection of Bhutan's Financial Switch with the National Financial Switch of India was launched by HE Prime Minister Narendra Modi of India on 17th August 2019. The integration currently allows acquiring of transactions for travelers from India to seamlessly use their domestic RuPay branded cards at ATMs and POS terminals in Bhutan. The work is already in progress to enable acceptance of Rupay Co-branded issued by Bhutanese commercial banks in India.

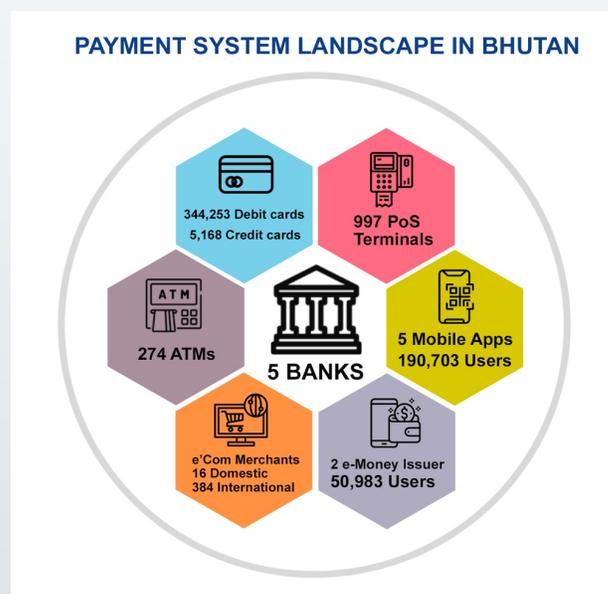
Further, as one of the outcomes from the Bhutan Economic Forum for Innovative Transformation (BEFIT) 2019, a National e-commerce portal was launched in June 2019 to create and enhance international market access for the cottage and small industries of Bhutan.

Simultaneously, on the regulatory front, the RMA revised its E-money Issuers Rules and Regulations 2017 to create more enabling environment for e-money institutions to conduct its wallet business in Bhutan including allowing merchant payment. The RMA also approved the Payment System Oversight Framework in December 2019 to elaborate and set out an effective approach to assess the risks associated with the functioning of payment systems and to ensure focus on risk mitigation actions based on the standards set by RMA and the Principles of Financial Market Infrastructure (PFMI)— a standard set by the Bank for International Settlements.

In the coming year, the RMA is committed to promoting and strengthening the payments landscape on three fronts – domestic, regional and international, while recognizing that cybersecurity will be the most important risk facing the financial sector. **The focus will continue to** encourage domestic digital payments and enabling interoperability of the various payment channels, while also strengthening the international payments gateway and expanding alternative payment channels with regional and international payment schemes.

Payment Landscape in Bhutan

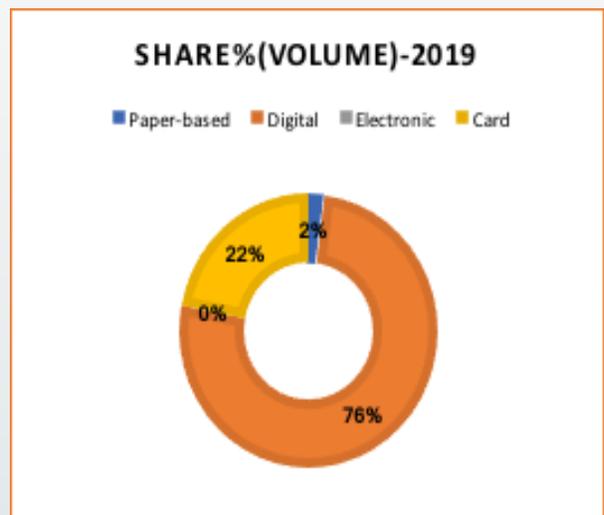
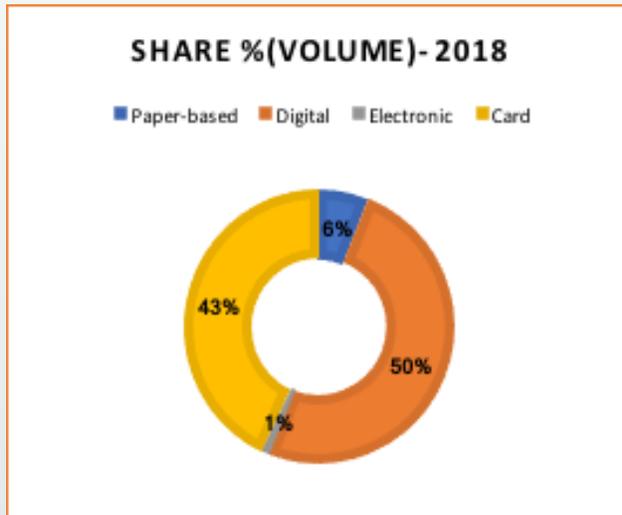
The payment landscape of Bhutan is a simple network of interconnected participants working together to enable a variety of payment types.



