



Payments Vision 2025

**Department of Payment and Settlement Systems
Reserve Bank of India
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1. Foreword

1.1 Payment systems foster economic development and financial stability as well as support financial inclusion. Ensuring safe, secure, reliable, accessible, affordable and efficient payment systems has been one of the important strategic objectives and goals of the Reserve Bank of India (RBI). Towards the pursuit of these objectives, India has developed one of the most modern payment systems in the world, be they large value, retail or fast. The past decade has witnessed the blossoming of quite a few payment systems, all for the convenience of common man with enhanced level of confidence through various safety and security measures. The role of RBI has transformed from being a regulator, operator and facilitator to creator of an environment for the structured development of the payments ecosystem in India. Payments Vision documents of RBI have been providing the strategic direction and implementation plan for this development since 2001.

1.2 The dynamic and accelerated development of the payments ecosystem in India, facilitated by increased adoption of technology and innovation, has established the country as a force to reckon with in the global payments space, in terms of not only growth in digital payments but also availability of a bouquet of safe, secure, innovative and efficient payment systems. Over 26 crore digital payment transactions are processed daily by our payment systems, of which Unified Payments Interface (UPI) system itself processes more than two-thirds.

1.3 Induced by the CoVID pandemic, the industry and society in general have been undergoing a major behavioral transformation towards making / accepting / facilitating digital payments, though the goal of covering every citizen through complete migration remains afar. BigTech and FinTech companies are actively expanding their scope of business from initial onboarding of customers for facilitating payment transactions to becoming participants of payment systems and thereafter providing a host of financial services. Further, data generated across economic sectors / regions, especially those concerning financial sector,

is being largely viewed and recognised as the new business energy source and accordingly, there are regulations in place / envisaged for data protection and privacy. As is common knowledge by now, India has mandated local storage of payments data and is also in the process of legislating its own data protection law.

1.4 Steps have been initiated to digitally enable all mobile phone users (both smart phone and feature phone users) as well as securing offline and online card transactions and the transactions involving standing instructions by the users; further work needs to be undertaken for their effective implementation. Efforts have also been initiated towards bringing critical payment intermediaries into the formal regulated / supervised framework. The directions issued for Payment Aggregators (PAs) are a step in this direction. Initiatives are also on to up the payments acceptance infrastructure.

1.5 These activities have brought new challenges to the fore in terms of onboarding and retaining of customers into the digital payments fold by the stakeholders; providing low or no cost payment options to users, merchants included; fulfilling the demand of all stakeholders in terms of speed, efficiency and availability of payment services every time and from / to everywhere; facilitating availability of customer friendly dispute resolution and grievance redressal mechanisms; providing protection for mitigating the risks of losses on account of frauds, putting in place safe practices for protection of personal data, etc. The requirement for ensuring information security in a trusted environment in the payment industry cannot be undermined.

1.6 The current Vision document builds on the Payments Vision 2019-21 document and outlines the thought process for the period up to December 2025. It needs to be appreciated that initiatives would also emerge from evolving situation and may not necessarily be constrained by what the Payments Vision documents. For instance, recent developments in terms of (a) establishment of Reserve Bank Innovation Hub; (b) framework for security of card transactions like switch on / off facility; (c) guidelines on limiting customer liability in case of unauthorised transactions using Prepaid Payment Instruments (PPIs); (d) enabling

Online Dispute Resolution (ODR) for digital payments; (e) review of scope and coverage of system audit of Payment System Operators (PSOs); (f) streamlining of Quick Response (QR) code infrastructure; (g) perpetual validity for Certificate of Authorisation of PSOs; (h) construction of RBI Digital Payments Index (DPI); etc., were in addition to the remit from the [Payments Vision 2019-21](#) document.

1.7 Customer centricity is always paramount in every initiative of the Reserve Bank with multiple efforts in this direction; and this increases with growing customer confidence. And every initiative has been acknowledged, accepted and appreciated by increase in user onboarding and transaction volumes.

1.8 India is the world's largest recipient of in-bound remittances. Enhanced interest evinced by major countries across the globe in India's UPI could accelerate growth in trade and commerce with partnering countries while reducing speed and cost of remittances. With India outbound tourists exploding, proliferation of India's payment products abroad would provide seamless experience to Indian travelers.

1.9 As we embark upon the journey of realising Payments Vision 2025, the steps taken so far towards enhanced outreach, customer centricity, cyber security and digital deepening would be further consolidated and built upon through the five pillars of integrity, inclusion, innovation, institutionalisation and internationalisation. These measures are expected to propel our payment systems further and surpass their potential at the national and international levels. Payments Vision 2025 leverages India's efforts and builds on the focus of G-20 to enhance cross-border payments by addressing the four key challenges of cost, speed, access and transparency. Given the dynamic space of payment systems in the financial services space, efforts shall be conditioned by developments and readiness of the ecosystem to accept and further these initiatives.

