



Payment System Report 2018

Royal Monetary Authority of Bhutan

Department of Payment and
Settlement Systems (DPSS)



Purpose of the Payment System Report

Pursuant to Section 8 (c) of the RMA Act of Bhutan 2010, one of the objectives of the RMA is *“to promote, supervise and, if necessary, operate national and international payment and settlement system including electronic transfer of funds by financial institutions, other entities and individuals”*.

Since 1997 with the opening of Bhutan’s first cheque clearing house in Thimphu, the RMA as the central bank of Bhutan has taken several initiatives towards introducing and upgrading safe and efficient modes of payment systems in the country.

In 2011, due to continued increase in the volume of cheques, the RMA introduced cost-effective technology-based electronic payment systems (National Electronic Clearing System and National Electronic Fund Transfer system) to minimize the inconveniences and delays associated with cash and cheques and to provide users easy and efficient means to settle bulk fund transfer from one account to many accounts or vice-versa. Further towards the end of 2011 itself, the RMA formally launched a centrally hosted financial switch that would enable the interoperability of ATM and PoS transactions among the commercial banks in Bhutan. In the absence of a common financial switch in the past, ATMs of banks were operated on a stand-alone basis and customers could withdraw cash only from ATMs belonging to the card-issuing bank.

In 2017, the RMA launched Bhutan Immediate Payment Service to facilitate real time interbank P2P fund transfer through three delivery channels like the banks Mobile App, Internet Banking and ATMs and issued E-money Issuers Rules and Regulations 2017.

Further, as mandated by Section 9 c) of the RMA Act 2010, the RMA issued Payment and Settlement System Rules and Regulations 2018 and other operational guidelines covering all the payment system introduced thus far and alongside licensed e-money institutions to operate e-money and payment gateway in Bhutan.

This report, the Payment System Report (PSR) is also part of an initiative undertaken by the RMA to present a comprehensive review of trends in the payment system (as per Payment and Settlement Systems Rules and Regulations 2018, payment system shall mean *a system that enables payments to be effected between a payer and a beneficiary, involving a clearing, payment or settlement service, on a gross settlement- real time transfer or a net deferred settlement basis*) and covers data for the past three years (2015 to 2018). The PSR henceforth is intended to serve as a regular report analyzing the payment landscape in Bhutan and the exponential growth of electronic payments and its impact on the growing economy. Additionally, the report shall include the new payment system initiatives introduced by the RMA during the year, its future plan and subsequently

serve as a basis to make any future decisions pertaining to diverse implementations of payment systems by the RMA.

Payment System Overview:

As per the definition of payment system in the Payment and Settlement Systems Rules and Regulations 2018, current payment system in Bhutan shall include cheques, National Electronic Clearing System (NECS), National Electronic Fund Transfer System (NEFT), BFS (ATM, POS, Payment Gateway), and BIPS. These payments can be broadly categories based on their mode of instruments used viz. paper based, electronic, and other instruments as follows:

1. Paper-based instruments

- Cheque Truncation System (CTS)

2. Electronic instruments

- National Electronic Clearing System (NECS)
- National Electronic Fund Transfer System (NEFT)

3. Other instruments:

- Mobile Banking System
- ATMs and Point of Sale (POS) terminals/Online transactions
- Prepaid Payment Systems/E-money
- SWIFT

Table 1

System	RMA's role	Interoperability	System availability	Wide usage for business and consumer	Charges and fees	Transfer/ withdrawal limits in Nu.	Receiptant access to funds	Settlement between banks
CTS	Operator & Settlement agency	Yes	Working hours	Both	No	No limits	T+1 normal business hours, T+2 on holidays	DNS
NECS	Operator & Settlement agency	Yes	Working hours	Both	No	No Limits	T+1	DNS
NEFT	Operator & Settlement agency	Yes	Working hours	Both	Yes	No Limits	Hourly	DNS
SWIFT	Operator & Settlement agency	No	Working hours	Business	Yes	No Limits	T+1	DNS
BFS ATM	Operator & Settlement agency	Yes	24*7	Consumer	Yes	40,000 daily and 15,000 per instance	Real Time	DNS
BFS PoS	Operator & settlement agency	Yes	24*7	Both	No	No limits	Real Time	DNS
BFS BIPS	Operator & Settlement agency	Yes	24*7	Both	No	100,000	Real Time	DNS
BFS PG	Operator & Settlement agency	Yes	24*7	Both	No	100,000	Real Time	DNS

The table above describes in detail the functionality of the featured payment system in Bhutan including its usage, settlement mode and time and charges if any. As depicted, most of systems are bank led model and therefore are interoperable with settlements carried out on deferred net settlement basis at the RMA.

Executive summary

The overall payment and settlement systems recorded steady growth both in terms of volume and value from 2015 to 2018. Similar growth was seen in all mode of instruments viz. paper-based instruments, electronic instruments, and other payment instruments such as ATM, POS, and BIPS with increasing number of banks offering mobile banking services and development of various options to customers to originate transactions.

Table 2

Total volume and value of payment system transactions								
System	Volume (No of transactions)				Value in Millions Ngultrums (Nu)			
	2015	2016	2017	2018	2015	2016	2017	2018
I. Paper Based Instruments								
CTS	136,603.00	134,632.00	149,996.00	168,134.00	62,234.16	68,938.83	46,210.65	64,911.32
II. Electronic Instruments								
NECS	45,655.00	71,746.00	137,454.00	136,193.00	726.32	819.06	1,202.77	1,378.67
NEFT	15,210.00	13,293.00	12,483.00	15,760.00	1,656.54	21,921.95	35,667.36	38,356.74
III. Other Payment Instruments								
BFS ATM	1,340,782.00	1,551,446.00	1,765,774.00	1,702,755.00	3,250.14	3,855.36	4,704.38	4,357.62
BFS PoS	3,268.00	3,006.00	6,787.00	14,913.00	8.15	6.99	17.45	45.89
BFS BIPS	-	-	158,115.00	644,389.00	-	-	153.12	5,020.65
% Share by Volume and Value								
I. Paper Based Instruments								
	9%	7%	6%	6%	92%	72%	53%	57%
CTS	9%	7%	6%	6%	89%	58%	37%	42%
II. Electronic Instruments								
	4%	5%	7%	6%	4%	24%	42%	35%
NECS	3%	4%	6%	5%	1%	1%	1%	1%
NEFT	1%	1%	1%	1%	2%	23%	41%	34%
III. Other Payment Instruments								
	87%	88%	87%	88%	5%	4%	6%	8%
BFS ATM	87%	87%	79%	63%	5%	4%	5%	4%
BFS PoS	0%	0%	0%	1%	0%	0%	0%	0%
BFS BIPS	0%	0%	7%	24%	0%	0%	0%	4%

