

Retail Payments Strategy, 2019

Nepal Rastra Bank



Nepal Rastra Bank
Payment Systems Department
2019

With the vision of 'Unlocking the potential and moving towards safe and efficient payment systems in Nepal', Nepal Rastra Bank with the help of World Bank Group has developed a strategy for retail payment systems. Retail Payments Strategy, 2019 is one of the deliverables in terms of the Advisory Agreement of International Finance Corporation, World Bank Group, with Nepal Rastra Bank. The strategy is focused on creating an enabling framework for the development and widespread use of digital payment services in Nepal. The key components of the strategy are (i) strengthening the legal and regulatory framework, (ii) deepening digital retail payment systems, (iii) Government and remittances payment to transaction account, (iv) settlement in central bank money, (v) financial awareness, (vi) oversight- covering endpoint security, and (vii) coordination with authorities

Table of content

Section	Title	Page No
Acronyms and Abbreviations		I
Section 1	Introduction	1
Section 2	Overview of Retail Payments System	2
Section 3	Strategy for Retail Payments	7
Section 4	Implementation Plan	27
Annex	National Payment System Development Strategy, 2014	37

Acronyms and abbreviations

AML	Anti-money Laundering
APIs	Application Programming Interface
ATM	Automated Teller Machine
B2B	Business to Business
B2G	Business to Government
BFI	Bank and Financial Institution
CA	Certificate Authority
CFT	Combating the financing of terrorism
CPMI	Committee on Payments and Market Infrastructures
ECC	Electronic Cheque Clearing
EFT	Electronic Funds Transfer
EMV	Europay, MasterCard, Visa
FAQs	Frequently Asked Questions
FATF	Financial Action Task Force
FI	Financial Institution
G2B	Government to Business
G2P	Government to Person
GDP	Gross Domestic Product
GL	General Ledger
IPS	Inter-bank Payment System
ISO	International Standards Organization
IT	Information Technology
KYC	Know Your Customer
LOI	Letter of Intent
MDR	Merchant Discount Rate
MOCIT	Ministry of Communication and Information Technology
MOU	Memorandum of Understanding
MSME	Micro, Small & Medium Enterprises
NCHL	Nepal Clearing House Limited
NEPS	Nepal Electronic Payment System Ltd
NFC	Near field communication
NPC	National Payments Council

NPN	National Payment Network
NPSDS	National Payment Systems Development Strategy
NRB	Nepal Rastra Bank
NPS	National payment system
RPS	Retail Payments Strategy
P2G	Person to Government
P2P	Person to Person
PAFI	Payment Aspects for Financial Inclusion
PC	Personal Computer
PCI-DSS	Payment Card Industry Data Security Standard
PKI	Public Key Infrastructure
POS	Point of Sale
PSA	Payment and Settlement Act, 2019
PSO	Payment System Operator
PSP	Payment Service Provider
QR	Quick Response
RMIS	Revenue Management Information System
RSP	Remittance Service Provider
RTGS	Real Time Gross Settlement
SCT	Smart Choice Technologies P. Ltd
SWIFT	Society for Worldwide Interbank Financial Telecommunication
TSA	Treasury Single Account
USSD	Unstructured Supplementary Service Data
WBG	World Bank Group

Section 1

Introduction

Retail Payment Strategy (RPS) document is focused on creating an enabling framework for the development and widespread use of digital payment services in Nepal. While preparing the strategy detailed discussion with key market players in the payments space was made to understand the status of retail payment services in Nepal.

2. The developments in payment systems globally are also influencing the retail payment systems in Nepal. The various initiatives being undertaken by the stakeholders as well as NRB in improving the retail payment systems in the country are in line with global developmental trends. However, these initiatives are being implemented in a fragmented manner and not under a cohesive, holistic retail payment strategy. The contours of such a strategy are presented in this document.

3. This document also contains an implementation strategy spread over the next three years to accomplish the vision for payment systems in Nepal by providing a path for “Unlocking the potential and moving towards safe and efficient payment systems in Nepal”. In order to do so NRB’s policy objectives will focus on (i) safety and efficiency; (ii) providing level playing field and facilitating interoperability, and (iii) consumer protection and literacy.

4. The RPS accordingly provides, the developments in payment systems and the milestones achieved in Nepal since the last strategy for payment systems(2014) in Section 2. In the following Section the strategy for further development and modernization of retail payment systems and services in Nepal is presented. The recommendations are oriented towards facilitating greater financial inclusion and promoting the use of digital payment services in Nepal. The document concludes with a targeted approach towards implementation of the strategy.

5. This RPS strategy is based on the retail payment infrastructure available in the country. It takes into account NRB’s commitment towards ensuring that the payment systems in Nepal conform to international standards and best practices. To this end the RPS focuses on a regulatory and oversight framework, which encourages innovation, interoperability between systems, accessibility, ease of use, affordability and for providing safe and efficient retail payment instruments, systems and services.

Section 2

Overview of Retail Payments System

Payment systems developments in Nepal have been guided by the National Payment Systems Development Strategy (NPSDS), 2014. The NPSDS outlined the steps that would be taken by NRB to implement the strategy across the nine pillars comprising (i) Legal Framework, (ii) Large Value Payment systems, (iii) Retail payment systems, (iv) Government Payments, (v) Securities Depository, Clearing and Settlement Mechanisms, (vi) Interbank Money Market, (vii) International Remittances, (viii) Oversight of the National Payments System, and (ix) Co-operative Framework for the Payments System.

2. The retail payment systems in Nepal consist of cheque clearing, electronic funds transfer, card payment systems, e-money and remittances. Retail payment systems are typically a low value payment system catering to the needs of consumers, businesses and the Government in serving their payment requirements. The retail payment systems in Nepal are mainly operated by Nepal Clearing House Limited (NCHL), which provides image-based cheque clearing solution and electronic fund transfers comprising credit transfers and direct debits, and operators in the cards payment space viz., Smart Choice Technologies P. Ltd (SCT), National Payment Network (NPN), and Nepal Electronic Payment System Ltd (NEPS). The e-money and remittance service providers complement the payment infrastructure.

3. Cash and cheques continue to be dominant modes of payment in Nepal. Payments through electronic funds transfer (EFT) is gradually increasing (Table 1).¹ Table 2 provides the data on the outstanding number of debit and credit cards and the number of Automated Teller Machines (ATMs). At the end of Asar 2076 (Mid-July 2019), there were 6,708,521 debit cards and 123,146 credit cards; 8,347,187 mobile banking users and 917,344 internet banking users. The ATM network at the end of Asar 2076 (Mid-July 2019) constitutes of a total of 3,316 ATM terminals in Nepal.

Table 1: Trend in cheques and EFT (volume in million and value in NPR billion)

Instrument	2017		2018		2019	
	Volume	Value	Volume	Value	Volume	Value
Cheques	9.90	5,174.50	9.64	6,341.74	11.71	7,657.20
EFT (direct debit)	0.49	262.823	1.88	711.96	4.93	1,559.15

Source: NRB

¹SAARC Payments Bulletin

http://www.saarcpaymentsinitiative.org/Doc/publication/18th%20SPC%20meeting%20_Bulletin.pdf

Table 2: Cards outstanding, and ATMs deployed

(Figures in Actual; figures in bracket indicate the percentage increase over previous year)

	2017	2018	2019
Total number of Cards	5,049,924	5,648,974 (11.86)	6,831,667 (20.94)
Of which			
Credit cards	68,966	104,721 (51.84)	123,146 (17.59)
Debit cards	4,980,958	5,544,253 (11.31)	6,708,521 (21.00)
Total number of ATMs	2081	2,791 (34.12)	3,316 (18.81)

Source: NRB Monthly Statistics

4. The Global Findex 2017 reveals that almost 55 percent of the population of Nepal does not have access to a transaction account. It is necessary to have a strategy for bringing in the underserved population into the formal financial system. From the Table 3 below, it is possible to gauge a cross-country comparison on access to formal financial services and the use of the alternate mode of payments, including the potential to move the payment of wages to a transaction account.

Table 3: Cross-country comparison – access to financial services and digital payment modes

(figures are all in percentage)

Country	Account (% age 15+)	Accounts with financial institutions(% age 15+)	Debit cards ownership (% age 15+)	Utility payment by cashownership (% age 15+)	Received wages in FI account(% age 15+)	Used card to make a purchase in the past year(% age 15+)	Online access to account(% age 15+)
Afghanistan	15	15	3	19	6		1
Bangladesh	50	41	6	17	3		5
India	80	80	33	28	6	12	5
Nepal	45	45	9	38	4		3
Pakistan	21	18	8	17	3		2
Sri Lanka	74	74	32	16	9	17	7

Source: Global Findex, 2017 <https://globalfindex.worldbank.org/>

5. The retail payment systems in Nepal have been experiencing significant developments. Banks continue to be the major providers of retail payment services to consumers, businesses and Government. The Electronic Transaction Act (2007), Payment and Settlement Act (2019) and Payment and Settlement Bylaws, 2015 facilitated in licensing PSPs and PSOs, both banks and non-banks. With this, non-banks have now made an entry in the retail payments market in Nepal. NRB has licensed 51 banks and financial institutions, as Payment System Operators (PSOs) and Payment Service Providers (PSP's) to operate retail payment systems and provide

services. Seven non-banks have been licensed as PSOs while another ten have been licensed as PSPs.