2. Achievements of Payments Vision 2019-21

2.1 The Payments Vision 2021 had envisaged to empower every Indian with access to a bouquet of e-payment options that is safe, secure, convenient, quick and affordable, and had set four goalposts of Competition, Cost, Convenience and Confidence with 36 specific action points and 12 expected outcomes.

2.2 These goalposts have been accomplished through the following initiatives –

- (i) Creation of regulatory sandbox, opening access of Centralised Payment Systems (CPS) to non-bank PSOs, facilitation of small value digital payments in offline mode, 'on tap' authorisation for payment systems, internationalisation of domestic payment systems, feature phone-based payment services, framework for self-regulatory organisation for payment systems, etc. (*Competition*).
- (ii) Waiver of charges levied by RBI for transactions processed in the Real Time Gross Settlement (RTGS) and National Electronic Funds Transfer (NEFT) systems, waiver of charges for savings bank account customers for online transactions in NEFT, review of Automated Teller Machine (ATM) interchange fee and customer charges, implementation of Payments Infrastructure Development Fund (PIDF) Scheme; increasing Legal Entity Identifier (LEI) usage for large value cross-border and domestic payments, framework for regulation of PAs, etc. (*Cost*).
- (iii) Availability of NEFT, RTGS and National Automated Clearing House (NACH) on 24x7x365 basis, harmonisation of Turn-Around-Time (TAT) for resolution and compensation in respect of failed transactions, e-mandates for recurring transactions using cards / PPIs / UPI, relaxation of Additional Factor of Authentication (AFA) requirements for small value card present transactions, increase in limits for contactless transactions, setting up a 24x7 helpline for digital payment services, etc. (*Convenience*).

(iv) Framework for regulating Payment Aggregators (PAs), e-mandates for recurring transactions, tokenisation of card transactions and Card-on-File Tokenisation (CoFT), setting up of Centralised Payments Fraud Information Registry (CPFIR), geo-tagging of payment system touch points, framework for outsourcing of payment and settlement-related activities by PSOs, etc. (*Confidence*).

2.3 JAM (Jan Dhan, Aadhaar and Mobile) trinity, which is a fusion of sovereign initiatives in the form of Jan Dhan and Aadhaar, along with low-cost mobile and data have been key enablers for the growth and steep trajectory of digital payments in the country. Given that there are more than 131 crore Aadhaar card holders, there has been facilitation of the fold of digital payments by Direct Benefit Transfers (Government to Person or G2P payments) through the Aadhaar Payment Bridge System (APBS). This has also resulted in significant growth in Aadhaar-enabled Payment System (AePS) through the Business Correspondent assisted model for facilitating digital payments using micro-ATMs. The increase in mobile phone consumer base with about 114 crore mobile users (TRAI, February 2022), of which about 84 crore (Statista, 2021) have smart phones, has facilitated digital payments through technology driven platforms for mobile banking (banks), mobile wallets (dominance of private entities) and USSD based payments as well as UPI based payments (through UPI123Pay) for feature phone users.

2.4 Adoption of digital payments was growing before onset of CoVID pandemic, but the steps taken by Reserve Bank along with additional thrust provided by the pandemic have accelerated the shift, leading to a dramatic increase in contactless and online payments. For all organisations that rely on or are in the payments ecosystem, effective digital payments strategy and operations are fundamental. The contactless nature of the digital modes – enabled by innovative technologies and regulatory flexibility – has given crores of Indians a choice to practice social distancing while making payments. Another significant trend is the entry of small businesses into digital payments. Data shows an increase of more than 500% in merchants accepting digital modes of payments during the half-year ended September 2021 as compared to half-year ended March 2019; in case of UPI alone, there

is an increase of more than 1200% over the same period. There has also been a significant rise in deployment of payment touch points driven by the implementation of PIDF.

2.5 Digital payments are not simply about technology. For consumers, adoption of digital payment depends upon their lifestyle and how comfortable they are transacting digitally / online. The data shows that there has been increase in unique users of mobile banking and internet banking by 99% and 18%, respectively, between March 2019 and September 2021.

2.6 Total digital payments have increased by 216% and 10% in terms of volume and value, respectively, for the month of March 2022 when compared to March 2019. On the other hand, usage of paper instruments has come down significantly during the same period, with its share in total retail payments registering a decline from 3.83% to 0.88% in terms of volume and from 19.62% to 11.47% in terms of value. Of the digital payments, UPI, IMPS and PPI transactions registered CAGR of 104%, 39% and 13% respectively during the vision period. However, debit card transactions at PoS decreased by CAGR of 3.7%, mainly due to the lockdown restrictions imposed during the pandemic.