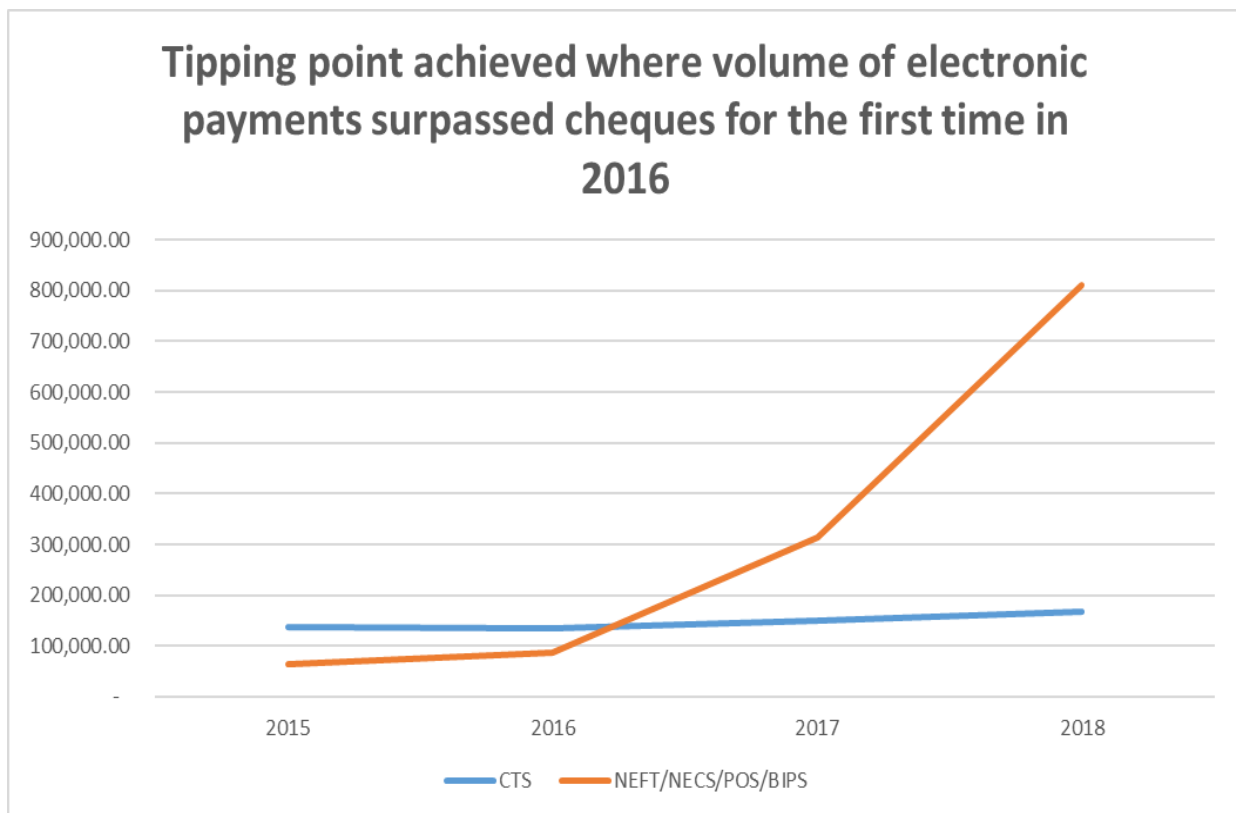
As clearly shown in the table above, in terms of percentage share in the total payment system, in volume terms Other payment instruments recorded the highest volume of transactions (88 percent) effected with paper-based instruments and electronic instruments only at 6 percent each. Other payment instruments include ATM, PoS and BIPS and as shown in the table, the share of ATM is the highest (63 percent) followed by BIPS (24 percent). The trend depicts that the share of ATM is declining while the share of BIPS is increasing on an upward trend (7 percent (2017) to 24 percent (2018) over the period. This upward trend in the volume of BIPS means increasing number of users are

availing the mobile apps to make retail payments upto 100,000 per bank per day instead of cash.

However, in terms of value, paper-based instruments such as cheques still dominate the payment system in 2018 (57 percent) followed by electronic instruments and other payment instruments respectively. This may be due to the imposition of transaction limits and transfer fees on electronic instruments and other payment instruments, while for cheque such limits are not imposed. Further, it may be that cheques and electronic systems are used by users to make large value fund transfer, while for retail payment, preference is increasing for mobile based systems. The overall trend indicate that electronic instruments are gaining more popularity with the contentious effort of the RMA to digitalize the payment system in Bhutan since 1997.

In fact, the comparative analysis conducted on the volume of transactions effected through cheque versus NEFT, NECS, POS, and BIPS from 2015 to 2018 reveal that for the first time a tipping point was achieved in 2016 meaning thereby for the first-time in Bhutan, volume of electronic and online payment instruments surpassed paper-based instruments in reflecting positive growth and acceptance of alternate mode of payment in the country to paper-based instruments.

Table 3



However, current experience and evidence indicate that the penetration and success of modern electronic payment products and services is concentrated to a large extent in Thimphu, Paro and Chukha and mostly to those citizens who already have access to the formal banking channels.

Therefore, the benefits of modern electronic and online payment systems are yet to reach all sections of the society and be accepted across the length and breadth of the country as cash still dominates the payment system (63 percent in volume terms as of 2018) and the value of banknotes and coins in circulation as a percentage of GDP (6.84%) has remained within this range over the last three years as depicted below.

Table 4

Items	Amount in	Amount in	Amount in millions
	millions of Nu.	millions of Nu.	of Nu.
	2015	2016	2017
Notes and Coins in Circulation (A)	9,406.52	10,440.45	11,264.98
Nominal GDP (B)	132,080.85	148,678.93	164,627.92
Ratio (%) of A: B	7.12%	7.02%	6.84%

PAPER-BASED INSTRUMENTS:

1. Cheque Clearing- Cheque Truncation System:

The RMA with the desire to improve and ensure seamless payment & settlement systems in the country, opened Bhutan's first cheque clearing house in the year 1997 at Thimphu to facilitate interbank cheques settlement between Bank of Bhutan limited and Bhutan National Bank limited using a semi-manual settlement system i.e. DOS-based FoxPro computer program. With the growth in number of cheques presentment over the years, another clearing house was opened at Phuentsholing in the year 2000 and provided services to two commercial banks in Phuentsholing to process local currency personal

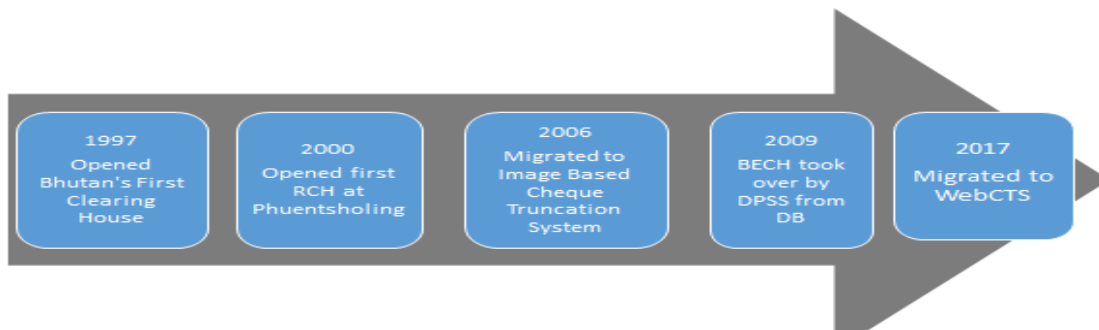


Figure 1

checks, banker's checks, drafts, cash warrants, and foreign currency checks payable in local currency drawn on one of the two banks.

However, this system was still not able to accommodate the expanding volume of transactions, therefore, in the year **2006**, the RMA initiated implementation of **Bhutan Electronic Clearing House (BECH)** at the cost of Nu. 17 Million at five regional locations at Thimphu, Phuentsholing, Gelephu, Mongar and Samdrup Jongkhar. The newly established BECH used MICR technology to verify the legitimacy or originality of paper documents.

In an effort to further enhance the settlement process, the RMA streamlined the operation of CTS by implementing **WebCTS** system on **August 15, 2017**. With this system, scanning of interbank cheques was delegated to commercial banks and images were sent to Bank Service Centre where cheques are consolidated and forwarded to RMA BECH for the processing the settlement making the clearing cycle T+1 from previously T+2. The RMA also then lifted all the Regional Clearing House after the implementation of WebCTS system.

Cheque Truncation System consists of two process i.e. Regular Presentment and Return Presentment.

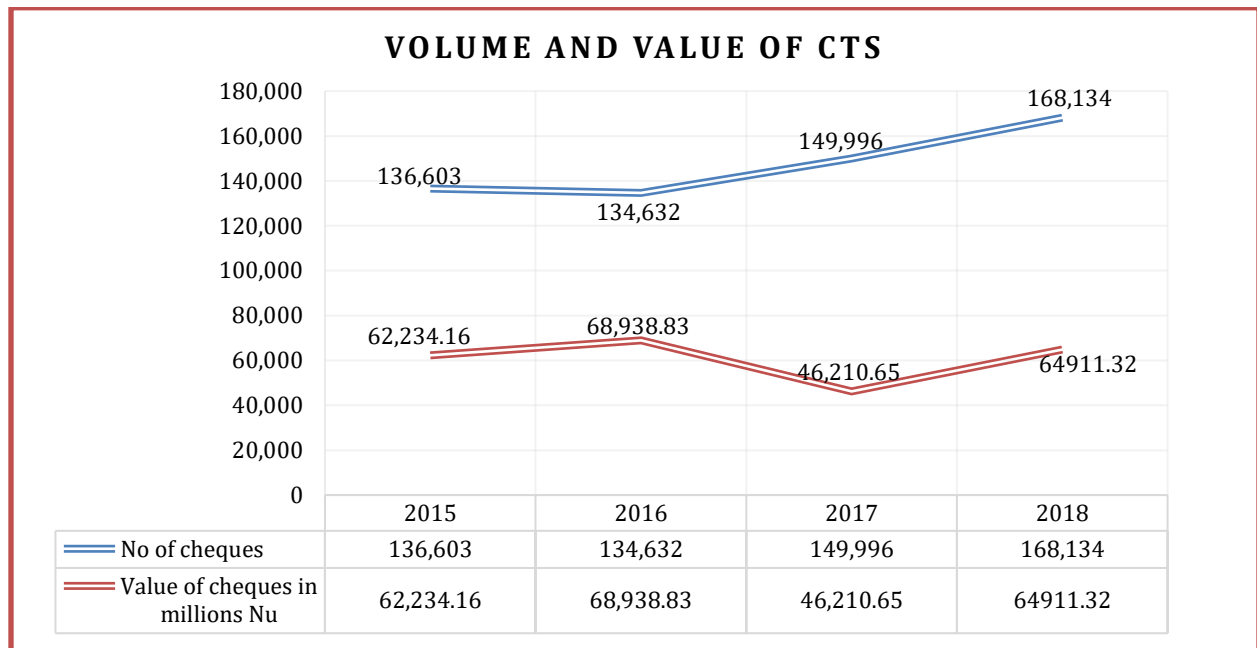


Figure 2

As of 2018, the total volume and value of cheques cleared at the RMA accounted for 168,134 cheques amounting to Nu. 64,911.32 million. The increase from 2017 has been striking with 41 percent increase in value terms and 12 percent in volume terms owing to the implementation of WebCTS by the RMA in 2017 wherein the settlement time of