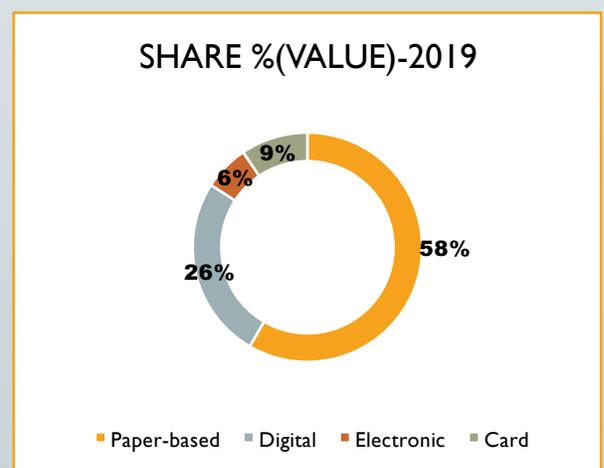
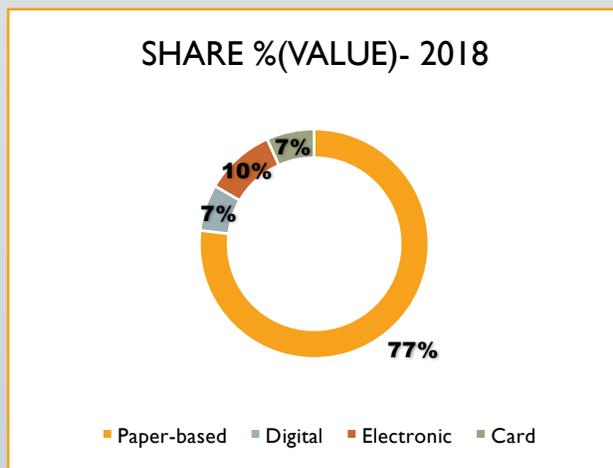
As of 2019, there are five commercial banks and two licensed e-money issuers that provides digital payments services in Bhutan through instruments such as ATM, PoS, mobile banking, debit and credit cards, and wallet. Collectively there are 274 ATMs and 997 PoS terminals servicing a total of 344,253 proprietary debit cards, and 5 mobile apps catering to 190,703 subscribers all across the country. In addition, there are over 400 e-com merchants (16- domestic and 384 international) registered to carry out domestic as well as international e-commerce business.

While, cash is still the payment method of choice among consumers, payment landscape in Bhutan-like the world at large-is moving towards digital transactions at an accelerating pace. A rise in smartphone penetration, increased internet access, accelerating pace of innovation, maturing of consumer preferences supplemented with payment participants continued efforts have all played a role in shifting the dynamics and opening opportunities for digital payment adoption in Bhutan.

As shown in the diagram below, there is a clear positive shift in the share of digital payments from 50 percent in 2018 to 76 percent in 2019 in the total payment transaction volume. Similarly, a downward shift in the share of card payments from 43 percent to 22 percent during the same period can be seen.



The increasing trend in the volume of digital payments indicate an increasing dominance of digital payment over other payment instruments such as card, cheques, electronic, and also cash specially for making retail payments because for large value fund transfer, it can be seen that paper-based instrument-cheques still dominate although at a decreasing trend. In value terms, cheques had 58 percent share in the total payment transactions in 2019, however, the share has declined from 77 percent in 2018 indicating that even for large value fund transfer, other mode of payment instruments are being used.



Summary Review of Performance

During the year 2019, the RMA took a number of development initiatives to promote digitization of the payment landscape in the country. These initiatives are primarily aimed at development of digital payment platforms, provision of a conducive regulatory environment for the industry and promotion of innovative and convenient digital payment instruments in the country. As a result, the payments landscape in Bhutan continued to show a healthy growth, both in terms of volume and value of transactions processed during 2019.

A deeper insight into the trends such as magnitude of overall growth, growth and share of various payment instruments, volume and value of transactions across each payment instruments, and the pattern of growth between 2018 and 2019 is presented in following summary report to provide a comprehensive view of the existing and changing payment landscape of Bhutan.

During the year, collectively, the payment and settlement system in Bhutan processed an **annual volume of 64.51 million transactions and transferred 528.86 billion** through various payment instruments that include paper-based (2 percent), digital (76 percent), electronic (0.02 percent), and card (22 percent).

Summary of Total Payment Transactions, Annual Growth & Share.

(volume in thousands & value in millions)

Sl. No	Instruments	Payment Transactions				Annual Growth %		Share %			
		2018		2019		Volume	Value	2018		2019	
		Volume	Value	Volume	Value			Volume	Value	Volume	Value
I	Paper-based	1,172.47	308,710.18	1,092.21	308,783.07	-7%	0%	6%	77%	2%	58%
	Cheques (On-Us)	1,003.09	237,183.30	937.58	244,561.88	-7%	3%	5%	59%	1%	46%
	Cheques (Interbank)	169.38	71,526.88	154.63	64,221.19	-9%	-10%	1%	18%	0%	12%
II	Digital	9,329.53	26,274.27	48,854.44	136,162.54	424%	418%	50%	7%	76%	26%
	Mobile (On-Us)	8,758.05	20,546.95	46,726.73	118,396.71	434%	476%	47%	5%	72%	22%
	Internet (On-Us)	13.75	706.68	20.68	839.26	50%	19%	0%	0%	0%	0%
	Mobile & Internet (Interbank)	557.73	5,020.64	2,085.69	16,911.23	274%	237%	3%	1%	3%	3%
	Wallet	4.35	0.60	21.34	15.35	391%	2464%	0%	0%	0%	0%
III	Electronic	141.84	39,730.80	132.05	33,932.61	-7%	-15%	1%	10%	0%	6%
	NECS	126.08	1,374.78	66.85	721.56	-47%	-48%	1%	0%	0%	0%
	NEFT	15.76	38,356.02	7.48	14,793.84	-53%	-61%	0%	10%	0%	3%
	GIFT-RTGS			1.15	14,011.89	-	-	0%	0%	0%	3%
	GIFT-BITS			4.52	681.66	-	-	0%	0%	0%	0%
	GIFT-BULK			52.04	3,723.66	-	-	0%	0%	0%	1%
IV	Card	7,970.22	26,952.32	14,433.20	49,982.45	81%	85%	43%	7%	22%	9%
	ATM- (On-Us)	6,224.38	22,432.44	11,421.85	42,371.33	84%	89%	33%	6%	18%	8%
	ATM Acquiring	1,696.78	4,337.79	2,960.06	7,404.23	74%	71%	9%	1%	5%	1%
	PoS- OnUS	33.27	133.91	20.56	95.26	-38%	-29%	0%	0%	0%	0%
	PoS Acquiring	15.79	48.18	30.73	111.63	95%	132%	0%	0%	0%	0%
	Total	18,614.06	401,667.57	64,511.90	528,860.68	247%	32%	100%	100%	100%	100%

The paper-based instrument comprising of cheques processed 1.09 million transactions valuing Nu. 308.78 billion. These transactions showed significant decline of 7 percent in volume terms and slow growth of less than 1 percent in value terms. Further, its share in the total transactions declined from 6 percent in 2018 to 2 percent in 2019 in volume terms and from 77 percent to 58 percent in value terms during the same period.