6. Banks provide their customers with account-based services, cheque facility, debit and credit cards, e-money, remittance services, and online banking facilities (internet/mobile). Non-bank PSPs provide e-money services to their customers. The e-money market is however quite nascent for both bank-led and non-bank led e-money schemes.

7. The retail payment infrastructure in Nepal, such as the automated clearing house and the payment switches are all provided by non-bank PSOs.

- Electronic Cheque Clearing (ECC) and Inter Bank Payment System (IPS) are operated by Nepal Clearing House Limited (NCHL). The cheque clearing is image based and has been extended to the entire country. The daily average volume of cheques processed and cleared in the ECC is around 47,000 per day. The Inter-bank Payment System (IPS) facilitates bulk and individual credit transfers. It also provides direct debits which are mainly used for bulk repetitive payments. IPS processes around 20,000 transactions (credit transfers and direct debits) per day.
 - *connectIPS* is an e-payment system implemented by NCHL as a standardized single payment platform for online payments which includes fund transfers, bill payment and creditor/ merchant payment. All payment transactions are processed directly from/ to bank accounts of the sender and receiver irrespective of the channel - online, mobile and bank branches. The system also facilitates linking multiple bank accounts. The user needs to enroll for *connectIPS*, link its bank account and verify the linked account from its bank, as one-time process. The system is in operation since April 2018 and also facilitates Government payments. Other payments that can be processed through *connectIPS* includes capital market payments, wallet top ups, credit card bill payments, insurance payments, loan repayment of CIT, travel agent payments, e-commerce sites payments, other utility payments. This 'faster payment' is gaining traction.
- Smart Choice Technologies P. Ltd (SCT) provides card switch and card services (ATM, POS and Card solutions) to financial institutions (FIs) in Nepal. SCT which was previously issuing its own proprietary card has since entered into a tie-up with Union Pay International to issue co-branded EMV complaint chip cards. The SCT facilitates interoperability among its member banks.
- Another non-bank PSO in the cards market is the National Payment Network (NPN). NPN provides solutions to FIs to issue and acquire VISA branded debit, credit and prepaid cards. NPN routes the transactions to the overseas Visa processing center and facilitates the settlement of card transactions in Nepalese rupee locally.

- Nepal Electronic Payment System Ltd (NEPS) is another PSO offering cards solutions and network to its member banks to issue and acquire Visa Cards/ MasterCard.
8. There are ten non-bank payment service providers issuing e-money in the market along with banks. However, as noted above, the e-money market is still quite nascent in Nepal.
9. The developments in the legal framework and the improvements in the retail payment systems since the last NPSDS are outlined below.

Developments since the last NPSDS

10. NRB has implemented some of the action points of the NPSDS which are given below.
- (i) *The cheque clearing extended to cover the entire country; the Inter-bank Payment System (IPS) facilitates both credit and direct debit person to person transactions and also payments of businesses and individuals, salary payments, utility bills and other recurrent payments, and government payments.*
 - (ii) *The Government payments, especially salary payments to the employees is largely being credited to bank account. Further digitization of Government payments and receipts would be facilitated through the eGovernment portal.*
 - (iii) *NRB has disclosed the oversight framework and preliminary oversight activities have been undertaken.*
 - (iv) *The directives on e-money have facilitated a number of non-bank PSPs to provide services to the underserved population of Nepal after obtaining license. Daily monitoring of the funds position vis-à-vis the liability of the PSPs is done by NRB.*
 - (v) *To ensure safety of the card payments, the requirement of migration to EMV standards and PCI-DSS certification has been mandated.*
 - (vi) *The number of registered mobile banking users is an indication of the willingness of the people to use digital modes of payments.*
11. The regulatory initiatives taken by NRB and the Government, complemented by the measures taken by banks along with the entry of non-banks, have culminated in a rise of digital payment transactions using various retail payment instruments such as credit transfers, direct debits and cards.

Developments in the legal and regulatory framework

12. The retail payment systems in Nepal were being regulated by NRB under the provisions of the NRB Act, 2002. The Act outlines the NRB's objective "to develop a secure, healthy, and efficient system of payment". Nepal has since enacted a separate Payment and Settlement Act,

2019. The Act provides for “development, expansion, promotion, oversight and regulation of overall payment and settlement system of the country”.

Payment and Settlement Act (PSA)

13. As was outlined in the NPS development strategy of 2014², Nepal has since enacted a comprehensive payment systems law. The Payment and Settlement Act, 2019 (PSA) provides the legal framework governing the payment and settlement systems in Nepal, including retail payment systems, payment service providers and payment system operators. The Act provides for the following:

- *Licensing responsibility*: NRB has been tasked with the responsibility of issuance, withdrawal or refusal of license to an entity to work as a payment service provider or provide any service under the Act.
- *Oversight*: NRB is empowered to monitor and conduct inspection of the licensed institutions and the services they provide on a regular basis.
- *Dispute Settlement Committee*: In the event of any dispute arising between the institutions with regard to any work to be performed under this Act, the same to be handled by the Dispute Resolution Committee of which Executive Director, NRB is also a member.
- *Powers to give direction*: NRB has the powers to give directions to its licensed entities
- *Powers to frame regulations*: NRB under the Act has powers to frame bye laws for administration of the Act.
- *Secretariat to the Board*: A Department of the NRB as prescribed would provide Secretariat support to the Board.

14. NRB has issued specific regulations relating to cheque clearing, electronic funds transfer, card payments, and e-money under the NRB Act and Payment Systems Act. In addition, directives for licensing as PSO/PSP were also issued under the NRB Act and regulations framed there under.

²https://www.nrb.org.np/psd/others/Nepal_National_Payment_System_Development_Strategy.pdf

Section 3

Retail Payments Strategy

Introduction

The enactment of the Payment and Settlement Act (PSA) provides a sound legal basis for the operations and oversight of the payment systems in Nepal. The PSA provides NRB with the requisite legal powers to promote innovation, competition and cooperation in the retail payments area. There are several action points from the previous NPSDS on which NRB (given its distinct regulatory and oversight role as prescribed in the PSA) along with other stakeholders can now take appropriate measures to further provide an impetus to digital retail payment systems in Nepal. These are as follows:

- (i) *Strengthening the legal and regulatory framework*
- (ii) *Implementation of RTGS*
- (iii) *Enabling settlement of retail clearing systems in RTGS*
- (iv) *Centralized clearing services for Government payments and receipts. Enhancing NRB's services to the Government after the implementation of RTGS.*
- (v) *Improving interoperability for all retail payment instruments;*
- (vi) *Fair and transparent pricing in consultation with stakeholders.*
- (vii) *Operationalising the payments system oversight function;*
- (viii) *Establishment of National Payments Board (NPB)*

2. NRB has developed the Retail Payments Strategy with the objectives of (i) safety and efficiency; (ii) creating the regulatory framework for deepening the digital retail payment systems, (iii) financial awareness and literacy and (iv) strengthen oversight, including the cyber-risk management and cyber-resiliency of the national payment system (NPS).

Strengthening the legal and regulatory framework

3. The PSA has tasked the NRB with the powers to assist the National Payments Board (Board), frame byelaws for administration of the Act, issue/ refuse/ withdrawal license for payment system/ service, operate RTGS and provide settlement for other payment systems, issue regulations for payment systems/ services, conduct oversight, take appropriate action against PSO's, etc. In order to operationalise and administer the PSA, the NRB will take the following measures.

1. The NRB would frame the byelaws/ Regulations for administering the Payment and Settlement Act. There are several aspects that need byelaws/ regulations for the administration of the various provisions of the Act. These at the minimum include:

- (i) The byelaws on the roles and responsibility and the functioning of the Board.

The byelaws/ regulations would cover the operations of the Board, quorum for the meeting, the frequency of the meetings, etc.

- (ii) Byelaws/ rules/ regulations on licensing, refusal, cancellation for payment system operators/ service providers. The minimum requirements to be submitted by the applicant for license for operating a payment system/ service have been detailed in the Act.

NRB exercising the powers conferred on it through Byelaws 16(2) of Nepal Rastra Bank's Payment and Settlement Byelaws, 2015 under the NRB Act 2002, had laid down a '*Licensing Policy for Institution/Mechanism Operating Payment Related Activities-2016*'. NRB would review these existing byelaws and licensing policy to harmonize them with the provisions of the PSA.

In addition to the harmonization, the new byelaws would cover amongst others: (a) criteria for issuance and refusal of licenses; (b) information to be provided by licensed entities on a periodical basis; (c) exit criteria and voluntary surrender of license by licensed entities; and (d) criteria for cancellation of licenses.

Internal measures to be undertaken by NRB

- a. NRB would frame internal guidelines on license issuance/ refusal procedures including specifying appropriate timelines for scrutiny of application/ information, approval for the proposed system/ service and issuance of license.
- (iii) NRB would frame the requisite byelaws/ regulations to operationalize its oversight responsibilities.

The PSA has designated NRB with the responsibility to carry out or cause to be carried out regular monitoring, regulation and oversight of acts or actions performed or taken in relation to the payment system. The Act accordingly, reposes the responsibility of monitoring, oversight and inspection on the NRB and explicitly states the powers of the NRB under the Act. The proposed byelaws/ rules for operationalizing oversight would take into account the existing oversight framework and harmonise the same with the provisions of the PSA.