cheques were reduced to T+1. However, despite the increase in the absolute volume and value of cheques from 2015 to 2018, the overall share of cheque in the total payment system has been steadily declining more significantly in terms of value with the implementation of electronic and online payments by the RMA and the banks.

ELECTRONIC INSTRUMENTS:

The RMA with the mandate to develop electronic payment systems in the country initiated the implementation of Electronic Fund Transfer and Clearing System (EFTCS) Project with TA from RBI to introduce and strengthen the interbank electronic payment systems in Bhutan aimed at providing better financial services to the public.

With the introduction of EFTCS, the inconveniences and delays associated with cash, paper-based clearing, and other fund transfers such as cheques and drafts were minimized, as the EFTCS provided users easy and efficient means to settle bulk fund transfers from one account to many accounts or vice-versa. EFTCS consists of three diverse payment systems under its ecosystem and the systems are normally used for bulk funds transfer.

1. National Electronic Clearing System Credit (NECS Credit):

National Electronic Clearing System (NECS Credit) has been operational since 2010 and under this system, the accounts of individuals maintained with commercial banks are credited with amounts payable to them on the settlement date determined by the organization for payments on account of dividends, salaries, pensions etc. To avail the facility of NECS Credit, Organizations needs to register themselves with the RMA.

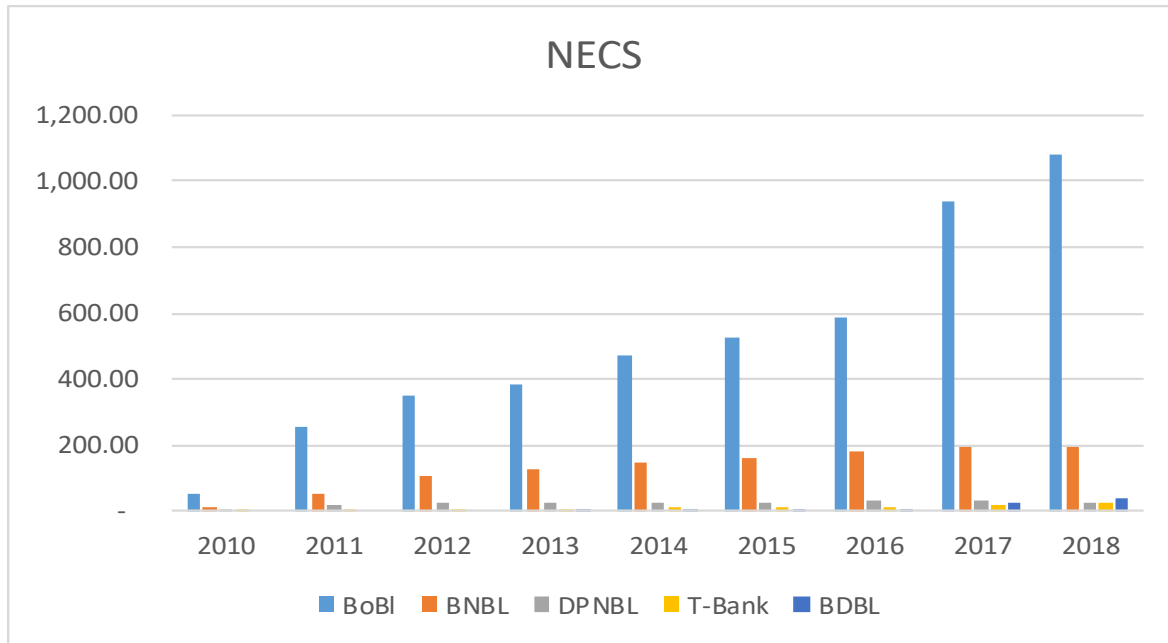


Figure 3

With 41 participating institutions in the system, BOBL has been the major recipient of the NECS fund transfer since 2011 and the value of fund transfer has been increasing for all the banks with BNBL following although the number of participating institution has remained at 41 since its inception.

NECS is mainly credit transfer of loan, salary, dividend and other associated payments to bank accounts. As of 2018 the RMA processed 136,193 NECS transactions worth Nu 1,378.67 million from 41 user institutions mostly government agencies, financial institutions, and select corporations to individual bank accounts. This payment arrangement is observed to have made individual institution to make multiple credit from single account easy and efficient while saving the hassle of issuing credit notice to the bank at every instance. NECS since its inception until date has definitely helped reduce the usage of paper based instrument such as cheques. Therefore, it is imperative that the RMA include more institutions specifically big government owned corporations with country wide network and NGO's and private companies.

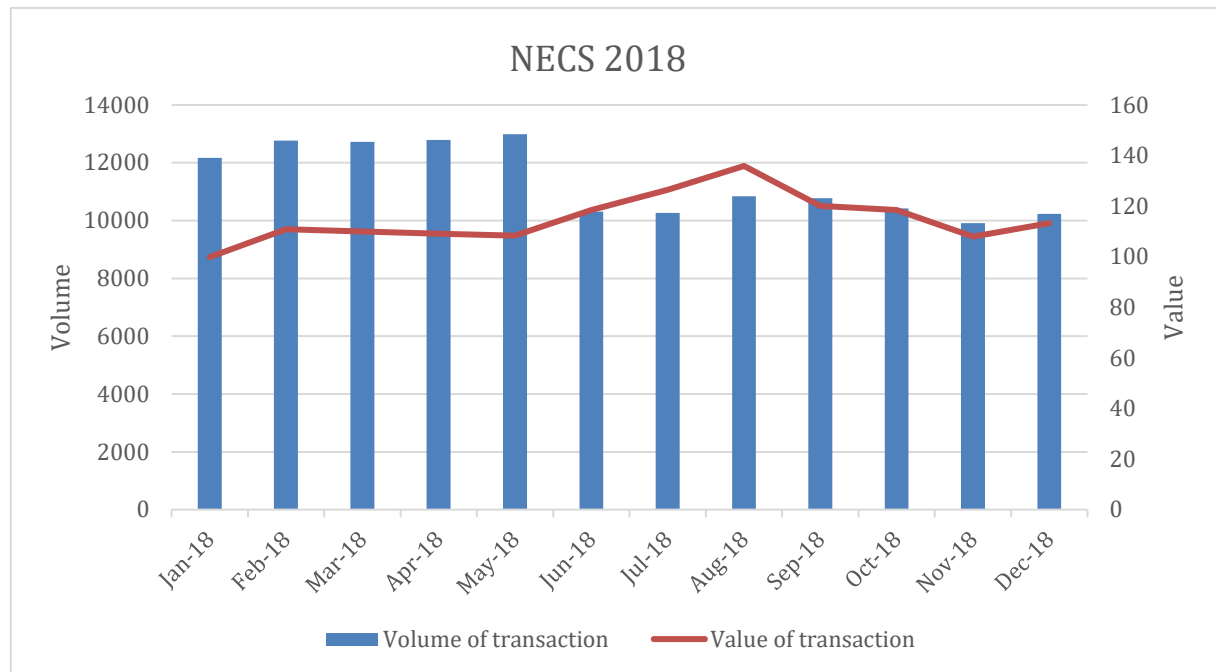


Figure 4

2. NECS Debit:

Under the Electronic Fund Transfer for debit transactions, the account of an institution maintained at the bank shall be credited by debiting funds from the accounts of numerous customers.

Types of transactions covered under the NECS (Debit) include payments of school fees, utility bills, loan repayments, insurance premiums etc. A few numbers of customers availed this service for payment of school fees after its implementation, however due to decline in users this system had to be discontinued.