Digital Payments which include mobile banking, internet banking, and wallet observed a robust annual growth of 424 percent and 418 percent in volume and value terms, making it the most dominantly used payment instrument in 2019 with the share percentage of 75 percent in the total payment transactions. The robust growth was mainly contributed by increase in the volume and value of mobile banking transactions which increased firstly because of increased usage of smart phones and its acceptance points and further because other banks such as BDBL and DPNB introduced their mobile banking during the year. Additionally, the banks during the year also enhanced the limit of on-us mobile banking transactions based on its internal credit scoring which contributed to the increase in the value of transactions. Further, the ratio of on-us versus off-us transaction was 46:2 by volume and 118:17 by value indicated that customers generally do mobile banking transactions within the same bank.

Electronic Instruments comprising of NECS, NEFT, and GIFT processed 132,047 transactions valuing Nu.33.93 billion during the year. The growth trend however, indicated a decline of 7 percent in volume terms and 15 percent in value terms, as most of these transactions specifically statutory deductions of the government agencies were diverted to other mode of payment with the implementation of e-PEMS by the Ministry of Finance during the year.

Cards which includes ATMs and PoS, 274 ATMs and 997 PoS terminals processed 14.38 million and 51,228 transactions valuing Nu. 49.78 billion and Nu. 206.89 million respectively. The ratio of on-us versus off-us ATM cash withdrawal of 11:3 by volume and 44:7 by value showed that customers generally used their own banks ATM to withdraw cash. However, on the PoS the ratio of on-us versus off-us was 21:31 by volume and 95:11 by value meaning customers mostly used other banks PoS terminal to do transactions.

Performance of Specific Payment Instruments: Cheque

58%

of share in value from the total value of transactions this year amounts to cheque transactions. Since most large value fund transfers are done through cheque, it has the highest share when it comes to value of transfers. However, volume wise it has only the third highest share of 2%.

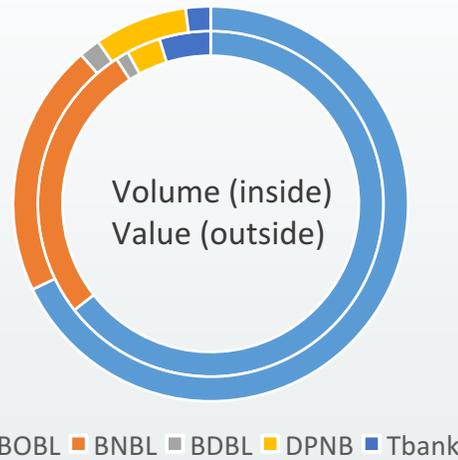
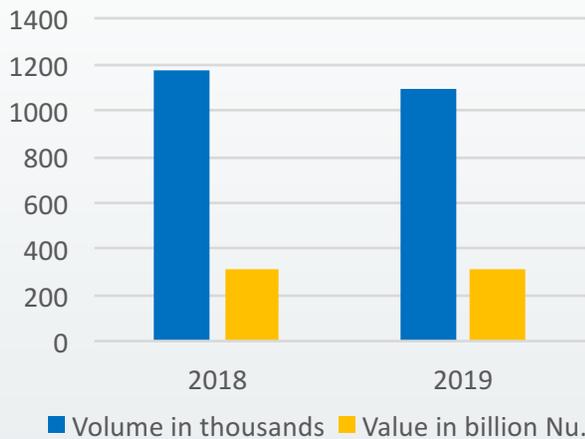
Digital payments which consist of mobile, internet and B-wallet payments, makes up 76% of volume this year. There was an overall total of 64.51 million domestic transactions worth Nu. 528.86 billion in our country, out of which 1,09 million transaction was cheque transactions worth Nu. 308.78 billion.

Instruments	Volume	Value
Paper-based	2%	58%
Digital	76%	26%
Electronic	0.15%	6%
Card	22%	9%



A quarterly comparison of total cheque transactions between the years 2018 and 2019 shows that the value and volume increased from Q1 to Q2 and then decreased from Q2 to Q3 by almost the same amount both in 2018 and 2019. However, in 2019 there is a sharp increase in value from Q3 to Q4.

The volume in each quarter in 2019 is smaller than the same quarter in 2018 indicating an overall decrease in the volume of cheque transactions.



The total volume of cheque transactions has decreased from 2018 to 2019 but there is a slight increase in the value.

Out of the 5 banks, BoB has the highest share of volume and value of cheque transactions in both the years. BNB takes the second lead in both years. However, BNB has a highest percentage decrease compared to the other banks and DPNB has recorded the highest increase in both the volume and value of cheques.

Over the years, number of interbank (transactions from one bank account to a different banks bank account) cheque transactions are seen to increase overall with a gentle dip from 2015 to 2016. The value has stabilized since alternate years show the same trend, i.e. there's an increase in 2016 and 2018, and a decrease in 2017 and 2019.



Digital Payments

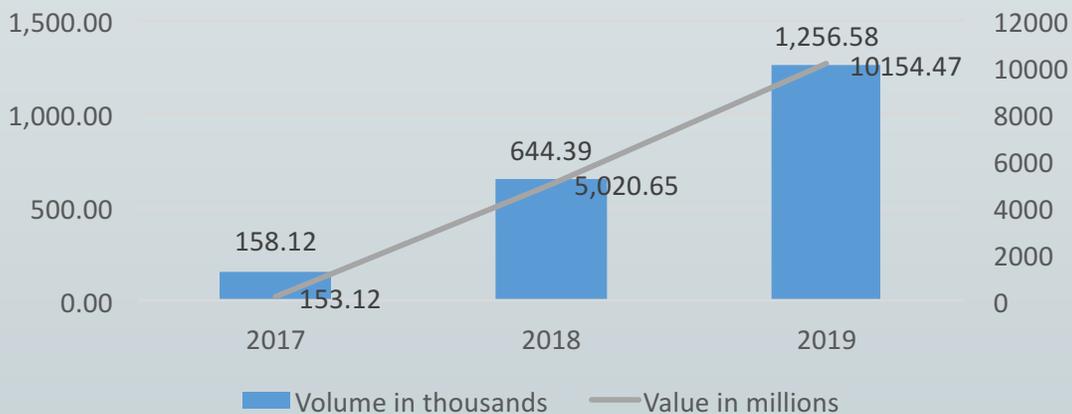
Mobile Banking includes real times fund transfers through mobile and internet banking, and ATM fund transfers. Only BoB (Bank of Bhutan) so far offers the facility to make fund transfers from their ATM terminals.