2.7 It is also seen that the user experience has changed with the use of debit cards for payments than for cash withdrawals, online transactions competing favourably with offline (or card present), and small or large value transactions being undertaken through digital means.

3. Payments Vision 2025

Core Theme

E-Payments for Everyone, Everywhere, Everytime (4 Es)

Vision – Provide every user with Safe, Secure, Fast, Convenient, Accessible, and Affordable e-payment options (6 Attributes)

3.1 The journey of payment systems in India has been phenomenal in the recent couple of years. The Payments Vision 2025 promises to further elevate our payment systems towards a realm of empowering users with affordable payment options accessible anytime and anywhere with convenience. As this journey towards less-cash and less-card society unfolds, concomitant expansion in the basket of digital payment options with credence and confidence would ensure sustenance of Reserve Bank's approach of facilitating users with a seamless digital payment experience. This will also reinforce India's position as the global leader in digital payments domain. Considering the current geo-political developments across the world, the Payments Vision 2025 document also seeks to address the potential risks arising out of any adverse situation that may arise.

3.2 The Payments Vision 2025 document is presented across the five anchor goalposts of Integrity, Inclusion, Innovation, Institutionalisation and Internationalisation. Resilience to operational and security concerns would continue to be at the heart to withstand and recover from the evolving threat landscape. Integrity of payment systems shall be non-negotiable for buttressing customer confidence. With the change / shift in customer behaviour towards embracing digital and touchless modes of payments, partly due to the CoVID, there is a spike of 50% in mobile banking users, indicating inclusion of first-time users into the digital fold. The challenge to make this an irreversible shift, eventually seeking convenient and tailored payment solutions, would be pursued.

3.3 Inclusion would be promoted through collection and publication of disaggregated payment data leading to policy enhancements, where required; customer awareness transcending geographies, participant members and customer segments; identifying spatial penetration of digital payment acceptance infrastructure across states / districts; reviewing the scope of PIDF Scheme, etc. To further spur innovation, UPI like system for cards and an enabling framework for Internet of Things (IoT) based payments would be explored.

3.4 It is also considered opportune to showcase India's achievements at the international fora. Increased involvement in discussions of global standard-setting bodies, including interlinkage with fast payment systems of other jurisdictions with focus on adjoining corridors, will be furthered; this could also be expected to improve trade and commerce and reduce cost and time for remittances. Higher adoption of digital payments and associated less-cash outcome is expected to reduce costs associated with usage of cash or near-cash substitutes. This would enhance the share of digital payments to GDP and contribute towards improved transparency in transactions.

3.5 A snapshot of the specific initiatives, including discussions on different dimensions, that are planned as part of Payments Vision 2025 document is tabulated below.

Goalposts for Payments Vision 2025

Integrity	Inclusion	Innovation	Institutionalisation	Internationalisation
Weave in alternate authentication mechanism(s) for digital payment transactions <i>(para 4.1.1)</i>	Enable geo-tagging of digital payment infrastructure and transactions <i>(para 4.2.1)</i>	Facilitate framework for IoT and context-based payments <i>(para 4.3.1)</i>	Comprehensive review of legislative aspects of PSS Act provisions and regulations <i>(para 4.4.1)</i>	Global outreach of RTGS, NEFT, UPI and RuPay cards <i>(para 4.5.1)</i>
Broaden scope, usage and relevance of LEI in all payment activities <i>(para 4.1.2)</i>	Revisit guidelines for PPIs including closed system PPIs <i>(para 4.2.2)</i>	Migrate all RBI-operated payment system messages to ISO 20022 standard <i>(para 4.3.2)</i>	Constitute a Payments Advisory Council (PAC) to assist Board for Regulation and Supervision of Payment and Settlement Systems (BPSS) <i>(para 4.4.2)</i>	Expand SFMS, InFiNet frameworks across jurisdictions <i>(para 4.5.2)</i>
Expand interoperability to contactless transit card payments in offline mode <i>(para 4.1.3)</i>	Consider framework for regulation of all significant intermediaries in payments ecosystem <i>(para 4.2.3)</i>	Link credit cards and credit components of banking products to UPI <i>(para 4.3.3)</i>	Operationalise National Card Switch for card transactions at PoS and resultant settlements <i>(para 4.4.3)</i>	Two Factor Authentication (2FA) for cross-border card transactions <i>(para 4.5.3)</i>
Enhance scalability and resilience of payment systems <i>(para 4.1.4)</i>	Bring in enhancements to Cheque Truncation System (CTS), including One Nation One Grid clearing and settlement perspective <i>(para 4.2.4)</i>	Create payment system for processing online merchant payments using internet / mobile banking <i>(para 4.3.4)</i>	Active engagement and involvement in international fora (discussions of standard-setting bodies) <i>(para 4.4.4)</i>	Seek inclusion of INR in Continuous Linked Settlement (CLS) <i>(para 4.5.4)</i>