3. National Electronic Funds Transfer (NEFT) System

NEFT was implemented from December 2, 2011 and the system is available only in Thimphu with the facility to transfer funds to any other bank branch in Bhutan. This retail fund transfer system enabled an account holder of a bank to electronically transfer funds to another account holder with any other participating bank. The RMA provides for batch settlements at hourly intervals including weekends, thus enabling near real-time transfer of funds without any minimum or maximum amount limitations.

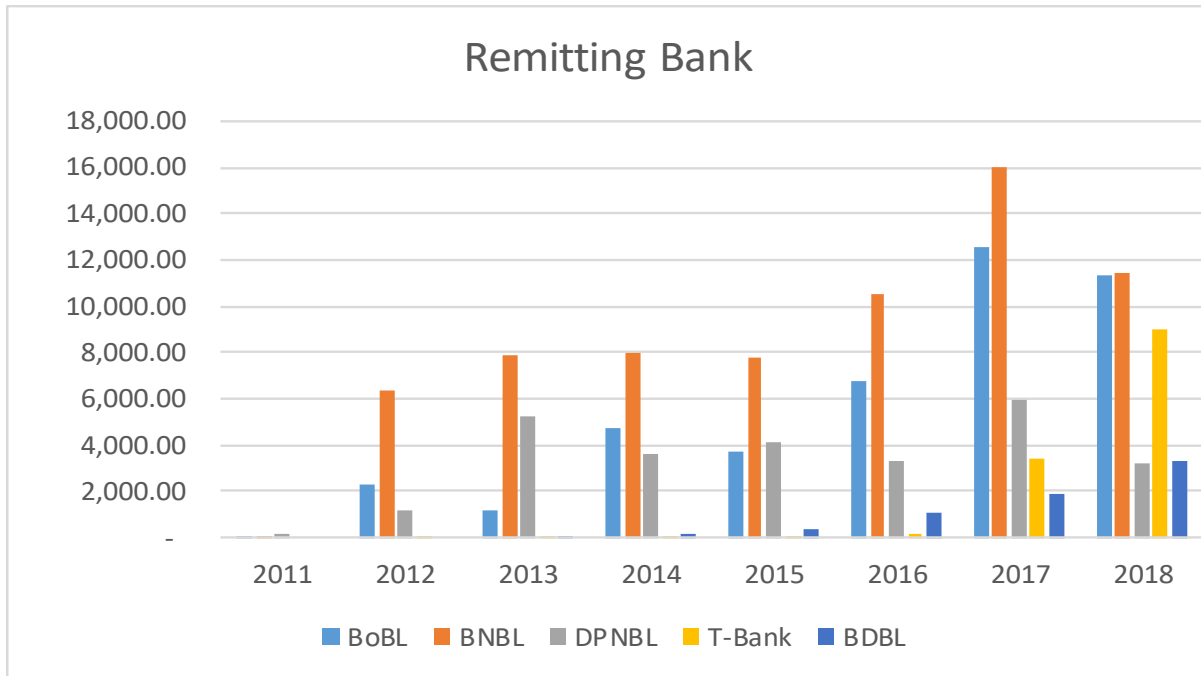


Figure 5

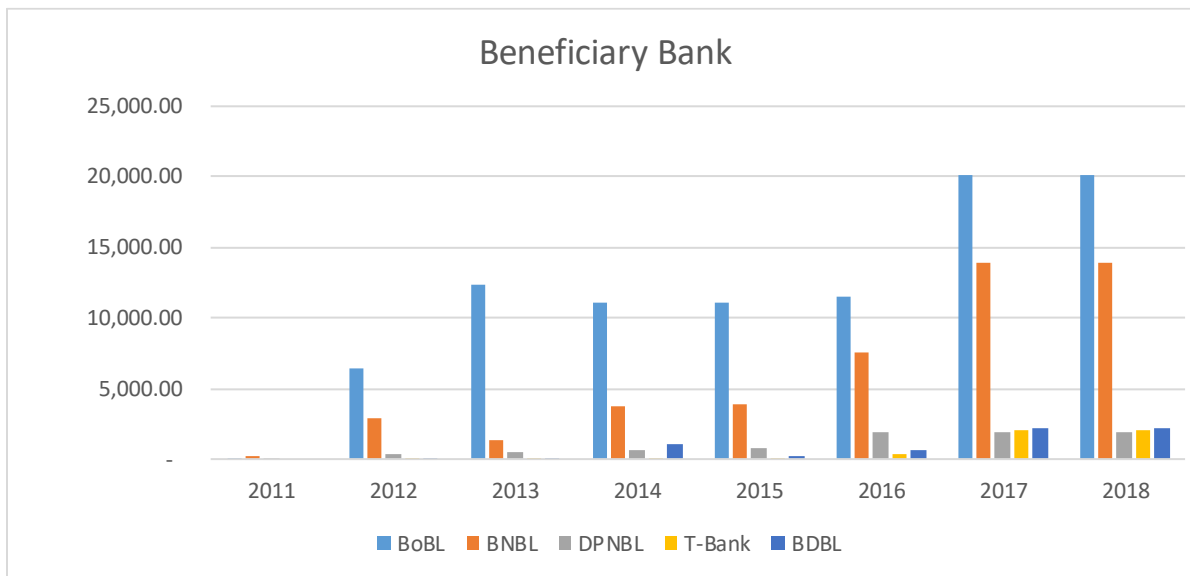


Figure 6

The system has been gaining popularity over the years especially in terms of transfer of large value fund from one bank to another participating bank. From the year 2011 until 2017, as illustrated by the charts above, most of the interbank transfer through NEFT has occurred between BNBL and BOBL with T bank joining in from 2018 onwards. The total

value of interbank settlement on account of NEFT remitted in 2018 amounted to Nu. 38,356.46 million which was an increase of 8 percent from 2017 and BNBL has consistently been the highest remitter meaning thereby the account holders of BNBL has transferred fund out to one of the other commercial banks, evidently majority to BOBL.

In terms of beneficiary, although BOBL has remained the highest recipient of fund from other banks, the share of BNBL and other commercial banks are also increasing.

OTHER PAYMENT INSTRUMENTS:

1. ATM and PoS:

In the past, ATM/PoS of banks were operated on a stand-alone basis and customers could withdraw cash only from ATMs belonging to the card-issuing bank. However, with the Bhutan Financial Switch (BFS) a centrally hosted financial switch formally launched in December 2, 2011 by the RMA, interoperability of ATM and PoS transactions among the commercial banks in Bhutan were enabled through the provision of interchange network that allows settlement of financial transactions where the card issuer is different from the transaction acquirer.

Presently, there are over 246 ATM and 779 POS terminals deployed all across 20 dzongkhags of Bhutan. Out of the total ATMS, more than 41 percent (101) are BOBL terminals and remaining 59 percent by BNBL (56), T Bank (20), DPNBL (22), and BDBL (47) altogether. Similarly, for POS, out of the total 779 POS terminals, 84 percent (656) is owned by the BOBL.

Table 5

Dzongkhag wise deployment of ATM and PoS - as of December 2018												Annexure VI			
Sl.No	Location	Bank										Total ATM	Total PoS	% Coverage (ATM)	% Coverage (PoS)
		BoBL		BNBL		T-Bank		DPNBL		BDBL					
		ATM	PoS	ATM	PoS	ATM	PoS	ATM	PoS	ATM	PoS				
1	Bumthang	2	33	2	0	0	1	0	0	1	0	5	34	2.03%	4.65%
2	Chukha	13	59	3	1	3	11	3	0	5	0	27	71	10.98%	9.59%
3	Dagana	2	0	1	0	0	1	0	0	3	0	6	1	2.44%	0.14%
4	Gasa	0	0	0	0	0	1	0	0	0	0	0	1	0.00%	0.14%
5	Haa	2	3	1	0	0	1	0	0	1	0	4	4	1.63%	0.56%
6	Lhuntse	2	0	1	0	0	1	0	0	1	0	4	1	1.63%	0.14%
7	Mongar	3	8	3	0	1	2	0	0	2	0	9	10	3.66%	1.27%
8	Paro	7	155	2	18	1	4	2	0	2	0	14	177	5.69%	22.43%
9	Pemagatshel	2	3	1	0	0	1	0	0	2	0	5	4	2.03%	0.71%
10	Punakha	1	25	1	3	0	1	0	0	2	0	4	29	1.63%	3.24%
11	Samdrupjongkhar	4	8	2	0	1	2	0	0	3	0	10	10	4.07%	1.41%
12	Samtse	4	2	3	2	1	1	1	0	5	0	14	5	5.69%	0.42%
13	Sarpang	4	8	1	0	1	3	1	0	2	0	9	11	3.66%	1.27%
14	Thimphu	37	315	24	35	9	22	10	0	7	0	87	372	35.37%	47.25%
15	Tashigang	6	15	3	0	1	2	0	0	4	0	14	17	5.69%	2.12%
16	Tashiyangtse	1	5	1	0	0	1	0	0	1	0	3	6	1.22%	0.99%
17	Trongsa	4	6	1	0	1	1	1	0	1	0	8	6	3.25%	0.99%
18	Tsirang	1	4	1	1	0	1	0	0	1	0	3	6	1.22%	0.85%
19	Wangdiphodrang	4	7	3	0	1	4	4	0	2	0	14	11	5.69%	1.69%
20	Zhemgang	2	0	2	1	0	1	0	0	2	0	6	2	2.44%	0.14%
Total		101	656	56	61	20	62	22	0	47	0	246	779	100%	100%

Further, as per dzongkhag wise deployment statistics depicted by the chart below, deployment of ATM and POS are hugely concentrated in Thimphu, Chukha and Paro with more than 45 percent POS and 35 percent of ATM instituted only in Thimphu.