2. NRB would frame regulations/rules to facilitate opening and access to transaction accounts as outlined in the Payment Aspects for Financial Inclusion (PAFI) report³. It is well recognized that financial inclusion through regulated financial channels helps improve the lives of underprivileged/ underserved populations with saving, micro credit and payment services at a cost much lower than the informal channels they would otherwise have to use. However, the high cost of operating “brick and mortar” branches, combined with lower business potential in rural areas, appear to be the main barriers for extending formal financial services to the rural population. The presence of physical bank branches, ATMs and agents is still substantially low in Nepal. Access to financial services provided by regulated entities remains a barrier for the financially excluded due to the lack of easily reachable access points and to the relatively high transaction fees. Access to a digital account offering payment is often the first step to broader digital financial services and inclusion. Mobile money and agent-based banking can reduce the cost of transactions, especially sending money from one person (or entity) to another to effect remote payments and transfers. NRB will frame appropriate regulations in this regard for facilitating the opening of transaction accounts, keeping in view Financial Action Task Force (FATF) Guidelines on customer due diligence, anti-money laundering (AML) and combating the financing of terrorism (CFT) issues.

3. NRB will frame appropriate regulations for enabling the growth of agent networks in underserved areas and explicitly banning exclusivity arrangements for agents and balancing ‘free riding’, for facilitating competition among PSO/PSPs and providing wider choice of PSOs/PSPs to end users. The agents are key to the success of reaching to the underserved population and an alternate to the brick-and-mortar structure of financial institutions. The agents in semi-urban market locations have been able to open a sizeable number of customer accounts with adequate volume of deposit which enable them to earn commission. However, agents in rural areas face difficulty in opening adequate number of customer accounts and soliciting enough deposits to generate adequate revenue for themselves in light of the exclusivity clauses. The NRB in consultation with the stakeholders will strive for proportionality in regulating the agent network. In addition, the regulations will require PSPs to train and monitor the agents and be responsible for their compliance with the legal framework (AML/CFT, consumer protection, transparency, etc.).

4. NRB would frame guidelines on KYC procedures. Amongst others these guidelines will lay down the procedures for sharing of KYC related information of customers between licensed entities with adequate and robust customer data protection measures. This would be done in consultation with the various stakeholders. Such laid down procedure for reliance on KYC by fellow licensed entity will continue till a centralized

³ Payment aspects of financial inclusion- CPMI-WB report <https://www.bis.org/cpmi/publ/d144.htm>

KYC repository is established in future. At a later stage the guidelines would also take into account the National ID project being rolled out by the Government in a phased manner. These measures would address the current lack of legal identity documentation which has also been reported to be a barrier for opening transaction accounts. Performing KYC for the financially excluded population by a non-bank licensed entity has been cited as one of the challenges.

Deepening digital retail payment systems

4. The focus of NRB would be to popularize the usage of the various digital payment systems and services in a safe, efficient, interoperable and customer friendly manner. Easy to use interoperable retail payment systems would facilitate greater financial inclusion and enable promoting public confidence in digital payment modes. To this end, NRB will take the following measures:

- i. ***Transaction account:*** NRB in close coordination with the Government and other stakeholders would draw up an action plan for deepening financial inclusion through the provision of transaction accounts to the financially excluded. Such transaction accounts will be provided by both bank as well as non-bank PSPs and would be interoperable.
 - **A tiered KYC approach would be adopted to facilitate opening of transaction accounts with appropriate risk mitigation measures.** The banks/ PSOs/ PSPs would be required to provide digital payment modes to such transaction account holders.
 - **NRB would require banks and financial institutions, which are not on core banking, to have core banking or computerise their banking activities within a period of one year.** To facilitate digital payment modes, availability of core banking/ computerized environment at the banks/ PSOs/ PSPs end is a prerequisite.
- ii. ***E-money:*** NRB in consultation with various stakeholders will facilitate the usage of e-money product in more use cases covering all types of payments (loan repayment, standing instructions, etc.) with appropriate risk control measures. NRB is adopting a proportionate regulatory framework for promoting the use of e-money. The regulatory changes in this regard such as raise in limits and other measures would continue to be monitored. In addition, the adoption of a tiered KYC approach could result in greater usage of e-money by the holders of transaction accounts.
- iii. ***Agent networks:*** The range of services that agents can provide to customers would be examined by NRB in consultation with stakeholders to limit agent

attrition. NRB would continue to monitor the expansion of agent networks by licensed PSOs/PSPs with greater emphasis on expanding the reach in underserved areas. Training of agents would also form part of this strategy. These measures, coupled with banning of exclusivity, could result in greater expansion of the agent network with more use cases providing an additional income stream to the agents.

Use of technology by agents for providing services to customers would be an integral part of this strategy (mobile POS, Mobile ATM, micro ATMs, etc.).

- iv. ***Unstructured Supplementary Service Data (USSD) payments: USSD payments would be made available as a standard feature for all transaction account holders by their respective licensed banks/ PSOs/ PSPs, along with other digital retail payment modes such as for e.g. debit cards.*** This would result in enabling the large number of feature phone holders in Nepal to make use of digital payment modes.
- v. ***Interoperability: NRB would promote and mandate interoperability of retail payment systems and retail payment products to facilitate greater customer usage, ease of access, achieve economies of scale for cost efficient services.*** Interoperability is targeted to facilitate the clearing and settlement of payment transactions between all licensed payment service providers (banks and PSOs/PSPs) and their respective customers. This would include guidelines for standardization of message formats and Quick Response (QR) codes. The use of Application Programming Interface (APIs) would be actively encouraged to facilitate this process. In addition, fair, risk based, transparent access criteria would be laid down by NRB for enabling all licensed payment service providers to access and clear their payment transactions through systems such as IPS and connectIPS.
- ***NRB would devise a regulatory framework for promoting interoperable payment systems and providing access to the national payment system (NPS) to the PSOs/PSPs.*** The mobile/ internet banking, mobile wallets and online digital payments have the potential to address the current challenges and the difficulties faced by the customers in accessing banks due to accessibility and also the associated cost. The interoperable payment systems/ services are expected to have a positive network effect by facilitating transaction account holders to access their account/s with an option to choose from a bouquet of payment systems/ services and meet their varied payment needs.

Mobile banking has started picking up with introduction/ availability of affordable smart phones in the market and with banks deploying more user-friendly applications for their customers. Mobile banking is currently available only for intra-bank

transactions and not for inter-bank transactions in most cases. With the proposed guidelines mandating interoperability, this would facilitate greater use of online banking (mobile and internet) by customers for their payment transactions across licensed payment service providers (banks and PSOs/PSPs). A few banks have also started offering QR based merchant payment option in their mobile banking offerings, however, this payment option is again available within the merchants and individual users of the same bank.

- **NRB would prescribe QR standards (Nepal QR code), complying with international requirements, for payment systems/ services in Nepal.** The QR based payments are being facilitated by a few PSOs/ PSPs in Nepal, with others to follow. NRB, in consultation with the various stakeholders, will promote the development of a uniform standardized and interoperable QR code for payments market in Nepal.
 - To further facilitate efficient card payments, NRB along with the card operators will examine the need for enabling tokenisation and near field communication (NFC) based payments in Nepal.
- **NRB would mandate the minimum features that the Apps should provide along with a requirement of the App being available in Nepalese language as well for ease of use and adoption by all strata of the society.** The licensed payment service providers have started providing Apps which facilitate customers to make digital payments using these Apps. Multiple initiatives have been taken by the various players in the payment space, but all are working in silos. NRB as part of its regulatory framework on interoperability will also provide guidelines for these Apps by various service providers to work in an integrated and cohesive manner.
- **NRB in consultation with stakeholders would examine and promote usage of standardized message formats for all retail payment systems.** Adoption of ISO message formats for existing systems and for any planned new systems would be an integral part of the strategy. The ISO20022 message standard is being adopted for the RTGS system. Retail payment systems would be encouraged to either adopt the same or use APIs for interfacing between systems and promoting interoperability.
- **Interoperability between the existing ATM and POS networks would be mandated by NRB.** In addition, the NRB for effective use of the infrastructure will examine permitting cash back/ cash withdrawal at POS. This would be an added revenue stream for the merchants / agents and encourage greater acceptance of cards / digital payments.