Leverage ODR system for fraud monitoring and reporting <i>(para 4.1.5)</i>	Extend Internal Ombudsman Scheme to all PSOs <i>(para 4.2.5)</i>	Organise payment innovation contests & hackathons <i>(para 4.3.5)</i>		Bring further efficiencies in payment processing and settlements on introduction of Central Bank Digital Currencies (CBDCs) – Domestic and Cross-Border <i>(para 4.5.5)</i>
Provide enhancements to CPFIR <i>(para 4.1.6)</i>	Support increase in market trading and settlement hours <i>(para 4.2.6)</i>	Review need for multiple payment identifiers <i>(para 4.3.6)</i>		
Provide payee name look-up for fund transfers <i>(para 4.1.7)</i>	Upscale customer outreach and awareness activities <i>(para 4.2.7)</i>	Explore guidelines on payments involving Buy Now Pay Later (BNPL) services <i>(para 4.3.7)</i>		
Increase proportionate oversight of PSOs <i>(para 4.1.8)</i>	Revisit scope and usefulness of PIDF scheme <i>(para 4.2.8)</i>			
Include assessment of RTGS & NEFT under Principles for Financial Market Infrastructures (PFMIs) <i>(para 4.1.9)</i>	Attempt regulation of BigTechs and FinTechs in payments space <i>(para 4.2.9)</i>			
Explore local processing of payment transactions	Continue endeavour to collect and publish granular, disaggregated			

(para 4.1.10)	payment systems data (para 4.2.10)			
Study creation of Digital Payments Protection Fund (DPPF) (para 4.1.11)	Make payment systems more inclusive (para 4.2.11)			
	Undertake evaluation of charges for all payment systems (para 4.2.12)			
	Coordinate migration of government receipts and payments to digital mode (para 4.2.13)			

3.6 Various initiatives proposed under the above five goalposts shall have the following ten expected outcomes during the Vision period:

- i. Volume of cheque-based payments to be less than 0.25% of the total retail payments;
- ii. More than 3x increase in number of digital payment transactions;
- iii. UPI to register average annualised growth of 50% and IMPS / NEFT at 20%;
- iv. Increase of payment transaction turnover vis-à-vis GDP to 8;
- v. Increase in debit card transactions at PoS by 20%;
- vi. Debit card usage to surpass credit cards in terms of value;
- vii. Increase in PPI transactions by 150%;
- viii. Card acceptance infrastructure to increase to 250 lakh;
- ix. Increase of registered customer base for mobile based transactions by 50% CAGR; and
- x. Reduction in Cash in Circulation (CIC) as a percentage of GDP.

4. Specific Initiatives

4.1 INTEGRITY

4.1.1 WEAVE IN ALTERNATIVE AUTHENTICATION MECHANISM(S) FOR DIGITAL PAYMENT TRANSACTIONS

AFA or 2FA has generally been prescribed by Reserve Bank for all payment transactions. Though the form factor of AFA has not been specified, SMS based OTP has become a go-to AFA. Considering emerging concerns with OTP-based authentication in terms of increasing cases of phishing / vishing / smishing modes for divulgence of customer confidential details, alternate risk-based authentication mechanisms leveraging behavioral biometrics, location / historical payments, digital tokens, in-app notifications, etc., shall be explored.

4.1.2 BROADEN SCOPE, USAGE AND RELEVANCE OF LEI IN ALL PAYMENT ACTIVITIES

Encouraging the use of LEI in payment systems facilitates faster tracking of payments, unique identification of parties involved, ensures greater precision and transparency and helps in the adoption of a single identity for an entity across multiple applications. Aspects of speed and transparency, enumerated in G20 Roadmap for enhancing cross-border payments, shall also thereby get addressed. The use of LEI in areas like sanctions screening, Know Your Customer (KYC), corporate invoice reconciliation, fraud detection, etc. shall be explored.

4.1.3 EXPAND INTER-OPERABILITY TO CONTACTLESS TRANSIT CARD PAYMENTS IN OFFLINE MODE

Contactless payments in offline mode were permitted with the launch of National Common Mobility Card (NCMC). The feature of tap-and-go offline payment was initially permitted for transit payments, considering the requirement of fast check out time for transit payments

and it was later in January 2022 extended to retail payments. The standards for NCMC, developed by NPCI, made use of the qSPARC specifications for contactless payments. The possibility of interoperability for contactless transit card payments in offline mode shall be explored to facilitate seamless travel with a single payment instrument usable across different transit operators.