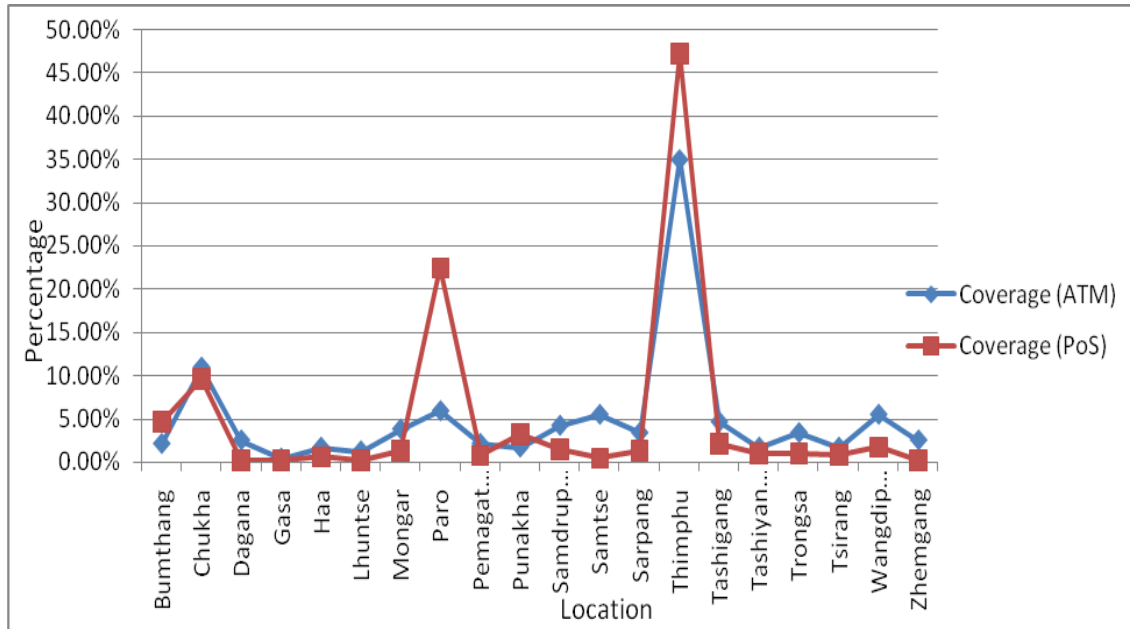


Figure 7

However, despite the increasing effort of the banks to increase the distribution of stand-alone ATM terminals across the country and its wide coverage, ATM transactions authorized through the BFS still dominates the payment system (63 percent in volume terms) in 2018. In other words, the volume of ATM services availed by card holder of Bank X in Bank Z is growing despite the availability of stand-alone ATM terminals of Bank X across the country. This could be due to poor location strategy or increasing number of ATM users or poor ATM infrastructure of the bank.

As such, the bank wise BFS data from 2015 to 2018 shows BOBL has availed the highest number of ATM transactions (68 percent out of total BFS issuer transactions) from other banks ATM terminal in terms of volume followed by BNBL (16 percent) and DPNB (10 percent).

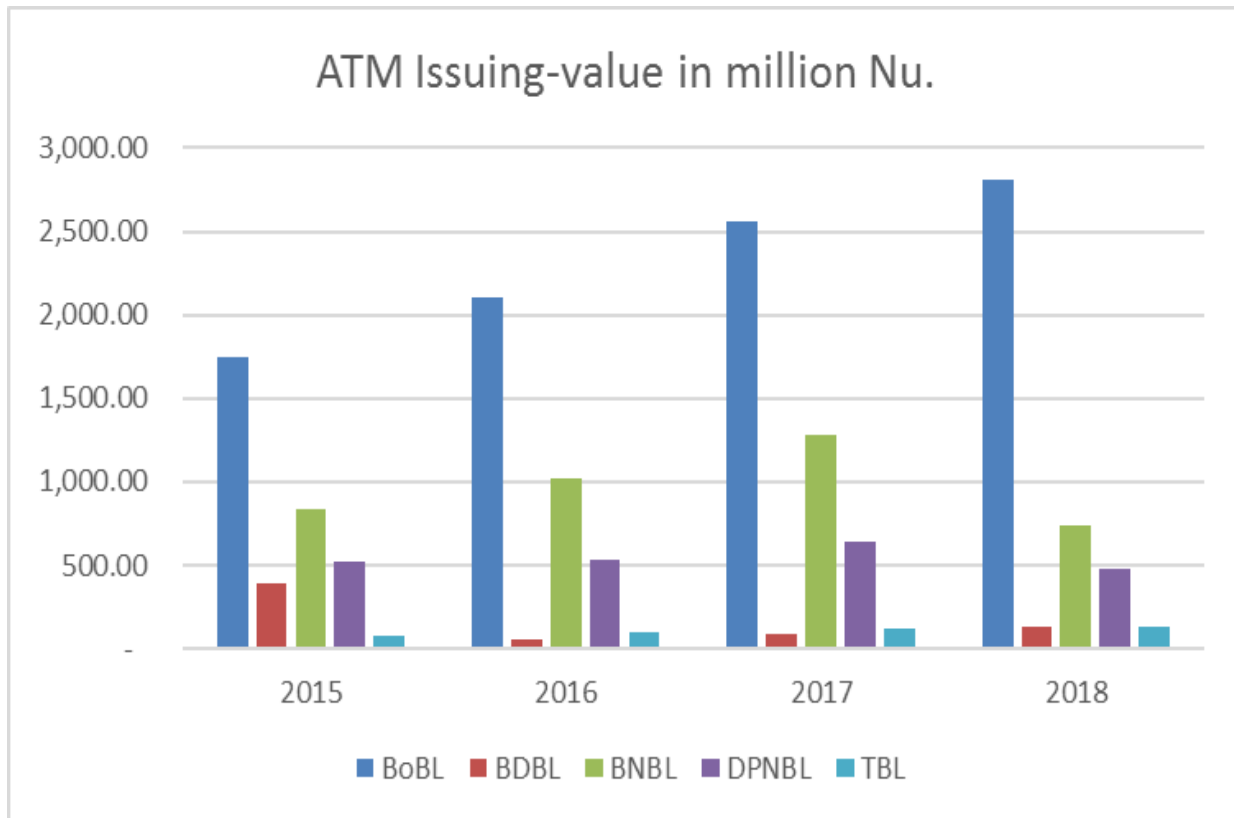


Figure 8

Any bank customers in Bhutan using ATMs can withdraw cash from any bank terminal up to Nu. 30,000 to 40,000 in a day without being charged if withdrawn from the issuing bank terminal. However, certain fees are levied if the card holder uses ATM terminal of other bank.

Accordingly, from 2015 till 2018, BOBL card holders have paid the highest amount of interchange fees amounting to Nu. 43.76 million followed by BNBL card holders amounting to Nu. 15.28 million. On the other hand, in terms of receipt of acquirer transaction fees for acquiring other banks ATM transactions, BNBL has received the highest amount (Nu. 21.99 million) followed by DPNBL (Nu. 16.27 million) despite having lesser number of ATM terminals compared to BOBL (BOBL-41 percent, DPNBL and BNBL-32 percent out of the total ATM terminals).