- ***Interoperable Retail Payments Infrastructure:*** NRB would setup a mechanism for regulatory framework whose goal will be to pull together various payment instruments and foster standardization. Currently PSOs are providing services for clearing and settlement of cards transactions but have setup their own procedures and rules for operations and are not interoperable. NRB as part of its role as a catalyst and overseer will foster establishment of standards, clear operating rules, and well-documented scheme rules.
- vi. ***Faster payments:*** The increased usage of e-commerce and domestic remittances is expected to increase the demand for fast payments – both are drivers and complement each other.
- NRB along with stakeholders will examine the need for increasing the frequency of settlements of IPS vis-à-vis the settlement of time critical payments being encouraged to be done using RTGS.
 - **NRB in consultation with stakeholders would examine connectIPS switch already providing fast payments being upgraded to cater to additional requirements, including QR code based payments.**
 - ***Payment for travel and transit:*** NRB would encourage the licensed PSOs and PSPs to take initiatives in enrolling travel and transit operators for acceptance of digital payments. In the absence of a good mass public transport, the population of Nepal is increasingly relying on transport services provided by private operators. The PSOs and PSPs as part of the drive towards enrolling private operators would also educate operators on the benefits of acceptance of payments digitally and grievance redressal available for dispute, if any.
- vii. ***Availability of infrastructure:*** The usage of payment instruments/ services requires the requisite infrastructure. The card payment instruments facilitate withdrawal of cash at ATMs without visiting a bank/ branch as also facilitates payments for goods, services, etc. at physical POS as well as in an online mode.
- **NRB would devise an ATM and POS deployment strategy to increase their reach in all areas.** The current strategy practiced by banks by deploying multiple ATMs/ POS terminals in select locations is leading to a suboptimal usage of the infrastructure resulting in lesser number of transactions per ATM/ POS terminal with high operational costs. The banks will be encouraged to revisit their current strategy and judiciously deploy infrastructure to serve the wider population with greater reach.

- **NRB in consultation with the stakeholders would examine the different options for facilitating interoperability and resiliency and work with the various stakeholders to champion the implementation of a suitable solution.** The lack of interoperability forces merchants to have multiple POS terminals to cater to the customer needs. Facilitating interoperability and fallback arrangement between the switches would also build domestic infrastructure resiliency.
 - **NRB would examine the incentives that could be provided to the banks, PSOs and PSPs for deepening the access infrastructure and its reach.** To deepen the access infrastructure in underserved areas, NRB in association with all stakeholders would actively promote the setting up of a contributory funding mechanism by the payments industry for deployment of infrastructure such as POS, mobile POS, including asset light acquiring infrastructure, ATMs, microATMs in a cost effective manner. NRB in consultation with stakeholders will examine on providing incentives to merchants to encourage them to accept digital payments.
- viii. **e-commerce:** The e-commerce space is witnessing rapid increase in adaptation and use. New e-commerce sites are coming up day by day and some of the sites have been able to gain popularity and scale-up. However, lack of effective payment mechanism is one of the constraints for growth of ecommerce.
- **NRB would encourage the licensed PSOs and PSPs to integrate with payment gateway operators like Visa/Master Card and domestic and global e-money providers for online payment through debit/credit cards and e-money.** The number of e-commerce sites has seen an increase in recent times with some having gained popularity. The e-commerce sites currently provide a platform for both the sellers and buyers, with e-commerce sites using their own delivery mechanism for distribution with payments for the goods and services mostly accepted in the form of “Cash on Delivery”.

Government and remittances payment to transaction account

5. The Government payments and remittances constitute a large percentage of the overall payments in the economy. The Government payments are large in terms of volume, as they are used for large scale disbursements like salaries and social benefit transfers, whereas remittances are large in value terms, accounting for nearly 25 percent of GDP.

- i. **Government Payments:** The Government of Nepal, as is the case, with other Governments elsewhere, is one of the largest users of payment systems. Effective deployment and utilization of the national payment systems (NPS) with electronic

payments would result in streamlining Government payments and receipts and reduce administrative costs and burden of reconciliation on the Government treasury.

- **Government and NRB working together will facilitate interface between the Treasury Single Account (TSA) of the Government and the General Ledger (GL) system of NRB and utilization of the centralized payment and settlement infrastructure, viz., the RTGS.**
- **NRB in consultation with the Government would facilitate government payments in digital mode, irrespective of the licensed entity, with which the beneficiary is holding an account.** The Government salary payments to a large extent are direct to account transfers. The payments are made to the accounts of the employees with which the respective Ministry of the Government has an arrangement. Accordingly, the Government employees need to have an account with the specific bank/s with which an arrangement has been established by the ministry. Each ministry of the Government has an arrangement with a specific bank, which in turn requires that the employees of the respective ministry opening an account with the corresponding bank. The current arrangement is an inefficient mode resulting in administrative expenses for each such arrangement for the Government. In order to streamline this process, the Government needs to instruct the ministries to utilize the existing payment systems such as IPS with its bulk credit transfer facility for disbursement of salaries. The NRB as banker to Government would facilitate the Government in utilising the national payment system infrastructure for government payments, rather than persist with the existing decentralized arrangements. This not only would reduce the cost for Government but increases efficiency by using centralized infrastructure.
- **The bulk credit transfer facility of IPS should also be utilised by the Government for disbursement of social benefit transfers.** The Government has been making efforts to move towards digital mode of payments. This is being achieved through the initiatives of the Government and with tie-up with banks for facilitating digital payments. The limitation remains due to the reach of the bank to provide services to the rural and underprivileged section of the society. The Government as part of its efforts is considering using the e-money providers for reaching to the rural population. To facilitate this process, the beneficiaries should be provided with transaction accounts with both financial institution and non-financial institutions (licensed as PSPs). **NRB would coordinate with the Government and other stakeholders for migrating pension payment and social benefit payments to transaction accounts (bank and e-money accounts).**

- **NRB would engage with the Government for facilitating usage of the NPS for all the payments/ receipts of the Government, instead of the Government requiring establishing host to host connectivity with the PSPs, PSOs and banks.** The Government has procured the e-payment solution for facilitating P2G, B2G, G2B and G2P receipt and payments using the Government portal. The government portal would initially provide services for passport, driving license, land registration, company registration, public service commission and tax payments.
- **NRB would make efforts and coordinate with the Government to rationalize the limits set by the Government to dovetail with the recent enhancements to limits made by it for digital payments.** The Government currently has an upper ceiling of Rs.100,000 for acceptance of payments in digital mode.
- **NRB would coordinate with the Government for examining the feasibility of mandatorily requiring the corporates / merchants employing a certain number of employees to make salary payments to accounts of the employees.** This would help in bringing the excluded population to the formal financial sector and in turn help in boosting the overall economy. At present only, a small percentage of the Nepali population receive their salaries in their accounts. NRB would also advise the bank to facilitate their corporate client in migrating to digital mode of payment.
- **NRB would explore with the Government on providing tax incentives for making and receiving payments digitally.**

ii. **Remittances and retail cross border payments:** Cross border inward remittances to Nepal account for approximately 25 percent of the GDP. Bulk of the remittances are received in cash by beneficiaries as they are financially excluded. Use of informal channels for sending remittances to Nepal is also reported to be used in a widespread manner. Channelising remittances through the formal financial sector will reduce the use of informal channels, strengthen AML/CFT guidelines, provide strength to the balance of payments position of the economy and in turn enable the remittance proceeds to be gainfully available for the use in other financial services.

- **NRB would take policy measures to promote market contestability, competition in the remittances market.** This would include banning exclusivity arrangements for agents of remittance service providers.
- **NRB would examine measures in consultation with the remittance service providers to further facilitate digital payment modes for receipt of remittances directly to the transaction account of beneficiaries.** The proposed measures are

expected to reduce the cost of remitting funds by the remitter and also facilitate migration from cash to non-cash modes of payments. These policy measures would also lead to the greater use of the NPS infrastructure by all PSPs/PSOs – bank or non-banks as against the current practice of only a few remittance service providers using the national payment system infrastructure for remitting funds into transaction accounts⁴.

- **NRB would review the market needs and frame guidelines for acceptance of the wallets issued overseas in Nepal, subject to appropriate risk mitigation measures.** The usage of wallets issued abroad with settlement arrangement in abroad has been banned as a payment option for making payments in Nepal. NRB would examine the option of using domestic infrastructure or framework on lines of cross border remittances for facilitating clearing and settlement for such cross-border transactions.

Settlement in Central Bank money

6. The settlement in central bank money mitigates settlement risk as it has no credit or liquidity risk. NRB will ensure that all current and future retail clearing systems are appropriately linked to the RTGS system for settlement of net clearing obligations in central bank money.

- i. **NRB for smooth operation of RTGS, will monitor the readiness of other institutions for on-boarding on the RTGS System.** NRB has issued the requisite guidelines on access criteria and minimum security measures, including the use of Digital Certificates for access to RTGS and has already on-boarded class A Banks as direct participants of RTGS. NRB has laid down the access criteria for direct participation and indirect participation in the RTGS system. NRB has also constituted an interdepartmental coordination committee headed by Executive Director of NRB's Payment Systems Department (PSD) to address and resolve issues related to RTGS. This committee would monitor the technical and business readiness of other institutions. Payment Systems Department of NRB would develop a plan for on-boarding other institutions as a RTGS participant. The committee would also discuss the roles and responsibilities of the NRB as the operator, the participating entities (both bank and non-bank PSOs), the customers (the ultimate initiators for customer transactions), including the access channels and the provisions of the rules and regulations (before finalization and issuance).

⁴ The remittance service providers charge lesser commission fee for remitting funds via digital mechanisms than by using cash-to-cash options. The remittance service providers (RSP) now have access to the retail payment infrastructure to route the remittance proceeds to the transaction accounts of beneficiaries held with banks or non-banks.