BoB (Bank of Bhutan) is first bank to launch a mobile banking app in the country. It has the highest share of volume (95%) as well as the highest share of value (86%) of total on-us and interbank mobile and internet banking transactions so far, followed by BNBL in both areas.

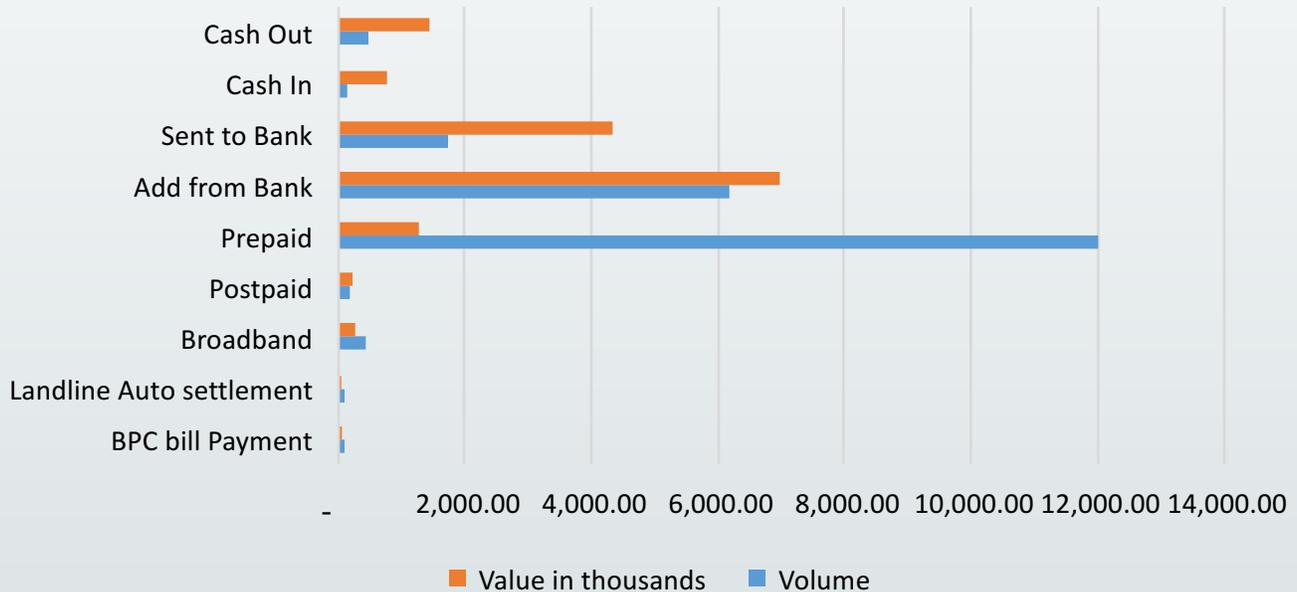
After mobile banking was launched by other banks in 2019, there has been a rapid increase in digital payments. Due to its speed and accessibility, consumers use mobile and internet banking mostly for small value fund transfers, hence the high percentage share of **76%** in 2019 out of total volume of transactions.

Trend of inter-bank BIPS transactions



B-Ngul wallet

B-Ngul is a mobile wallet created by the Bhutan Telecom Limited. The service which is mainly intended for those who do not have a bank account, to enable them to carry out financial transactions easily just by using their mobile numbers. Any customer who has a B-mobile number can register for the service.



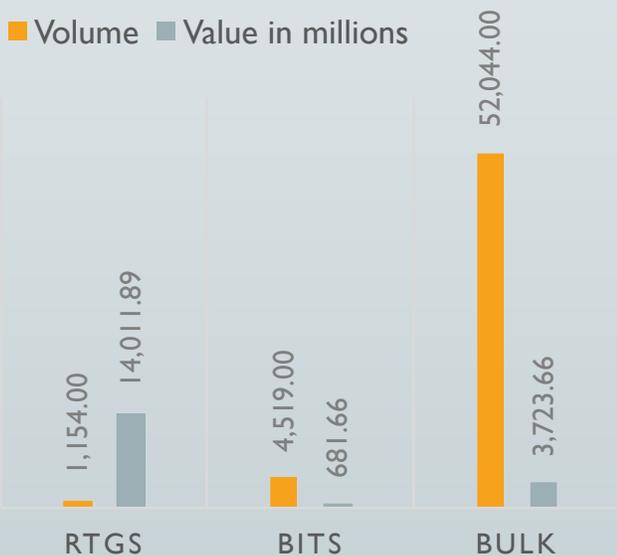
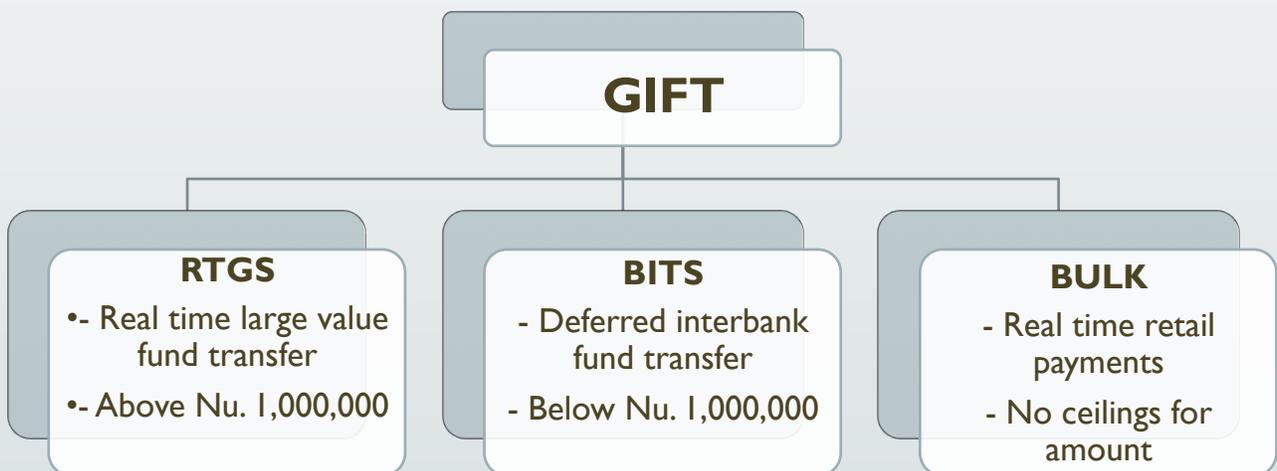
The Bhutan Telecom e-money users mainly use the platform for prepaid mobile top-ups which is why the volume is highest for this service. The second most used service is to add money from bank. This can be done in two ways i.e. the user can either link their bank account and send money from that bank account to the e-money account; or give cash to an e-money agent who will send the equivalent of that cash to the users e-money account.