Table 6 : BFS interchange fees (Nu. in millions)

Item	BOBL	BDBL	BNBL	DPNB	T Bank
Issuer Transaction Fees (Payment)	43.76	1.50	15.28	8.68	1.99
Acquirer transaction fees (Receipt)	19.13	7.45	21.99	16.27	6.37
Net Payment(receipt) of interchange fee	24.63	(5.95)	(6.71)	(7.60)	(4.38)

This can be further explained with the value of ATM acquiring transaction of the banks shown below. The chart shows an increasing value and volume of acquirer transactions of BNBL and DPNB against declining value of BOBL from 2017 to 2018, thus the receipt of higher amount of interchange fees. BNBL has consistently been the highest acquirer of ATM transactions through the BFS with BDBL and T Bank increasing their share over the period.

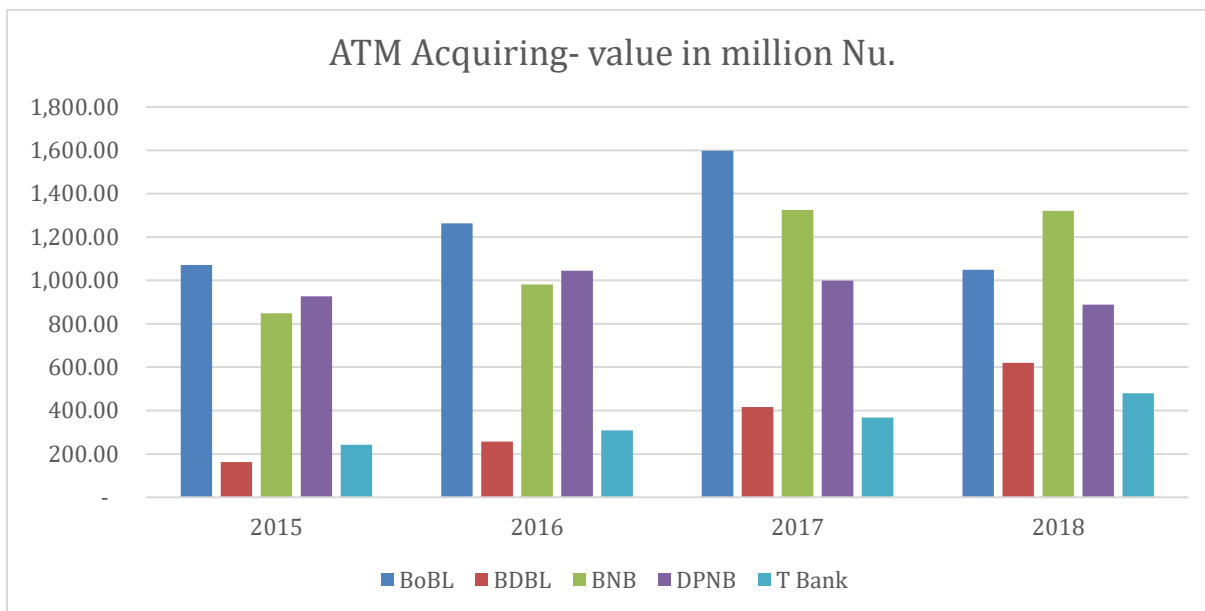


Figure 9

In terms of issuance of ATM cards, as shown in the diagram below, as of 2018 BOBL (56 percent) and BDBL (3 percent) is the highest and the lowest issuer of debit cards respectively. Based on the figures available on the total debit card issued and ATM terminals (246) as of 2018, the ratio of total cards to ATM terminal indicate that in general, 1 ATM terminal is serving 1472 cards on an average. If we calculate bank wise, BOBL's (1933) and DPNB's (3122) ratio are exceeding, while BNBLs (1152), T Banks (528), and BDBLs (362) are way below the average ratio (1472).

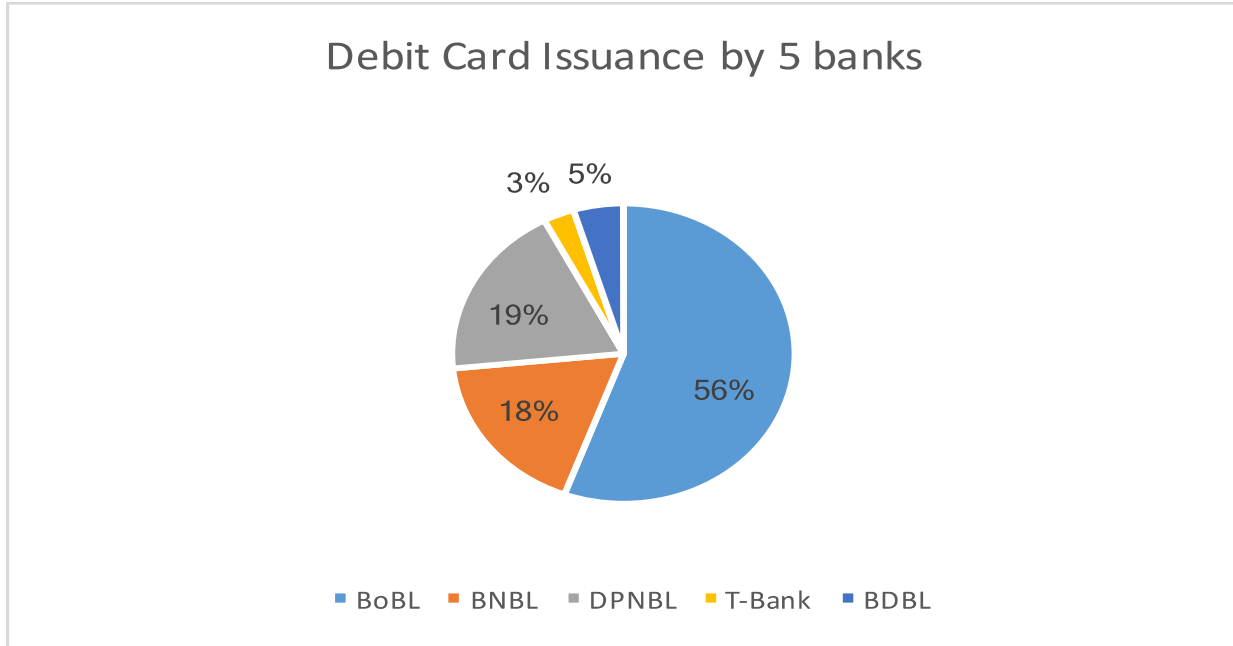


Figure 10

Simultaneously, the BFS-PoS handled 14,979 transactions valued at 45.89 Million in 2018, up from 6,789 transactions valued at 17.54 Million in the previous year. By the start of June 2017, the BFS-PoS facility was introduced at various fuel stations mainly to promote its usage and to minimize the conventional cash-based transactions.

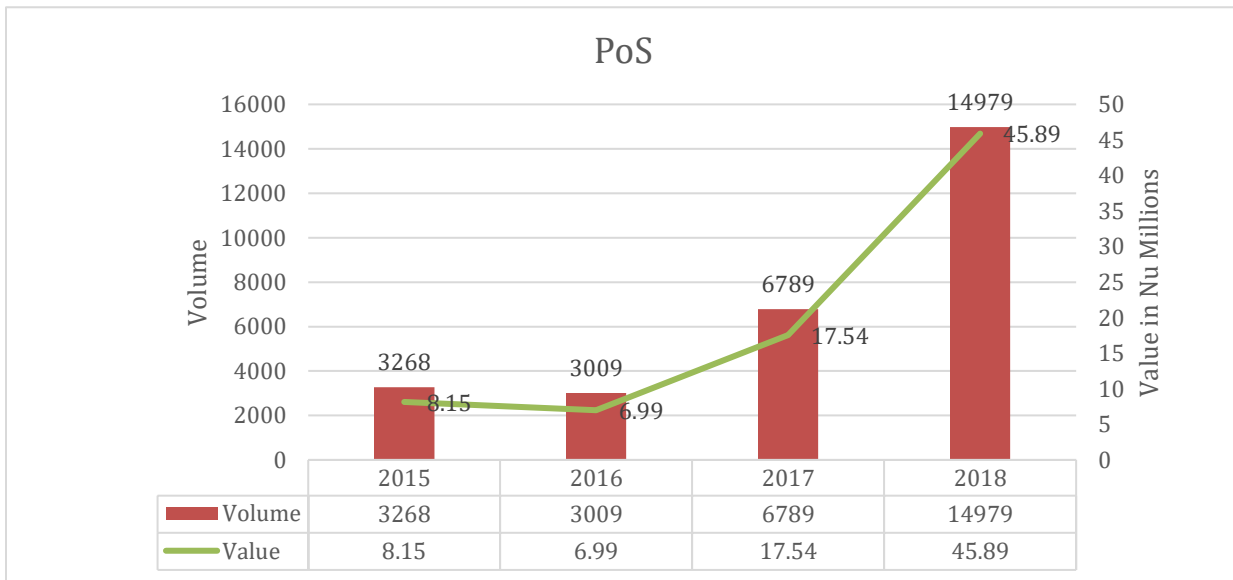


Figure 11

PoS Integration provide a valuable facility for visiting foreigners, promoting cashless transactions will enhance convenience and safety for customers and merchant businesses; support expansion of business clientele; help monitor the flow of transactions

within the economy, improve transparency in business financial disclosure, as well as reduce costs associated with the printing of currency.