Financial awareness, literacy and access

7. Financial literacy along with creating awareness of the various options and methods of payment and receipt in lieu of cash is the key driver for moving from cash to other alternate modes of payment/ receipt. The other deciding factor for migrating to alternate modes of payments is the price/fee a customer/ merchant has to pay for making/ receiving payments in digital mode. To create awareness of the various payment systems/ services and the ease with which they can be used, NRB would take the following measures:

- i. ***Fair pricing of payment product and services:*** The PSOs/ PSPs charge the participants, merchants and customers for use of their products and services.
 - ***Customer fees/ charges:*** NRB in consultation with the stakeholders would rationalise the customer service charges for all payment products and services being offered by banks, PSOs and PSPs. The pricing strategy would focus on influencing the payment behavior of customers and encourage the use of electronic payments.
 - ***Merchant Discount Rate (MDR):*** NRB in consultation with the stakeholders would rationalize the current MDR being charged to the merchants. The MDR currently being charged to the merchants for card payments, hovers around 3 percent, which acts as a disincentive for the merchants to accept digital payments, vis-à-vis no charge for cash receipt. NRB would review the current MDR and to promote digital payments and examine on rationalising the same.
 - ***NRB in consultation with the stakeholders would examine lowering transaction costs.*** The measures taken for interoperability of card transactions would result in lower transaction costs, and along with the changes to MDR policy proposed above, are expected to yield positive results. NRB would also review the charges levied by the PSOs to the participants in the systems operated by the PSOs.
- ii. ***Awareness and literacy:*** The awareness of the various modes and options of payment and a higher level of financial literacy are the key elements to achieve success in the digital drive, in any economy. Considering the low level of financial literacy in Nepal, NRB would adopt a multi-pronged strategy.
 - ***NRB would prepare and publish material to raise awareness among the public on the various payment products and payment services available, as well as on the various licensed providers.*** The endeavor would be to prepare Frequently Asked Questions (FAQs) for the payment systems product and services. This practice would also be followed when new schemes are announced by the NRB.

NRB along with the Government would also take steps towards financial literacy – both in the print and electronic media. The campaign, among other things, would include creating awareness about the benefits of the digital financial services. **NRB would also explore coordinating with the local Government for the financial awareness and literacy measures.**

- **NRB would require the PSO/ PSPs to initiate a campaign/ drive for educating the public about the products and services they offer.** The banks, PSOs and PSPs will also provide the same information on their respective websites and the NRB website will replicate the information.
- **NRB will coordinate with Government to hold pre-departure programmes for the population going overseas for work, in order to offer information on the modes and methods to send remittances to Nepal.** A sizeable population of Nepal is working overseas, including in India. There is a need for a formal programme to educate the Nepalese population on the risks and benefits of each of the options to send remittances to Nepal, including the risk of using any unregulated and illegal channel (i.e. the hawala services). The courses will explain the benefits of remitting money through the regulated and legal channels, adding further information on the benefits of remitting via digital mechanisms and remitting it directly to the beneficiary's transaction account vis-à-vis receiving it in cash by the beneficiary.

iii. **Customer confidence:** The customers' confidence is the critical element to obtain the increased and continued usage of digital payment systems and services. The customers' confidence is achieved by providing proper mechanisms of complaint resolution and by guaranteeing quick assistance on any of the potential complaints that the customers might have.

- **To build confidence of the public in digital payments, NRB would mandate banks, PSOs and PSPs to communicate to the customer the relevant information on the success/ failure of a transaction, on any debit/ credit happening to its account and on the successful crediting to the beneficiary.** A few PSOs/ PSPs have already taken similar initiatives and are providing SMS alerts to the customers on credit/ debit to their accounts. These alerts and confirmation of payments provide the requisite confidence to customers, and NRB would require that all banks, PSOs, and PSPs adopt similar mechanisms.
 - A few banks which are providing this facility charge their customers for SMS alerts via an annual fee. NRB, in consultation with the stakeholders, would examine the current fee being levied by the licensed banks, PSOs and PSPs and

would take possible measures to rationalize it. The endeavor would be to provide this service as a value added service, free of any additional fee.

Customer grievance redressal: NRB would mandate the PSOs and PSPs to setup customer grievance redressal centers or proper phone services to submit complaints and seek redressal in a timely manner. The customer being enrolled are majorly new users of digital payments and timely customer grievance redressal will build the trust in the payment systems/ services being used. All licensed banks and non-bank PSOs and PSPs would be mandated to setup customer grievance redressal mechanisms.

Oversight

8. NRB has framed a 'Payment System Oversight Framework' and issued the same in February 2018. The objectives of the oversight framework are to (i) Ensure sound legal foundation, (ii) Enhance risk management and control, (iii) Integration and interoperability of different payment system, (iv) Assess reach and range of payment services, (v) Prevention of market from abuse and frauds, (vi) Safeguard customers and ensure their protection and (vii) Review competitiveness in the market. NRB's interest in ensuring the smooth functioning of payment systems is based on encouraging greater use of digital payment mechanisms in lieu of cash and the impact that would result on the real economy. NRB under the NRB Act has the responsibility of ensuring (i) financial stability; (ii) monetary and foreign exchange policies; (iii) healthy and efficient payment systems; (iv) public confidence in the financial system in Nepal.

Keeping in view the broad objectives as laid down in the oversight policy framework, as well as the goals identified in the retail payments strategy, NRB will take the following policy measures:

- i. **Access, reach and interoperability:** NRB in line with its objective of oversight and deepening the access and interoperability of licensed PSPs will frame suitable regulations. These regulations will lay down the broad access criteria for all NPS with specific technical and other requirements to be specified by the individual PSO/ PSPs. The broad access criteria will be risk based and will be non-discriminatory in nature. The access criteria in general will be made applicable to the systems operated by NRB and the private sector. In addition, where feasible, the access criteria will also provide for tiered / indirect participation in all systems, including RTGS.

With regard to interoperability, as stated above, NRB will initiate necessary policy measures under the overall objective of deepening the reach of PSPs/ PSOs and enabling the optimal utilization of the existing retail payment infrastructure.

- **NRB would facilitate all licensed entities (PSOs and PSPs - both banks and non-banks) to access systems operated by fellow licensed entities without any discriminatory criteria being imposed on such access either as a direct or indirect member.**
- ii. ***Encouraging innovation:*** NRB would frame guidelines for encouraging innovation in payment products and services. The developments in the digital space are fast and require quick turnaround time. NRB would explore adopting a 'sandbox' approach.
 - iii. ***Safeguard customers and ensure their protection:*** NRB would come out with minimum security standards that need to be adopted by all licensed banks, PSOs and PSPs for payment instruments, protecting customer data and funds, and minimizing frauds. The guideline would also cover the requirement of periodic assessment and audit of the system by reputed external agency.
 - iv. ***Oversight Operational guidelines:*** NRB would draw up the operational guidelines for implementing the Payment System Oversight Framework 2018 after completion of the review of the framework. NRB would review and update the Payment System Oversight Framework 2018 considering the provisions of the PSA and the bylaws/ Regulations and draw up the operational guidelines for implementation of the framework.
 - v. ***Capacity building - human resource:*** NRB will make efforts to build the capacity within its staff through the organization and management of training workshops, conference and seminars. For effective oversight, capacity building of the human resources, both at NRB end and at stakeholders' end, is crucial and critical. NRB will perform the training of the human resources that will carry out on-site/ off-site assessment, as well as operations of the payment systems operated by NRB. It is crucial to ensure that trained staff will be able to operate the systems with proper risk mitigation capacity. Appropriate measures also need to be taken by the licensed entities to have adequate number of trained and skilled human resources.
 - vi. ***Effective oversight of the licensed PSOs and PSPs would be the thrust.*** NRB has already initiated its oversight activities as part of its responsibility and would further strengthen it. NRB would also analyze the risk that could materialize from the services being outsourced by the licensed PSOs and PSPs.
 - **NRB would devise a framework that would necessitate the licensed PSOs and PSPs to put in place appropriate framework for reliable and efficient services.** For example, as indicated earlier, switch providers could act as a back-up for each

other for facilitating resiliency. With the thrust towards increasing the use of digital modes of payment, resiliency of payment systems is important.

- **NRB would advise the licensed banks, PSOs and PSPs to reconcile their accounts on a daily basis.** The same measures will be undertaken by banks, PSOs and PSPs to reconcile the accounts of its customers.
- vii. ***Harmonisation of instructions:*** NRB would harmonise the instructions issued with regards to the payment systems, payment instruments, security aspects related to operations, e-money, limits for various electronic payment systems, etc. for effective oversight, post implementation of Payment and Settlement Act (PSA)⁵. NRB has issued multiple instructions with regards to card payments, electronic transactions, etc.
- viii. ***Streamlining oversight activities:*** NRB would frame a policy on the reporting requirements, along with the periodicity of submission to the NRB. NRB has licensed bank and non-bank PSOs and PSPs for operating payment systems and/or providing payment services. NRB would take following action:
- **NRB would examine the gap, if any, in the regulations governing the operations of the payment systems and payment services.** NRB would delineate the roles and responsibilities with regards to the payment product and payment service that an entity would be able to provide as a PSO and as a PSP.
 - **NRB would make efforts to automate the process of receipt of daily positions on outstanding liability from PSPs and account balance statement from the bank on the PSPs account balances and reconciliation at the NRB end as part of its oversight tool.** The PSPs (e-money issuers) are mandated to submit an end of day report on their outstanding liability and account balance at the bank. NRB also obtains a copy from the bank where the PSP holds an account to cross check on the actual balance available in the account of the PSP at the bank.
 - **NRB would require, the apps to be audited by an independent agency before launch and after any changes made to the app.** With the focus of moving towards digital payments, the customer convenience and ease of use of the app product and services is essential. This has to be coupled with safety and security of the apps

⁵*Cards:* There are multiple instructions that have been issued by NRB relating to cards, which apart from others include, the criteria of banks which can issue cards, the transaction / overall limit, mandatory issuance of EMV chip and PIN cards, reporting of the status and monitoring the implementation of the, instructions, reporting of frauds and business related data viz, volume and value of transactions, etc.