4.1.4 ENHANCE SCALABILITY AND RESILIENCE OF PAYMENT SYSTEMS

4.1.4.1 Reserve Bank has issued directions for Central Counterparties (CCPs) in October 2018 and June 2019 regarding governance, net-worth requirements, ownership and recognised Foreign CCPs. RBI shall undertake a comprehensive review of these directions so that the governance standards, including appointment, reappointment, fit and proper criteria of directors, are aligned at par with banks. Efforts shall be made to consolidate all instructions issued to CCPs.

4.1.4.2 Settlement of various payment systems in central bank money is undertaken in both e-Kuber (the core accounting system of the RBI) and RTGS, ensuring mitigation of settlement risk. To facilitate efficient liquidity management for members, RBI shall explore developing a system of liquidity bridge for seamless transfer of funds from one system to another automatically without intervention of members.

4.1.4.3 NEFT system is available round the clock throughout the year. NEFT is presently operated in batches at half-hourly intervals throughout the day. To further reduce the settlement risk as also to improve efficiency by making the payments near-real time, the frequency of batches in NEFT shall be reviewed and increased.

4.1.5 LEVERAGE ODR SYSTEM FOR FRAUD MONITORING AND REPORTING

The [Master Direction on Digital Payment Security Controls dated February 18, 2021](#), issued by Reserve Bank, mandated the Regulated Entities (REs) to provide a mechanism on their mobile and internet banking application for customers to identify / mark a transaction as

fraudulent for seamless and immediate notification to the issuer RE. On such notification, the REs may endeavour to build the capability for seamless / instant reporting of fraudulent transactions to the corresponding beneficiary / counterparty's RE. Implementation of this instruction requires a central agency to facilitate such routing of messages to the beneficiary REs. Till the time this feature is built in as part of CPFIR, the feasibility of leveraging ODR system for the same shall be examined.

4.1.6 PROVIDE ENHANCEMENTS TO CPFIR

4.1.6.1 The CPFIR has been set-up and operational since March 2020. Scheduled Commercial Banks and non-bank PPI Issuers use the CPFIR for reporting payment frauds. Access to Urban Co-operative Banks and RRBs shall be examined. Further, enhancements to the CPFIR in terms of creating negative database of fraudulent beneficiaries, analysing modus operandi of fraudsters, publishing reports on trends in payment frauds, etc., shall be considered.

4.1.6.2 To leverage on the payment frauds reported in CPFIR, it is essential to move towards real / near real-time reporting of payment frauds and put in place an integrated platform for all stakeholders (payment system operators and participants – banks and non-banks, law enforcement agencies, etc.) to share information and initiate necessary corrective action to prevent frauds. The Reserve Bank shall engage with the industry and Government to examine the feasibility of integrating CPFIR with other fraud reporting solutions to ensure that a single comprehensive platform is made available for real-time reporting and resolution of payment frauds in the country.

4.1.7 PROVIDE PAYEE NAME LOOK-UP FOR FUND TRANSFERS

Presently, the fund transfer payment systems, i.e. RTGS, NEFT, IMPS and UPI provide for a system of positive confirmation whereby the sender is also intimated about the credit to the beneficiary. Of these, only UPI has a facility for the payer to check and confirm the name of the account holder being paid before making the payment. Over a period, there are

complaints about credit to unintended beneficiary due to inadvertent wrong account number entry. Hence, introduction of payee name look-up, a service for checking the beneficiary's actual name shall be explored for other funds transfer systems such as RTGS, NEFT, IMPS, etc.

4.1.8 INCREASE PROPORTIONATE OVERSIGHT OF PSOs

The card networks and cross-border money transfer (in-bound service) operators are presently supervised through submission of off-site returns. Requirement of on-site inspection of such entities shall be explored and, to start with, the need for an onsite visit shall be examined encompassing interaction with the executives of the entities as well as the overseas regulators.

4.1.9 INCLUDE ASSESSMENT OF RTGS AND NEFT UNDER PFMI

RBI has adopted the PFMI, published jointly by the Committee on Payments and Market Infrastructures (CPMI) and the International Organisation of Securities Commissions, through its policy document "Regulation and Supervision of FMI regulated by RBI". Accordingly, all RBI authorised payment systems declared as systemically important payment system / system wide important payment system and Securities Settlement Systems, CCPs, Central Securities Depositories and Trade Repositories are expected to comply with the PFMI standards. The assessment of RTGS and NEFT, owned and operated by RBI, shall be carried out periodically under the PFMI standards and published.

4.1.10 EXPLORE LOCAL PROCESSING OF PAYMENT TRANSACTIONS

Presently guidelines are in place for domestic storage of payments data. Banks and non-bank PSOs are allowed to process payment transactions abroad subject to certain conditions. Keeping in view the emerging geo-political risks, options shall be explored to ring-fence domestic payment systems, including the need to mandate domestic processing of payment transactions.