Money added from bank has the highest value share in 2019, followed by money sent to bank.

Electronic Payments

GIFT

NECS (National Electronic Clearing System) and NEFT (National Electronic Fund Transfer) was formally replaced by a new system called GIFT (Global Interface for Fund Transfers) which was launched on the 22nd of July 2019 along with ePems in Thimphu by the Finance Minister.



The payment component that has the highest volume of transactions recorded this year, is BULK. This is because customers can make transactions of any value through this mode of payment instrument. RTGS (Real Time Gross Settlement) has the highest value amongst the 3 since all the interbank large value fund transfers are made through this channel.

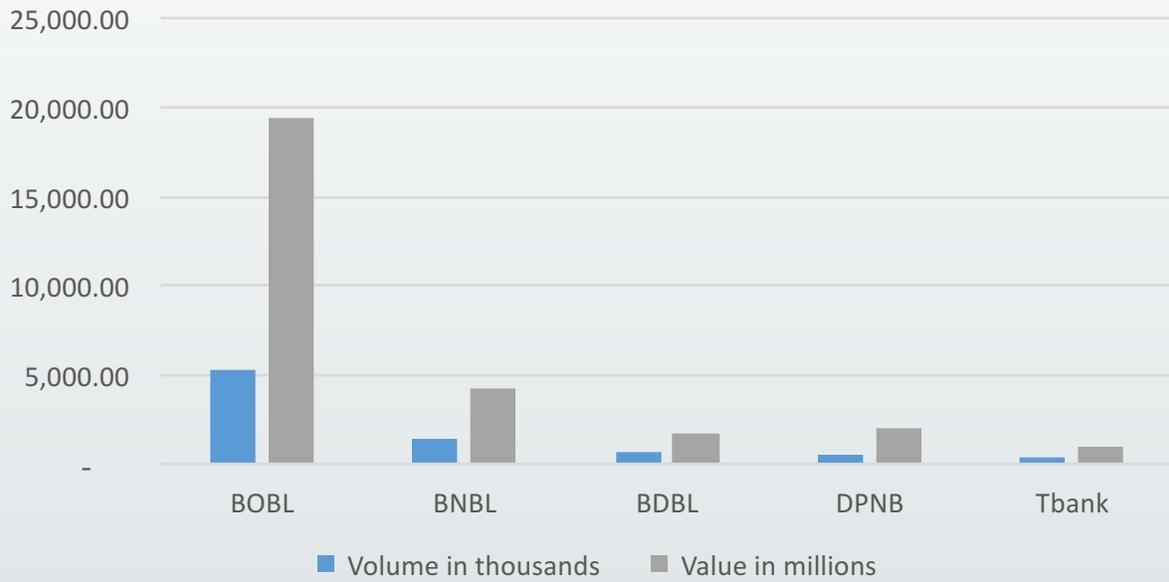


The volume of transactions increased from the first quarter of 2019 since there were already a few GIFT transactions recorded from March, alongside with NECS and NEFT transactions.

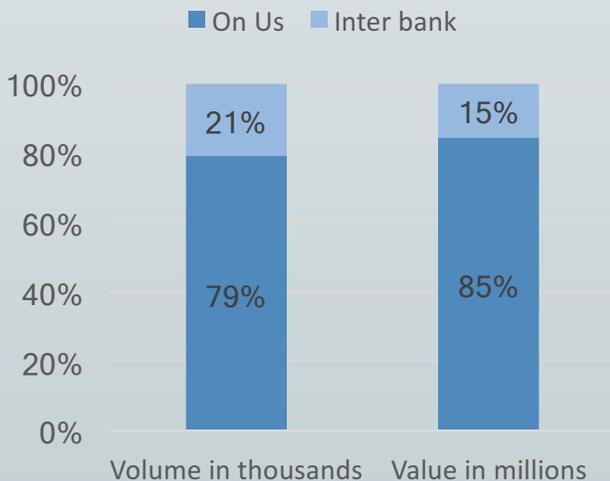
After the NECS and NEFT was formally exited in July (Q3), there was a big drop in the volume of transactions due to the implementation and change of the system. The value however, increased gently from Q2 2019 after having decreased steadily from the second quarter in 2018. This might be because of the ever-increasing value of RTGS transfers which are made by private individuals for fund transfer.

Card Transactions

ATM



BoBL has the highest volume and value for total ATM transactions in 2019 since it owns more than 40 percent of the total ATM terminals (110 terminals) in the country, and also has the maximum (63%) of the total debit cards issued in the year.



Most of the ATM transactions are On-Uss which means they are within their own bank. For both volume and value, On-Uss transactions make up more than 80% of the total.