Electronic transactions: NRB has recently enhanced the value limits for digital modes of various payment instruments.

being provided. The requirement of audit of Apps would be as part of the oversight. Apart from this, the entities would have to get their systems audited on an annual basis.

- **NRB would prepare an assessment methodology to be adopted for assessment of retail PSOs and PSPs.** Currently, NRB is carrying out assessment of the non-bank licensed PSOs and PSPs on an annual basis. The assessment is based on the instructions/ guidelines issued by the NRB. After the development of the methodology, NRB would publish it and train the licensed entities to carry out their self-assessments based on it. NRB will review and evaluate such self-assessment as part of its oversight activity. The self-assessment would be in addition to the system and cyber security audit of the systems.
- **NRB would review the existing risk management framework in place for cheque clearing and take measures to further strengthen it.** Cheque based payments continue to be the main payment instrument being used in Nepal, though the same has plateaued.
- **NRB would on a monthly basis publish the payment system data for all the payment systems in Nepal, including e-money.** NRB would mandate compulsory public disclosure of the process and procedure adopted by the licensed PSO and PSP for the payment systems operated and payment service provided by it. The PSOs and PSPs would also disclose the data at the periodicity prescribed by the NRB for the payment systems operated/ payment services provided by them. **NRB would also undertake targeted surveys related to payment systems with the help of external agencies, on a need basis.**
- The outsourcing by FIs is concentrated to a few service providers. NRB will examine assessing such critical service providers from the point of concentration risks.
 - **Cyber security and resilience:** NRB would advise the banks, PSOs and PSPs on the minimum requirements that needs to be adopted as part of their cyber security and risk management framework.
 - **End point security:** *The CPMI report ‘Reducing the risk of wholesale payments fraud related to endpoint security’⁶ developed a strategy to reduce the risk of wholesale payments fraud related to endpoint security. The term “endpoint” relates to all participants of wholesale payment systems or messaging networks that can transmit and receive payment instructions on behalf of themselves or others. The endpoint hardware may include mobile*

⁶ CPMI <https://www.bis.org/cpmi/publ/d178.pdf>

devices, laptop or desktop PCs, and other equipment such as servers and network devices. NRB in consultation with stakeholders would adopt the best practices detailed in the report for all payment systems in Nepal.

- **NRB would promote and mandate the use of effective cyber security measures, by all Financial Institutions** in order to provide safe and secure payment services and increase the comfort level of customers.
- **NRB would require members using Society for Worldwide Interbank Financial Telecommunication (SWIFT) to comply with the SWIFT security programme and report compliance status periodically to NRB.** The SWIFT messaging and communication network is being used by the FIs for message exchange. In order to ensure that the communication network is safe, and members are complying with the requirements of the network provider viz., SWIFT, NRB would advise members using SWIFT to comply with the extant requirements of SWIFT and report compliance. NRB would also establish an information sharing arrangement with SWIFT for receipt of status directly on the compliance of the financial institutions in Nepal.

ix. **Other measures:** Some of the measures NRB would take in consultation with the stakeholders are as under:

- **NRB as part of its oversight function would examine migrating payment between NRB and licensed entities as also between licensed entities to electronic modes.** To mitigate counterparty risk, NRB to mandate that payment transactions between regulated entities and for regulated markets to be only in digital mode. NRB in close coordination with Government would also explore about mandating payments above a threshold to be done only in digital mode.
- **Data protection:** NRB would instruct the licensed bank, licensed PSOs and licensed PSPs on data protection and security of customer information. The banks, licensed PSOs and licensed PSPs are outsourcing their activities/ operations to a few IT service providers. This has given access of entire customer data to the outsourced entity. The outsourced entity is currently providing credit scoring to some of the banks facilitating in instant credit subject to the score. Though the centralization of information to an outsourced entity has had a positive impact this may also have a negative impact. The entity having access to customer information is not licensed or under regulation and supervision of the NRB.

Cooperation between authorities

9. NRB would cooperate with other relevant authorities for achieving the desired public policy goals and objectives of NRB as also in the larger interest of the economy.

- i. **The Telecom regulator and NRB have entered into an MOU for digital payment systems.** The authorities would coordinate to address the issues relating to financial services through this MOU. The telecom regulator would help in laying down the standards for the communication infrastructure, voice, etc. that need to be complied by the telecom operators. The telecom network connectivity up to district levels would be using optical fibre ensuring good quality connectivity.
 - NRB would engage with the telecom regulator on the requirement of the KYC for issuance of SIM as mobile is increasingly being used as a channel for payments.
- ii. **National ID: NRB would coordinate with the Government to examine using National ID for KYC and integrating with the payment systems/ services.** The Government has already started issuance of National ID to its citizens with plans to cover the entire population in the next 3 years. The Government would be providing API based access to this database to Financial Institution and NRB.
- iii. **NRB would engage with the Ministry of Communication and Information Technology (MOCIT) with the requirements for using PKI for payment systems.** The MOCIT has identified the certification authority (CA) for issuance of Digital Certificate which has since commenced issuance. NRB would explore using the PKI for the RTGS system.
- iv. **Dialogue with other regulators: NRB would also engage with other regulators such as securities regulator, insurance regulator, pension fund and other regulators for meeting the payment needs.**

Monitoring outcome

11. **NRB would monitor the outcome based on the measures taken as part of the strategy.** The policy and development in coordination and cooperation with the stakeholders is expected to register growth in the number of transaction account, acceptance infrastructure, increase in digital transactions, etc. The expected outcome is

- (i) Acceleration in the coverage of the population with a transaction account from the existing 45 percent for population above 15 years of age (Global Findex 2017) to 75

- percent in the next one year; to cover most of the eligible population by the end of 3 years period;
- (ii) Each digital payment system – to increase by 100 percent year on year in the next three years. The projection for 100 percent is being made as the current base of each of the electronic payment system is low and has the potential to increase by 100 percent;
 - (iii) Availability of infrastructure to accept digital modes of payments – increase in the availability of ATMs/ POS terminals.

NRB would

- (a) **Consider mapping the access point by following the mapping in the ‘access point map’ as available at www.emap.nrb.org.np.** The current mapping does not cover agents. NRB may require the licensed banks, PSOs and PSPs to report information so that the coverage could be monitored and reviewed.
- (b) Monitor the growth in usage as per the data sets of Findex, specifically as indicated in Table 3. Apart from this, transactions performed online/ ecommerce transactions could also be considered.
- (c) The banks, PSOs and PSPs may be required to inform/ populate the on-us transactions – which is currently a sizeable percentage.

Section 4

Implementation Plan

The implementation plan for achieving the strategy laid down for retail payment systems is being planned to be achieved in a period of three years. The plan details the action points to be achieved in short term (upto 1 year), medium term (1 year – 2 year) and long term (beyond 2 years and upto 3 years) and other ongoing activities are outlined the table below.

Topic	Proposed measures	Relevant stakeholders	Timeline ⁷
Strengthening the legal and regulatory framework	Frame the byelaws/ regulations for i. functioning of the Board. ii. licensing, refusal, cancellation for payment system operators/ service providers. iii. operationalizing the oversight responsibilities.	NRB	Short term
	<i>Internal measures to be undertaken:</i> Frame internal guidelines on license issuance/ refusal procedures including specifying appropriate timelines for scrutiny, approval and issuance of license.	NRB	Short term
	Framing of regulations / rules to facilitate opening and access to transaction accounts	NRB	Short term
	Frame regulations for facilitating the growth of agent networks in underserved areas and banning exclusivity and balancing 'free-riding'.	NRB	Short term
	Frame guidelines on KYC procedures.	NRB	Medium term
Deepening digital retail payment systems	<i>Transaction account:</i> NRB in coordination with the Government and other stakeholders to draw a plan for deepening financial inclusion through transaction account. <ul style="list-style-type: none">• A tiered KYC approach to facilitate opening of transaction accounts.• NRB would require Banks and Financial Institutions, which are not on core banking, to have core banking or computerised banking activities within a period of one year for providing digital payment modes to such	NRB/ Government/ stakeholders	Medium term