Despite the effort of RMA to keep the 24X7 uptime of the BFS network, there is still decline of transaction triggered by technical issue such as network and switch error and business declined due to customer's action of inserting invalid PIN and invalid account number. In the year 2018, the total declined of the transaction for ATM, POS and BIPS were 20.12, 11.37 and 8.86 percent respectively as shown in the table below.

Table 7

Month	ATM				POS				BIPS			
	No. of failed transactions	No. of Successful transactions	Total transactions	Failed transactions (%)	No. of failed transactions	No. of Successful transactions	Total transactions	Failed transactions (%)	No. of failed Transactions	No. of Successful transactions	Total transactions	Failed transactions (%)
Jan-18	52,624	122,382	175,006	30.07%	157	524	681	23.05%	2,304	24,255	26,559	8.68%
Feb-18	39,553	130,907	170,460	23.20%	124	739	863	14.37%	1,867	27,393	29,260	6.38%
Mar-18	59,816	145,491	205,307	29.13%	142	1,045	1,187	11.96%	2,482	34,423	36,905	6.73%
Apr-18	42,495	142,886	185,381	22.92%	188	1,622	1,810	10.39%	3,437	39,535	42,972	8.00%
May-18	42,283	149,288	191,571	22.07%	157	1,501	1,658	9.47%	4,317	47,396	51,713	8.35%
Jun-18	61,714	137,338	199,052	31.00%	265	1,585	1,850	14.32%	4,652	49,906	54,558	8.53%
Jul-18	58,492	129,029	187,521	31.19%	144	1,422	1,566	9.20%	6,249	43,315	49,564	12.61%
Aug-18	54,289	148,453	202,742	26.78%	145	1,983	2,128	6.81%	5,966	51,754	57,720	10.34%
Sep-18	41,864	143,462	185,326	22.59%	282	797	1,079	26.14%	6,112	57,988	64,100	9.54%
Oct-18	42,036	150,776	192,812	21.80%	136	1,294	1,430	9.51%	5,684	57,111	62,795	9.05%
Nov-18	36,201	149,180	185,381	19.53%	102	1,303	1,405	7.26%	7,214	62,585	69,799	10.34%
Dec-18	40,305	720,900	761,205	5.29%	105	1,365	1,470	7.14%	4,518	67,749	72,267	6.25%
Total	571,672	2,270,092	2,841,764	20.12%	1,947	15,180	17,127	11.37%	54,802	563,410	618,212	8.86%

2. Bhutan Immediate Payment Service (BIPS):

Bhutan Immediate Payment Service was launched in January 28, 2017 to facilitate real time interbank P2P fund transfer through three delivery channels like the banks Mobile App, Internet Banking and ATMs.

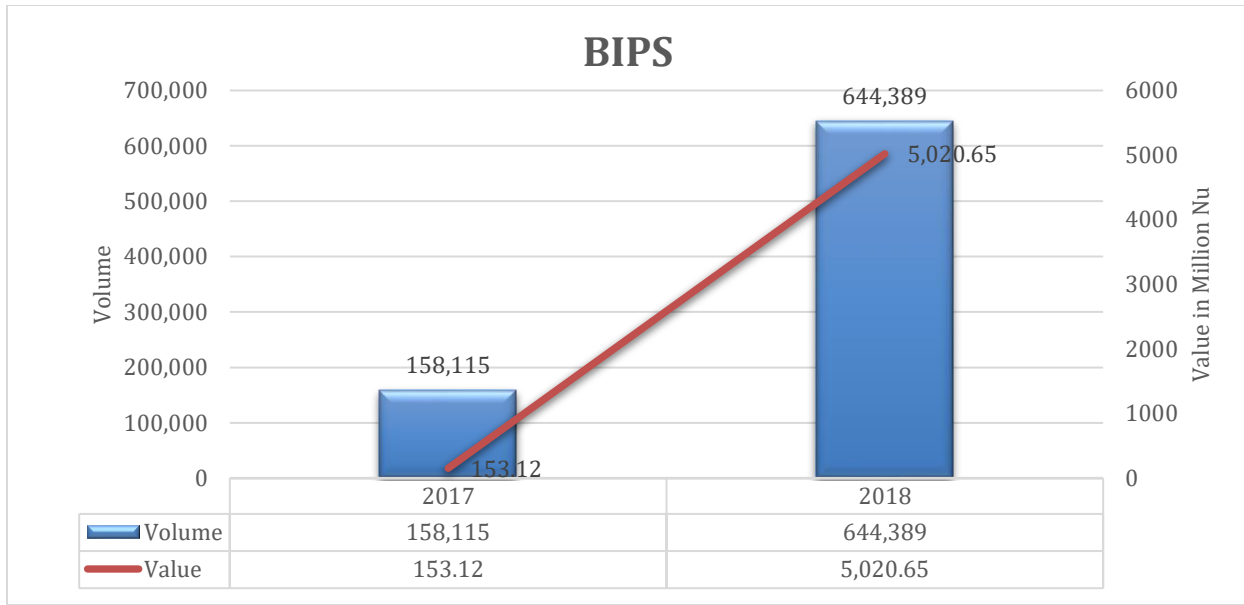


Figure 12

Therefore, due to availability of different delivery channels for fund transfers, BIPS has gained popularity amongst the users and it currently serves as an important retail payment system in the country. During the year 2018, a total of 644,389 transactions with value of Nu. 5,020.65 million was settled comparing to 158,115 transactions with value worth Nu. 153.12 million in 2017 and its share in the payment system increased from 7 percent in 2017 to 24 percent in 2018.

PAYMENT SYSTEM INITIATIVES UNDERTAKEN IN 2018

1. E-Money Issuers Rules and Regulations 2017.

The RMA Board approved the E-Money Issuers Rules and Regulations during the 130th Board meeting held on September 29, 2017. The objective was to authorize and regulate electronic money to support financial inclusion through extension of financial services beyond the conventional branch-based banking.

Subsequently, the 58th Executive Committee Meeting approved and authorized Bhutan Telecom Limited to be established as the first E-Money Issuer Institution in the country. Bhutan Telecom launched the B-Ngul application to offer wallet services to its customers comprising of the unbanked population living in the far-flung corners of the country. The department is working towards enabling interoperability of these Nonbank-based wallet systems with other payment and financial service providers.

Table 8: B-Ngul account holders and transaction details

Month	No wallet account holders	No. of wallet transactions	Value in Nu (Millions)	% increase no of transactions
May, 2018	45,234	871	2.27	0
June, 2018	45,380	1,279	0.44	46.84
July, 2018	45,594	1,016	0.53	-20.56
Aug, 2018	45,836	912	0.75	-10.24
Sept, 2018	46,416	968	1.00	6.14
Oct, 2018	46,639	973	0.64	0.52
Nov, 2018	46,958	894	0.82	-8.12
Dec, 2018	47,466	922	0.74	3.13
Total		7,835	7.19	

As shown in the table above, Bhutan Telecom Limited currently has 47,466 users subscribed to its B-Ngul service with a growth rate of 279 users on average in a month. A total number of 7,835 transactions amounting to Nu. 7.19 million were transacted using the B-Ngul wallet system from its launch in May up to December 2018.

2. Payment & Settlement Systems Rules and Regulation 2018:

The Payment & Settlement Systems Rules and Regulations 2018 was implemented on January 30, 2018 to effectively regulate, supervise, and oversee all payment service providers which include payment systems, payment systems operators and payment system participants licensed by RMA. The regulation was released with an objective to promote safety and efficiency of the payment mechanisms and to maintain overall stability of the financial systems in Bhutan. The authority envisages to promote financial inclusion by authorizing suitable payment system models and by following consumer protection guidelines.

3. SWIFT Operational Manual

The SWIFT is a global communication network that enables financial Institutions worldwide to send and receive information about financial transaction in a secure, standardized and reliable environment. RMA became the member of SWIFT in the year 2005.