4.1.11 STUDY CREATION OF DIGITAL PAYMENTS PROTECTION FUND (DPPF)

With the growing adoption of digital payment modes, there is rise in digital payment frauds. In spite of the efforts of stakeholders, recovery rate of defrauded amounts is not very encouraging. With an aim to provide a security cover to defrauded customers / issuers of payment instruments, a study on scope / feasibility of creation of DPPF shall be undertaken.

4.2 INCLUSION

4.2.1 ENABLE GEO-TAGGING OF DIGITAL PAYMENT INFRASTRUCTURE AND TRANSACTIONS

A framework for geo-tagging of payment system touch points has been prescribed and Reserve Bank has commenced collection of location information, including geo-coordinates, of payment acceptance infrastructure across the country. To measure the extent of digital payment penetration across various states / districts / areas within the country and undertake targeted interventions as well as to enhance fraud monitoring and dispute resolution by PSOs and participants, RBI shall examine the desirability and feasibility of geo-tagging of payment transactions keeping in view the customer privacy concerns.

4.2.2 REVISIT GUIDELINES FOR PPIs INCLUDING CLOSED SYSTEM PPIs

PPI have always been an evolving area and there are multiple players involved with a variety of business models that issue and operate PPIs – for usage within a closed group of merchants or open for wide usage. A PPI could be viewed as a payment instrument intended to shift customer preference from cash to digital. While the digital payment transactions using PPIs is growing, RBI shall continue to develop a conducive framework for long term growth of PPIs with enhanced security of transactions. A comprehensive review of the different types of PPIs including timeline for full-KYC PPIs, definition of closed system PPIs, and the related aspects, shall be undertaken.

4.2.3 CONSIDER FRAMEWORK FOR REGULATION OF ALL SIGNIFICANT INTERMEDIARIES IN PAYMENTS ECOSYSTEM

Innovation in payment processing and fund transfers have seen the rise of intermediaries that facilitate payments between payers and recipients. They eliminate many frictions and provide value added services to the participants of payment industry. Uniformity in implementation of user onboarding processes and transparency in operations of such intermediaries is found wanting. At present, RBI has issued instructions for regulating the activities of online PAs, while providing baseline technology-related recommendations to Payment Gateways (PGs). The need to bring all significant payment intermediaries, including offline PAs, under direct regulation of RBI shall be considered.

4.2.4 BRING IN ENHANCEMENTS TO CTS, INCLUDING ONE NATION ONE GRID CLEARING AND SETTLEMENT PERSPECTIVE

4.2.4.1 To promote efficient cheque processing, measures shall be taken to migrate from the current architecture of three regional grids to 'One Nation, One Grid'. This is also expected to improve cost effectiveness and make the related regulations simpler.

4.2.4.2 The current approach of batch processing of presentation and return sessions for clearing and settlement of cheques shall be migrated to 'on-realisation-settlement' model, wherein the processing shall be continuous. This is expected to reduce the settlement risk, provide larger time window for the banks to present the instruments and enable faster realisation of funds for the customers.

4.2.5 EXTEND INTERNAL OMBUDSMAN SCHEME TO ALL PSOs

As a part of confidence building measure and safeguarding the interests of customers, the Internal Ombudsman Scheme was institutionalised in 2019 for the large non-bank PPI Issuers having more than one crore outstanding PPIs in terms of numbers. The Scheme provides for a swift, efficient and effective complaint redressal mechanism within the entity itself by an independent authority placed at the apex level in the entity's grievance redressal

mechanism so as to minimise the need for the customers to approach other fora for redressal. With the positive experience gained so far, measures shall be taken to bring all the authorised PSOs under this Scheme.

4.2.6 SUPPORT INCREASE IN MARKET TRADING AND SETTLEMENT HOURS

The money market and capital market currently operate at fixed hours. However, the RTGS and NEFT payment systems which enable settlements in these markets, operate on a 24x7 basis. With a view to leverage the availability of payment systems on 24x7x365 basis, extension of trading hours of these markets to enable longer market availability for trading and settlement shall be facilitated, in conjunction with the concerned market departments of the Reserve Bank. This shall enhance efficiency and further price discovery in these markets.

4.2.7 UPSCALE CUSTOMER OUTREACH AND AWARENESS ACTIVITIES

Reserve Bank has been actively taking measures to enhance customer awareness through its electronic-Banking Awareness And Training (eBAAT) programmes and organising campaigns on safe use of digital payment modes through various media channels. Of late, cyber-crimes related to payments have been on a rise, calling for stepping up of the customer awareness campaigns. The existing e-BAAT programmes shall be ramped up to promote awareness using all possible traditional channels at bank branch level and other channels including social media. The training approach shall be shifted from passive and mass communication to customised and user specific delivery channel. The scope of public awareness campaigns under the “RBI Says” tag shall be widened to cover different payment systems and their effectiveness shall be gauged through the outcomes of customer surveys conducted on a periodic basis.