⁷Short-term: upto 1 year; Medium term: 1-2 years; Long-term: 2-3 years

Topic	Proposed measures	Relevant stakeholders	Timeline ⁷
	transaction account holders.		
	<i>E-money</i> : Facilitating more use cases with appropriate risk control measures.	NRB	Short term
	<i>Agent network</i> : The range of services that agents can provide to customers would be examined by NRB in consultation with stakeholders to limit agent attrition. Monitoring the expansion of agent networks by licensed PSOs/PSPs with greater emphasis on expanding the reach in underserved areas.	NRB/ stakeholders	Medium term
	USSD payments would be made available as a standard feature for all transaction account holders by their respective banks/ PSOs/ PSPs, along with other digital retail payment modes such as for e.g. debit cards.	NRB/ PSOs/ PSPs	Short term
	<p><i>Interoperability</i>: NRB would promote and mandate interoperability.</p> <p>i. NRB would devise a regulatory framework for promoting interoperable payment systems and providing access to the NPS to the non-bank PSO/PSP.</p> <p>ii. NRB would prescribe QR standards (Nepal QR), complying with international requirements. NRB will examine the need for enabling tokenisation and NFC based payments.</p> <p>iii. NRB would mandate the minimum features that the Apps should provide along with a requirement of the App being available in Nepalese language as well.</p> <p>iv. NRB in consultation with stakeholders would examine and promote usage of standardized message formats.</p> <p>v. Interoperability between the existing ATM and POS networks would be mandated.</p> <p>vi. <i>Interoperable Retail Payments Infrastructure</i>: NRB would setup a mechanism for regulatory framework whose goal will be to pull together</p>	NRB/ stakeholders	<p>(i) Short term</p> <p>(ii) Short term</p> <p>(iii) Short term</p> <p>(iv) Medium term</p> <p>(v) Short term</p> <p>(vi) Short to medium term</p>

Topic	Proposed measures	Relevant stakeholders	Timeline ⁷
	various payment instruments and foster standardization.		
	<p><i>For Faster payments:</i> NRB will</p> <p>i. Examine the need for increasing the frequency of settlements of IPS vis-à-vis the settlement of time critical payments in RTGS.</p> <p>ii. Examine connectIPS switch already providing fast payments being upgraded to cater to additional requirements, including QR code based payments.</p> <p>iii. Facilitate <i>payment for travel and transit through</i> licensed PSOs and PSPs.</p>	NRB/ PSOs/ PSPs	(i) Short term; (ii) Short term (iii) Medium term
	<p><i>Availability of infrastructure:</i></p> <p>i. NRB would devise an ATM and POS deployment strategy to increase their reach in all areas.</p> <p>ii. NRB in consultation with the stakeholders would examine the different options for facilitating interoperability and resiliency and take work with the various stakeholders to champion the implementation of a suitable solution.</p> <p>iii. NRB would examine the incentives that could be provided to the banks, PSOs and PSPs for deepening the access infrastructure and its reach.</p>	NRB/ PSOs/ PSPs	Medium term
	<p><i>e-commerce:</i> Encourage licensed PSOs and PSPs to integrate with payment gateway operators like Visa/Master Card and domestic and global e-money providers</p>	NRB/ PSOs/ PSPs/ international card scheme	Short term
Government and remittances payment to transaction account	<p>i. NRB will coordinate with Government for interface between the Treasury Single Account (TSA) of the Government and the General Ledger (GL) system of NRB and utilization of the centralized payment and settlement infrastructure, viz., the RTGS.</p>	NRB/ Government	(i) Short term; (ii) Medium term
	<p>ii. NRB in consultation with the Government</p>		

Topic	Proposed measures	Relevant stakeholders	Timeline ⁷
	would facilitate government payments in digital mode irrespective of the licensed entity with which the beneficiary is holding an account.		
	Usage of IPS by the Government for disbursement of social benefit transfers. NRB would coordinate with the Government for migrating pension payment and social benefit payments to transaction accounts (bank and e-money accounts).	NRB/ Government	Medium term
	NRB would engage with the Government for usage of the NPS for all the payments/ receipts of the Government.	NRB/ Government	Short term
	NRB would coordinate with Government to dovetail the limit set by Government for accepting payment in digital mode with the revised limit set by NRB.	NRB/ Government	Short term
	NRB would coordinate with the Government i. for examining the feasibility of mandatorily requiring the corporates / merchants employing a certain number of employees to make salary payments to accounts of the employees. ii. to promote a standardised fee structure for consumers and businesses to pay their taxes and duties in an online mode to the Revenue Management Information System (RMIS). iii. explore on providing tax incentives for making and receiving payments digitally.	NRB/ Government	Long term
	<i>Remittances and retail cross-border payments:</i> i. NRB would take policy measures to promote market contestability, competition in the remittances market. ii. NRB would examine measures to further facilitate digital payment modes for receipt of remittances directly to the transaction account of	NRB/ stakeholders	Medium term

Topic	Proposed measures	Relevant stakeholders	Timeline ⁷
	beneficiaries. iii. NRB would review the market needs and frame guidelines for acceptance of the wallets issued overseas in Nepal, subject to appropriate risk mitigation measures.		
Settlement in Central Bank money	<i>Settlement in RTGS:</i> NRB for smooth operation of RTGS, will monitor the readiness of other institutions for on-boarding on the RTGS system.	NRB	Short term
Financial awareness, literacy and access	<i>Fair pricing of payment product and services:</i> (i) <i>Customer fees/ charges:</i> NRB in consultation with the stakeholders would rationalise the customer service charges for all payment products and services being offered by banks, PSOs and PSPs; (ii) <i>Merchant Discount Rate (MDR):</i> NRB in consultation with the stakeholders would rationalize the current MDR being charged to the merchants; (iii) NRB in consultation with the stakeholders would examine lowering transaction costs.	NRB/ stakeholders	(i) Short term; (ii) Medium term; (iii) Long term
	<i>For creating awareness and literacy, NRB would adopt a multi-pronged strategy:</i> i. Prepare and publish material on the various payment products and payment services and the list of licensed providers; explore coordinating with the local Government for the financial awareness and literacy measures; ii. Require the PSO/ PSPs to initiate a campaign/ drive for educating the public about the products and services they offer; iii. In coordination with the Government, hold pre-departure programmes the population going	NRB/ Government/ stakeholders	(i) Short term; (ii) Short term; (iii) Long term

Topic	Proposed measures	Relevant stakeholders	Timeline ⁷
	overseas for work, in order to offer information on the modes and methods to send remittances to Nepal.		
	<i>Customer confidence:</i> To build confidence of the public in digital payments, NRB would mandate banks, PSOs and PSPs to communicate to the customer the relevant information on the success/ failure of a transaction, on any debit / credit happening to its account and on the successful crediting to the beneficiary.	NRB/ Government/ stakeholders	Short term
	<i>Customer grievance redressal:</i> NRB would mandate the PSOs and PSPs to setup customer grievance redressal centers or proper phone services to submit complaints and seek redressal in a timely manner.	NRB/ Government/ stakeholders	Medium term
Oversight	<i>Access, reach and interoperability:</i> i.NRB would facilitate all licensed entities (PSOs and PSPs - both banks and non-banks) to access systems operated by fellow licensed entities.	NRB/ stakeholders	Short term
	NRB would frame guidelines for encouraging innovation in payment products and services. NRB would explore adopting a 'sandbox' approach.	NRB	Long term
	<i>Safeguard customers and ensure their protection:</i> NRB would come out with minimum security standards that need to be adopted by all licensed banks, PSOs and PSPs for payment instruments, protecting customer data and funds, and minimizing frauds	NRB	Short term
	NRB would draw up the operational guidelines for implementing the Payment System Oversight Framework 2018 after completion of the review of the framework.	NRB	Short term
	Capacity building - human resource: Both at NRB and licensed PSOs/ PSPs	NRB/ stakeholders	Short term
	<i>Effective oversight of the licensed PSOs and</i>	NRB/	Short term;

Topic	Proposed measures	Relevant stakeholders	Timeline ⁷
	<p><i>PSPs:</i> NRB would also analyse the risk that could materialize from the services being outsourced by the licensed PSOs and PSPs.</p> <p>(i) NRB would devise a framework that would necessitate the licensed PSOs and PSPs to put in place appropriate framework for reliable and efficient services;</p> <p>(ii) NRB would advise the licensed banks, PSOs and PSPs to daily reconcile their accounts against each PSO and PSP.</p>	stakeholders	<p>(i) Medium term;</p> <p>(ii) Short term</p>
	Harmonisation of the instructions issued with regards to the payment systems, payment instruments, security aspects related to operations, e-money, limits for various electronic payment systems, etc. for effective oversight.	NRB	Medium term
	<p><i>Streamlining oversight activities:</i></p> <p>(i) NRB would examine the gap, if any, in the regulations governing the operations of the payment systems and payment services.</p> <p>(ii) NRB would make efforts to automate the process of receipt of daily positions on outstanding liability from PSPs and account balance statement from the bank on the PSPs account balances and reconciliation at the NRB end.</p>	NRB/ stakeholders	<p>(i) Short term;</p> <p>(ii) Long term;</p>
	NRB would require, the apps to be audited by an independent agency before launch and after any changes made to the app. Apart from this, the entities would have to get their systems audited on an annual basis.	NRB/ stakeholders	Short term
	NRB would prepare an assessment methodology to be adopted for assessment of retail PSOs and PSPs	NRB	Short term
	NRB would review the existing risk management framework in place for cheque clearing and take measures to further strengthen it.	NRB/ stakeholders	Medium term
	i. NRB would on a monthly basis publish the	NRB/	Short term