The Department of Payment and Settlement System has formulated SWIFT Operational Manual in a structured and standard document as part of compliance to SWIFT Customer Security Program in ensuring the safety, efficiency and mitigating systemic risk associated with SWIFT held in December 2018. Under this manual, the roles and responsibility of each Department involved in the overall operation and the security of SWIFT infrastructure is clearly defined and outlined as part of the internal measures.

The following Departments are involved in the operation of SWIFT:

1. Department of Information and Technology (DIT) is responsible for user administration and security of SWIFT infrastructure, maintaining of system and patch update, administering relationship management application with the corresponding banks and performing the timely back up on the SWIFT backup server.
2. Department of Foreign Exchange and reserve Management (DFERM) which is the originating Department in executing the international transaction such as fund transfer, debt servicing, investment of fund etc
3. Department of Banking (DB) verify the and forward the instruction along with the document to DPSS to process confirmation of the trade vis SWIFT
4. Department of Payment and Settlement System (DPSS) is overall responsible for the overall management and operation of the SWIFT through distinct separate user such as CREATOR, VERIFIER and AUTHORIZER.

4. BFS procedural Guidelines

The BFS operating procedural Guidelines was approved during the 56th Executive Committee Meeting held on June 21, 2018. The operating procedural Guidelines defines

the operating and settlement procedures in detail for the members of the BFS network to advocate best practices in ensuring smooth, secure, and effective operation of the system, including provisions on effective dispute management. The BFS is a PCI DSS Certified ecosystem “**Payment Card Industry Data Security Standards**”, an international standard in terms of card data security and processing.

The department organized a meeting with the member banks on December 26, 2018 to create awareness on the changes that would be implemented on to the BFS Dispute Management System after the integration with the RuPay card network owned by NPCI. The major change in the system would be the inclusion of a new policy to the guidelines, whereby the disputed transaction raised by an issuing bank would be deemed to accept upon expiry of response timeline prescribed by RMA for the member banks.

Further, the department requested the member banks to enable auto reversals for BIPS to be generated against all declined transactions in order to reduce the reconciliation issues among the BFS participating banks and to facilitate timely settlement of disputed funds.

5. BIPS and PG Procedural Guidelines.

Bhutan Immediate Payment Service and Payment Gateway procedural guidelines were approved during the 38th Executive Committee Meeting held on March 15, 2017. The guideline is aimed to standardize and govern the day-to-day operation of BIPS and PG System for both the member banks as well as merchant through the interoperability regime with compliance to the requirement of Anti Money Laundering (AML) and Combating Financing of Terrorism (CFT). Further, it also mandates remitting and beneficiary member banks in resolving reconciliation issues in a timely manner.

FUTURE COMMITMENTS FOR 2019

1. Formation of National Payment Council of Bhutan:

A council comprising of members from both regulatory body and market players is proposed to be constituted in 2018-19. The body shall be named as National Payments Council of Bhutan and be an advisory body to guide the RMA in modernizing and developing country's payment & settlement systems. It shall also act like as a catalyst to overcome coordination problems between the market participants that may hinder the attainment of common objectives.

The National Payment Council shall be the professional forum for consultation, designed to facilitate the efficient and stable functioning of the payment system in Bhutan. In the presence of the RMA and other regulatory body from Government, the Council may serve as a common platform that provides avenue for representatives from the payment service market to meet and coordinate their interests, set priorities and resolve any misunderstandings.

The Council shall essentially be a strategic, consultative, and communications body whose motive would be to inculcate the development of partnership amongst various stakeholders and PSP's for technological innovations in the payment systems arena.

2. Drafting National Payment Systems Strategy document:

Taking into account the rapid developments and innovations in the area of payment systems; it is one of the commitments of the department to formulate a time bound strategy document with the following objectives:

- i. provide strategic direction in implementing the strategic priorities envisioned in the Strategy document and
- ii. Reflect long-term vision and missions of the RMA.

The Strategy document will serve as a road map for the department in implementing any initiatives related to payment and settlement systems in Bhutan. The document shall remain dynamic and maybe be updated to accommodate the changing priorities and innovation.

3. Implementation of International Payment Gateway and e-Commerce:

With a rapid technological advancement in the financial sector, there is a growing demand for an International Payment Gateway and e-Commerce platform in the country. The ability to pay for products or services on a website is becoming less of a convenience feature and more of an option customer expect. The implementation of payment gateway platform is thought to support the inbound international payments particularly in the tourism sector and provide an avenue for domestic e-Commerce merchants to expand their global reach. Furthermore, there is a requirement from the developing CSI sector to establish an international e-Commerce platform to take their products into the international market.

Therefore, in order to facilitate provision of secure & efficient e-payments as well as to promote e-commerce in the country DPSS in collaboration with relevant departments is conducting a feasibility study on international e-commerce modalities in Bhutan.

4. Review and develop integrated Payment and Settlement System Rules and Regulation and e-Money Issuers Rules and regulation:

The RMA Board approved e-Money Issuers Rules and Regulation 2017 during its 130th Board meeting held on September 29, 2017 and Payment & Settlement Systems Rules and Regulation 2018 during its 134th Board meeting held on January 30, 2018 respectively. e-Money Issuer Rules and Regulation 2017 empowers the RMA to authorize/ license Banks DMFI and Mobile Network operators to issue e-Money while Payment & Settlement Systems Rules and regulation 2018 empowers the RMA to authorize/ License Payment Service Providers to operate payment system. In order to synchronize and consolidate the dispersed regulations, DPSS will work towards integrating these documents.

5. NFS-BFS Integration Project:

A project to integrate the Bhutan Financial Switch of Bhutan and National Financial Switch of India to enable the cross-border ATM transactions for Cash Withdrawal, Balance Enquiry and Reversals along with Purchase, Void and Reversals for PoS terminals in India and Bhutan.

The project is planned to be executed in two phases, under Phase I, BFS will accept the RuPay co-branded cards issued by the participating banks in India at all card acceptance channels of BFS ATM and PoS terminals in Bhutan. Under Phase II, the participating

banks in Bhutan will issue RuPay co-branded cards to be accepted at all card acceptance channels of NFS ATM and PoS in India.

6. Implementation of Global Interchange for Financial Transactions (GIFT) Payment System

The RMA has been using the EFTCS fund transfer application for quite a few years and have not undergone any changes to the older version of the software. It was highly recommended by RBI that a complete overhaul of the existing system is evaluated, and a platform based on the latest and futuristic technologies are adopted. The RMA initiated the migration and implementation of GIFT Payment System with guidance from RBI to supports 3 types of payment services – RTGS, BITS and Bulk.

i. BITS (or batched) settlement service

The BITS would enable high value interbank fund transfer in a batched settlement cycle. The batch timings are set up by RMA in line to the operational timings of the banks. For instance, there could be five batches in a one-day settlement cycle. The services would be available on Saturdays with a reduced no. of batches.

ii. Real-Time Gross Settlement Service

Payments made through this service are settled immediately on receipt. The RTGS would allow the transfer of money from one bank to any other bank on a "real time" and on a "gross" settlement basis. RTGS systems are typically used for large-value transactions that require and receive immediate clearing and are considered a systemically important payment system.

iii. Bulk Payment Service

The Bulk Payment service can handle cases where multiple beneficiaries are to be credited from a single account and vice versa. These transactions are targeted for mainly institutional payments or large payment collection agencies like utility bill companies. E.g. Salaries, pension payments, loan repayments etc.

7. Instituting oversight functions

The RMA's oversight objective on Payment Systems is to ensure the safety, reliability and efficiency of the financial systems particularly to contain systemic risks, which may arise from disruptions in its operations. RMA's oversight activities are directed towards mitigating risks and ensuring that the operation of the payment systems is in accordance with the international standards and requirements set by RMA.

8. Interoperability of QR code

With the banks development and move towards enabling the retail payments through mobile banking applications, a standardized QR code could not only provide interoperability but also help ease the merchants to maintain a single account for funds collection. The DPSS would be conducting a feasibility study on interoperability framework for QR code to create a common QR network (either using RMA BIPS and or mandating banks to adopt common framework).

9. Interoperability of Payment Service Providers and other Financial Service Providers

In order to promote the usage and reach of digital financial services in the country, in particular interoperability amongst the Payment Service Providers and other Financial Service Providers, DPSS would be reviewing the interoperability framework adopted by other regulators around the world. The department strives to establish its own interoperability framework and regulations to govern the payment and financial service providers.

10. Review the reporting procedures.

As mandated by the PSSRR 2018, DPSS shall review to strengthen the reporting framework as part of oversight framework as well as for quality information and better decision-making purpose. The department shall take steps to publish a separate oversight report and working papers to identify the emerging trends, attributes of payment system, pattern analysis, etc. for better regulatory decision support system.