4.2.8 REVISIT SCOPE AND USEFULNESS OF PIDF SCHEME

Currently, PIDF Scheme subsidises deployment of PoS infrastructure (physical and digital modes) in tier-3 to tier-6 centres and north-eastern states of the country. Beneficiaries of

PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi Scheme) in tier-1 and tier-2 centres are also covered. Post the successful roll-out of geo-tagging of payment system touch points, scope of the Scheme shall further be reviewed for continuation and, if necessary, to cover more regions and merchant categories for targeted expansion of acceptance infrastructure.

4.2.9 ATTEMPT REGULATION OF BIGTECHS AND FINTECHS IN PAYMENTS SPACE

BigTechs and FinTechs play an invigorating role in onboarding new users and customising payment experience. Given their increasingly dominant role in payments ecosystem, a discussion paper on the need for proportionate regulation by the Reserve Bank encompassing domestic incorporation, reporting, data use, etc., shall be published.

4.2.10 CONTINUE ENDEAVOUR TO COLLECT AND PUBLISH GRANULAR, DISAGGREGATED PAYMENT SYSTEMS DATA

The Reserve Bank publishes granular data on payment system indicators covering payment transactions, usage of different channels for undertaking payments and availability of payment acceptance infrastructure. Not only is payment systems data disseminated daily but the lag in publishing of granular data on a monthly / quarterly basis has also been largely brought down. To encourage research and facilitate analysis of in-depth trends in payments as well as assess the extent of financial inclusion across the country, collection and publication of disaggregated data on payment systems shall be facilitated.

4.2.11 MAKE PAYMENT SYSTEMS MORE INCLUSIVE

The Reserve Bank has been at the forefront of expanding the reach of digital payments to different strata of population. Differently-abled persons, including those with visual impairments, might be facing issues while transacting digitally. To help obviate the difficulties faced by them, the Reserve Bank shall examine the feasibility of implementing

suitable policy initiatives, including standardisation of most used icons, text-to-voice features, etc.

4.2.12 UNDERTAKE EVALUATION OF CHARGES FOR ALL PAYMENT SYSTEMS

Providing digital payment services entail costs, which are borne by one or more of the payment system participants (switching fees, interchange fees, etc.) or are passed on to the merchant (Merchant Discount Rate) or the customer (customer charges). While collecting charges from the merchants and / or customers may be required for viability of digital payments, care needs to be taken to ensure that they are reasonable and do not deter digital payments adoption. A comprehensive review of all aspects related to charges involved in various channels of digital payments shall be undertaken.

4.2.13 CO-ORDINATE MIGRATION OF GOVERNMENT RECEIPTS AND PAYMENTS TO DIGITAL MODE

The APBS operated by NPCI has been helping the Government(s) and Government agencies in successfully channelising the Government subsidies to the intended beneficiaries as part of the Direct Benefit Transfer Scheme. The APBS links the Government Departments and their sponsor banks on one side and beneficiary banks and beneficiaries on the other. To migrate all the government receipts and payments to digital mode, Reserve Bank shall coordinate with the central and state governments to integrate their payment platforms with the Reserve Bank's eKuber.

4.3 INNOVATION

4.3.1 FACILITATE FRAMEWORK FOR IOT AND CONTEXT-BASED PAYMENTS

IoT devices are increasingly becoming a part of, as well as revolutionising, the payments landscape. An IoT enabled payment system could help consumers pay for a range of goods and services through connected devices beyond just phones or tablets. With a view to promoting growth of this segment and at the same time protect customer interests, an

enabling framework on IoT-based payments covering aspects of data security, authentication, identity validation, etc. shall be facilitated.

4.3.2 MIGRATE ALL RBI OPERATED PAYMENT SYSTEM MESSAGES TO ISO 20022 STANDARD

Messages provide a common set of rules for exchanging critical information for a payment transaction to take place. Payment System Operators across the world have embarked on a journey to implement ISO 20022. This standard brings significant benefits – enables straight-through processing with less need for manual intervention, allows switching between payment systems and re-routing of messages which could reduce the impact of outages on users, provides richer data enabling better compliance and regulation as well as making it easier for businesses to detect fraud and help target financial crime, facilitates better analytics and more efficient reconciliation, promotes international harmonisation supporting cross-border payments, etc. To unlock these benefits and ensure greater interoperability including with systems of other jurisdictions, steps shall be taken to migrate all the RBI-operated payment messaging systems to ISO 20022 standard.