Topic	Proposed measures	Relevant stakeholders	Timeline ⁷
	<p>payment system data for all the payment systems in Nepal, including e-money and require the same to be done by the licensed PSO and PSPs for the system/ service being provided by them.</p> <p>ii. NRB would mandate compulsory public disclosure of the process and procedure adopted by the licensed PSO and PSP for the payment systems operated and payment service provided by it.</p>	stakeholders	
	<p>The outsourcing by FIs is concentrated to a few service providers. NRB will examine assessing such critical service providers from the point of concentration risks.</p>	NRB/ stakeholders	Short term
	<p><i>i. Cyber security and resilience:</i> NRB would advise the banks, PSOs and PSPs on the minimum requirements that needs to be adopted as part of their cyber security and risk management framework.</p> <ul style="list-style-type: none"> • <i>End point security:</i> NRB in consultation with stakeholders adopt the best practices detailed in the report 'Reducing the risk of wholesale payments fraud related to endpoint security' for all payment systems in Nepal. <p>ii. NRB would promote and mandate the use of effective cyber security measures, by all Financial Institutions.</p>	NRB/ MOCIT	Short term
	<p>NRB would require members using Society for Worldwide Interbank Financial Telecommunication (SWIFT) to comply with the SWIFT security programme and report compliance status periodically to NRB</p>	NRB/ stakeholders	Short term
	<p>Migrations of NRB regulated markets and entities to electronic payments.</p>	NRB/ stakeholders	Short term
	<p><i>Data protection:</i> NRB would instruct the licensed bank, PSOs and PSPs on data protection and security of customer information.</p>	NRB/ stakeholders	Short term

Topic	Proposed measures	Relevant stakeholders	Timeline ⁷
Cooperation between authorities	<p><i>Coordination between authorities</i></p> <p>i. NRB would engage with the telecom regulator on the requirement of the KYC for issuance of SIM as mobile is increasingly being used as a channel for payments.</p> <p>ii. National ID: NRB would coordinate with the Government to examine using National ID for KYC and integrating with the payment systems/ services.</p> <p>iii. NRB would engage with the Ministry of Communication and Information Technology (MOCIT) with the requirements for using PKI for payment systems.</p>	NRB/ concerned Government ministry	Medium term
	<p><i>Dialogue with other regulators:</i> NRB would also engage with other regulators such as securities regulator, insurance regulator, pension fund and other regulators for meeting the payment needs.</p>	NRB/ concerned regulatory authority	Medium term

Topic	Proposed measures	Relevant stakeholders	Timeline ⁷
Monitoring outcome	<p>1. NRB would monitor the outcome based on the measures taken as part of the strategy.</p> <p>(i) acceleration in the coverage of the population with a transaction account above 15 years of age;</p> <p>(ii) monitor each digital payment system – to increase by 100 percent year on year;</p> <p>(iii) availability of infrastructure to accept digital modes of payments – increase in the availability of ATMs/ POS terminals.</p> <p>2. NRB may require the licensed banks, PSOs and PSPs to report on agents engaged so that the access and coverage could be monitored and reviewed. (mapping as available at emap.nrb.org.np).</p> <p>3. NRM would monitor the growth in usage as per the data sets of Findex, specifically as indicated in Table 3. Apart from this, transactions performed online/ ecommerce transactions could also be considered.</p> <p>4. The banks, PSOs and PSPs may be required to inform/ populate the on-us transactions – which is currently a sizeable percentage.</p>	NRB/ stakeholders	Short term

National Payment Development Strategy, 2014

The following paragraphs in brief provides the implementation plan for each of the pillars identified in the National Payments Development Strategy, 2014.

Pillar I: Payment Systems in Nepal work in a sound and robust legal environment able to support settlement finality and the efficiency of payment arrangements

- i. In the immediate term the NRB will introduce by-laws to provide the necessary legal underpinning for the planned NPS developments, including the clearing and settlement of Government securities in book-entry form.
- ii. In the longer term the NRB intends to adopt a comprehensive National Payment Systems Law.
- iii. Once these legal measures are adopted, a general NRB regulation, containing the major body of rules on oversight (as well as secondary measures, such as guidelines on cards, mobile payments and other instruments as applicable), will be put in place.

Pillar II: Settlement mechanisms for large value and time critical payments in Nepal are safe and efficient and comply fully with the BIS Principles for Financial Market Infrastructures

- i. A key objective is the realisation of an efficient and integrated RTGS system that will support: (i) control of systemic risk throughout the NPS; and (ii) integration with a broad range of other payment systems.
- ii. In the immediate term the NRB will initiate the procurement of an RTGS system which will be based on packaged software, tailored as required to suit the specific local conditions. The RTGS system will be integrated with:
 - (i) The NRB's internal financial management system;
 - (ii) core banking systems of its participant banks (where these have the necessary interface capability);
 - (iii) the CSD which will be implemented under Pillar V;
 - (iv) the FMIS operated by the Ministry of Finance;
 - (v) the Revenue Accounting System operated by the IRD;

- (vi) the ASYCUDA system operated by the Customs administration;
- (vii) the cheque and electronic credit payment clearing system operated by NCHL
- (viii) card switching and clearing systems operated by PSO;
- (ix) all future retail payment clearing systems;
- (x) A possible future automated money market system as discussed under Pillar VI.

Pillar III: Retail payment systems in Nepal are efficient, sound and interoperable and support the offer of a wide range of payments instruments and services

- i. The NRB will form and lead a Retail Payments Working Group, with membership drawn from all parties involved in retail payment systems. The objective of this Working Group will be to develop a strategy and action plan for fostering the development of electronic, innovative retail payment systems in Nepal, taking particular account of the need to promote Financial Inclusion among the less advantaged sections of society. The NRB will support and monitor the implementation of this action plan.

Pillar IV: Government collections and disbursements are fully and efficiently integrated with the National Payments System in Nepal and support its smooth functioning

- i. The NRB will evaluate the potential for extending its use of the Olympic Banking System to provide a full banking service to the GON.
- ii. The NRB will work with the Ministry of Finance to develop and implement an action plan for executing all payments from the FMIS in the form of electronic credits, either through NCH for retail-level payments or through the RTGS system (see Pillar II) for large-value payments.
- iii. The NRB will work with the IRD to develop and implement an action plan for collecting revenue payments in electronic form from accounts at commercial banks or via the commercial banks as collecting agents, via either NCH (for retail-level payments) or the RTGS system (for large-value payments) with direct electronic interfaces into the IRD's RAS.
- iv. The NRB will work with the Nepal Customs Service to develop and implement an action plan for collecting Customs payments in electronic form from commercial banks via the RTGS system with a real time electronic interface into the Customs Service's ASYCUDA system.

Pillar V: Securities Depository, Clearing and Settlement. Securities Depository, Clearing and Settlement are safe and efficient, fully comply with international standards, and support the development of capital markets

- i. In the immediate term the NRB will initiate the implementation of an electronic CSD which will provide auction, registry, custody and maturity functions for all GON securities. The CSD will be tightly coupled with the RTGS system in order to: (i) ensure safe settlement of securities transactions following the principles of DvP; and (ii) support the provision of intraday liquidity by the NRB to RTGS participants.
- ii. The NRB will draw up the specifications for the CSD to suit its requirements. Following this it will decide whether to make use of the CSD which is currently being implemented by CDSC, or alternatively to procure and implement its own in-house CSD.

Pillar VI: Interbank money markets are fully developed and closely integrated with settlement systems

- i. In the medium term the NRB will initiate work to develop an interbank money market in Nepal and will work with market players to evaluate the requirement for a centralised money market information and trading system, integrated with the RTGS system. If appropriate the NRB will initiate the procurement of a suitable system.

Pillar VII: International remittances and other cross-border payments are distributed rapidly and conveniently in Nepal, and are cost efficient from the perspective of end users

- i. In the immediate term the NRB will carry out an updated assessment of the international remittances in Nepal against the World Bank/CPSS *General Principles for International Remittance Services, building on the one conducted by the World Bank in 2009.*
- ii. Also in the immediate term the NRB will form a Working Group to develop an action plan for ensuring that international remittance services in Nepal comply with the CPSS-WB *General Principles.*
- iii. As necessary the NRB will introduce regulations for management of remittances.

Pillar VIII: The oversight and supervisory framework for payments and securities settlement systems is clearly defined, and the NRB exercises its oversight authority effectively in co-operation with other regulators and supervisors

- i. In the immediate term the NRB will establish a Payment Systems Oversight Unit which will have the legal authority to ensure the development and operation of payment mechanisms that effectively contribute to the integrity, efficiency and safety of all financial markets and the operation of monetary policy.
- ii. The Oversight Unit will oversee all clearing and settlement arrangements in Nepal, including retail systems, and will aim at achieving efficiency and reliability for all payment systems in Nepal. It will promote competition in the payment services market and the protection of consumer interests in co-ordination with other authorities.
- iii. An early task of the Oversight Unit will be to conduct a stocktaking of the Nepal NPS against the CPSS/IOSCO *Principles for Financial Market Infrastructures* (PFMI).

Pillar IX: Effective, structured and fruitful co-operation is in place within the NPS

- i. In the immediate term the NRB will move to establish a National Payments Council (NPC). Membership of the NPC will include representatives from all major stakeholders with an interest in payments and securities clearance and settlement systems improvements. The NPC will be an extremely useful tool also to secure constructive dialogue between regulators and market participants.