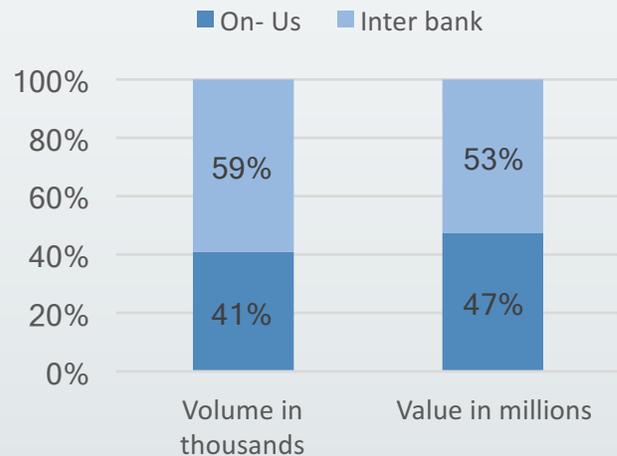
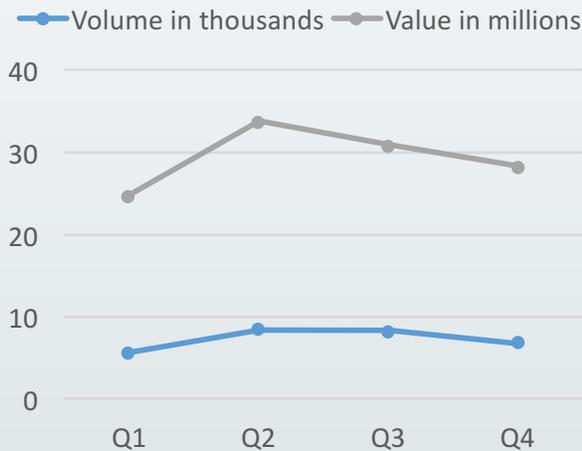
ATM Interbank Volume and Value (value in millions)



Interbank ATM transactions have been decreasing steadily in number since 2017. Meanwhile the value of transactions decreased from 2017 to 2018 but increased slightly from 2018 to 2019. Overall, trend in interbank ATM has remained fairly constant over the years.

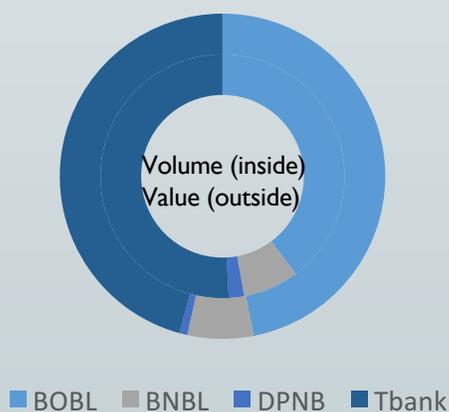
PoS

PoS transactions only constitutes 0.08% of the total number of transactions made in 2019 and a value of 0.04% out of the total value of transactions. It has been gradually decreasing from quarter 1 in 2019 to quarter 4. Collectively, there were 997 PoS terminals deployed all across the country in 2019 by BoBL (700), BNBL (90), BDBL (10), Tbank (126), and DPNB (71).



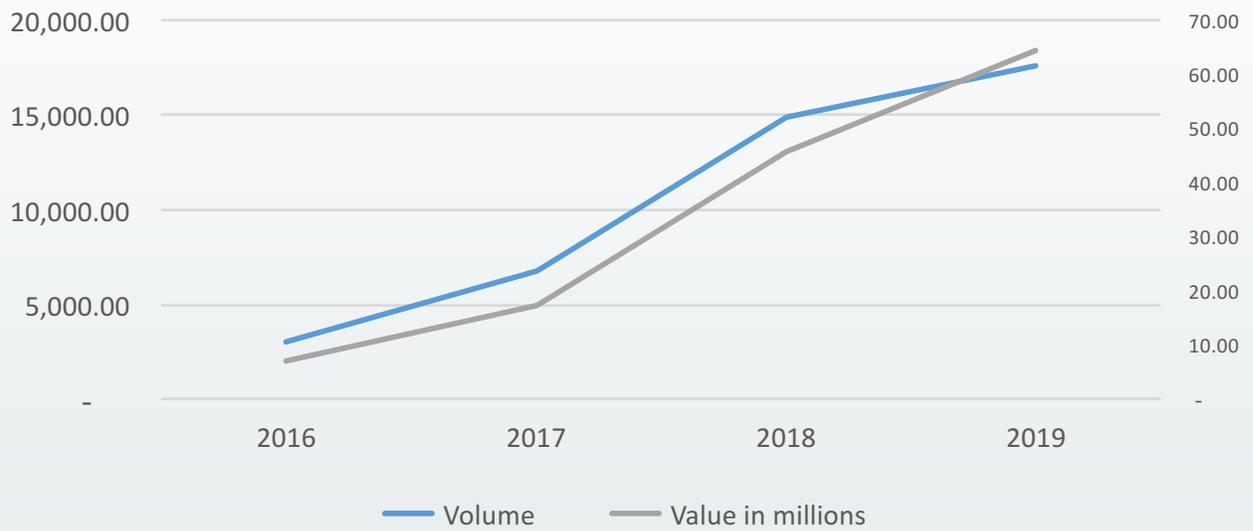
In terms of PoS, interbank transactions have the bigger share both in terms of volume and value with 59% and 53% respectively. This could be due to the different ratios of PoS terminal to no. of users. For example, T-bank has 1 PoS terminal for 70 cards issued whereas, BoB has 1 terminal for 298 cards issued. Besides, there are no interchange fees levied on customers for use of other bank's PoS terminal like on ATM transactions. The interchange fee on PoS transactions is borne by the issuing bank.

Total PoS transactions 2019



T-Bank has the highest volume of total PoS transactions made in 2019. Second is BoBL. In terms of value, BoBL comes first and T-Bank second.

BNBL is third both in terms of volume and value but has significantly lower numbers compared to the first two banks.

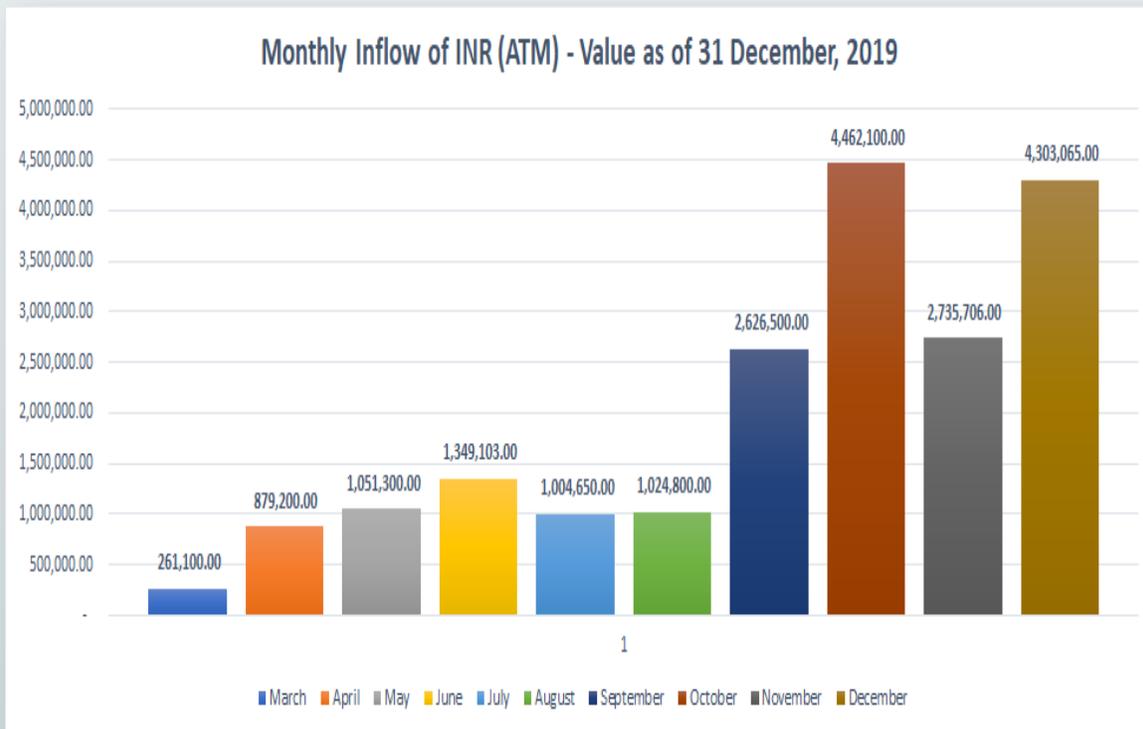


Volume and value of PoS transactions have been on a rise since 2016 till 2019 which is an indication of increasing digitized payments in Bhutan.



On 17th August, 2019 the RuPay card was launched in Bhutan by His Excellency Shri Narendra Modi Prime Minister of India and His Excellency Dr. Lotay Tshering Prime Minister of Bhutan.

Through this initiative by the Prime Minister of India, Indian visitors can use their domestic bank cards to use the ATM and PoS facilities to make payments in Bhutan. In the future, this facility would be available for Bhutanese travelers and students in India too.



*value in millions

ATM- Interbank (Acquiring)

Banks	2019 Annual	
	Total	
	Volume	Value
BOBL	293,204.00	821.81
BNBL	648,597.00	1,448.00
BDBL	326,506.00	731.27
DPNB	252,931.00	770.40
Tbank	191,578.00	546.79
Total	1,712,816.00	4,318.27

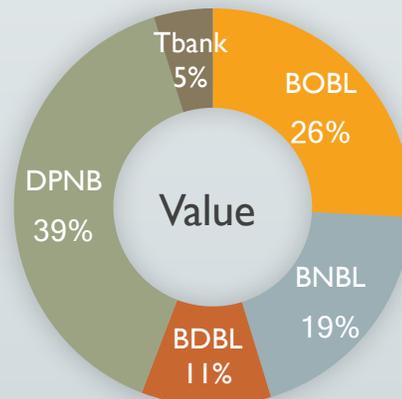
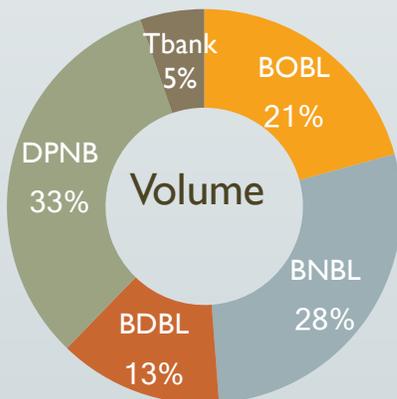


RuPay ATM

Banks	2019 Annual	
	Total	
	Volume	Value
BOBL	1152	5.02
BNBL	1560	3.78
BDBL	747	2.05
DPNB	1806	7.66
Tbank	292	0.93
Total	5,557.00	19.44

0.3%

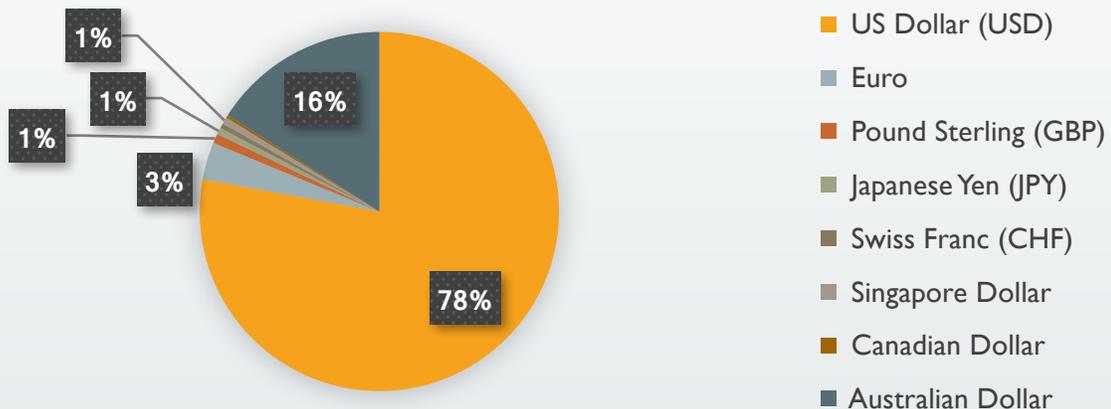
of the total volume of inwards interbank transactions are RuPay ATM transactions, and its value percentage share is 0.45%. Although Indian users of RuPay can use both ATM and PoS machines in Bhutan, the number of PoS transactions are negligible.



So far, our Bhutanese banks only facilitate acquiring of Rupay and as such out of the 5 banks, DPNB has the highest ATM acquiring volume in 2019, followed by BNBL, and then by BoBL. In terms of value, DPNB has the highest share, followed by BoBL and then by BNBL.

SWIFT

Currency-wise -Volume 2019

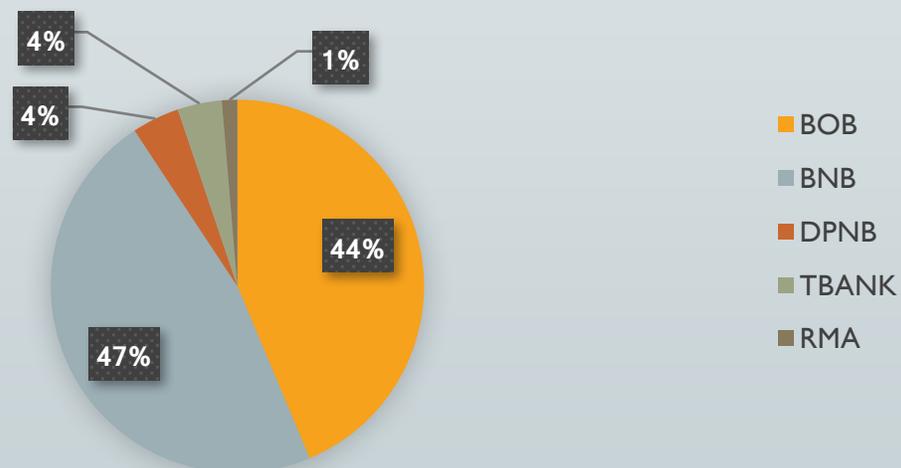


SWIFT is payment system used by all commercial banks and the RMA to make international transactions. US Dollar seems to be the most dominant currency in SWIFT transactions in 2019, followed by Australian Dollars and then by Euros in terms of volume. This includes the number of both inward and outward transactions made by the country.

BNBL has recorded the highest volume of SWIFT transactions this year, second is BoB. These two banks have made significantly high number of SWIFT transactions than the other 2 banks.

RMA makes up only about 1% of the total number of transactions, and the payments are mainly government payments and our own investments, contrary to banks who deal with clients' individual transactions.

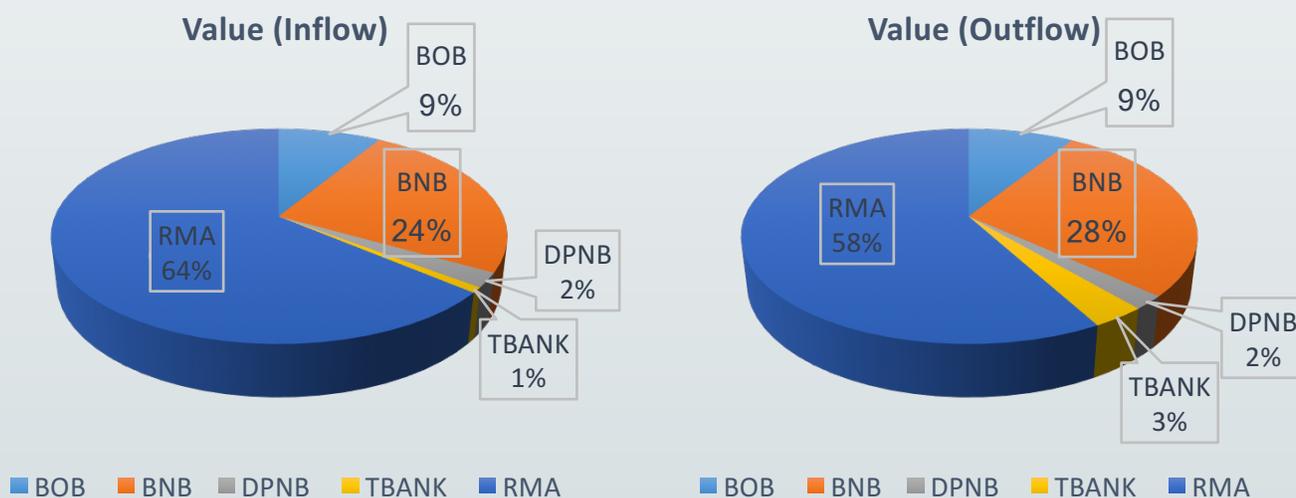
Bank wise- volume 2019



Although RMA has very small volume as compared to the commercial banks, it has the highest inflow and outflow of SWIFT as all governments grants, aids and debt repayment along with its own foreign exchange transactions are done through it. The value of SWIFT transfers made by the central banks makes up more than half of the total SWIFT transactions made in 2019.

Out of the 4 commercial banks that facilitates SWIFT transactions, BNB has the highest value inflow especially for currencies such as US Dollars, Great British Pound and Japanese Yen.

Second is BoB, which has the highest value inflow of Euro, Swiss Francs, Singaporean Dollars, Canadian Dollar, Australian Dollar and Danish Kroner. BoB has inflows from SWIFT in 9 different currencies, whereas competitor banks only have inflows from popular currencies such as the USD, Euro and Yen.



BNB once again, has the highest amount of outflow of foreign currencies, especially USD and Yen. And like for inflow, BoB has the most variation of foreign currencies compared to the other banks.