4.3.3 LINK CREDIT CARDS AND CREDIT COMPONENTS OF BANKING PRODUCTS TO UPI

UPI transactions have been growing by leaps and bounds at the cost of other retail payments, especially card transactions. One of the reasons for its popularity is the convenience and seamless experience it offers to users. Currently, a UPI user can only link the bank account (savings / current account) and the debit card to the UPI Virtual Payment Address (VPA). To offer more avenues and greater convenience to users in making payments through UPI platform, feasibility of linkage of credit cards and credit components of banking products to UPI shall be explored.

4.3.4 CREATE PAYMENT SYSTEM FOR PROCESSING ONLINE MERCHANT PAYMENTS USING INTERNET / MOBILE BANKING

All merchant payment transactions done using internet / mobile banking are presently processed through payment gateways / payment aggregators. As this practice entails delays in merchant settlements, a framework shall be introduced such that all these transactions are also processed through a payment system.

4.3.5 ORGANISE PAYMENT INNOVATION CONTESTS AND HACKATHONS

Innovation is making payments increasingly convenient, instantaneous and ubiquitous. In the wake of success of the [RBI's first global hackathon – “HARBINGER 2021 – Innovation for Transformation”](#), efforts shall be continued towards organising national / international payment hackathons, competitions and conferences to foster innovation and exchange of ideas.

4.3.6 REVIEW NEED FOR MULTIPLE PAYMENT IDENTIFIERS

Funds transfer through RTGS, NEFT and IMPS requires the beneficiary bank account number and Indian Financial System Code (IFSC) as identifiers. As bank account numbers in each bank are unique, funds transfer could be facilitated without the IFSC of the beneficiary branch. The need for IFSC to make funds transfer shall be reviewed and alternative options with suitable provision for collecting beneficiary bank details shall be explored to make funds transfer simpler and hassle-free for customers.

4.3.7 EXPLORE GUIDELINES ON PAYMENTS INVOLVING BNPL SERVICES

BNPL services have developed into a new payment mode alongside the existing payment modes like cards, UPI, and net banking. This channel, facilitated by a few payment aggregators, leverages the existing nodal account (escrow account after authorisation) to route payments between BNPL customer and a merchant. This novel method shall be

examined, and issuance of appropriate guidelines on payments involving BNPL shall be explored.

4.4 INSTITUTIONALISATION

4.4.1 COMPREHENSIVE REVIEW OF LEGISLATIVE ASPECTS OF PAYMENT AND SETTLEMENT SYSTEMS ACT PROVISIONS AND REGULATIONS

India is one of the few countries with a specific payment systems legislation. Considering the importance of development and orderly functioning of payment systems, the PSS Act was legislated in 2007 when the digital payments ecosystem in India was nascent. Considering the emerging requirements of the highly dynamic and fast evolving payment ecosystem, both domestic and cross-border, Reserve Bank shall endeavour to comprehensively review the PSS Act and the corresponding Regulations.

4.4.2 CONSTITUTE PAYMENTS ADVISORY COUNCIL (PAC) TO ASSIST BPSS

To assist the BPSS, a PAC with experts representing consumer groups, payments technology, legal, bankers, fintechs / start-ups, data analysts, etc., shall be constituted. The composition of the PAC shall be reviewed periodically and suitably modified to maintain its relevance.

4.4.3 OPERATIONALISE NATIONAL CARD SWITCH FOR CARD TRANSACTIONS AT PoS AND RESULTANT SETTLEMENTS

All ATM transactions are primarily processed through the National Financial Switch (NFS). Presently, while card transactions at ATMs are processed through either the NFS or ATM networks or the concerned card networks, card transactions at PoS terminals are processed only through the concerned card network. To promote competition and thereby bring in more efficiency and innovation in processing of such transactions, the possibility of implementing a National Card Switch to process card transactions at PoS terminals and the resultant settlements shall be examined.

4.4.4 ACTIVE ENGAGEMENT AND INVOLVEMENT IN INTERNATIONAL FORA (DISCUSSIONS OF STANDARD-SETTING BODIES)

Reserve Bank also represents India in various international standard setting bodies, viz. Financial Stability Board (FSB), CPMI, etc. relevant to payment systems and actively participates in working groups, task forces, etc. constituted with the aim to enhance the payments ecosystem. With India's G20 presidency in 2023, RBI shall continue its active participation in such fora and play a leadership role in transforming the payments ecosystem across the globe.

4.5 INTERNATIONALISATION

4.5.1 GLOBAL OUTREACH OF RTGS, NEFT, UPI AND RUPAY CARDS

4.5.1.1 The potential of UPI has been recognised world over by numerous authorities. Reserve Bank shall actively support the global outreach initiatives to expand the footprint of domestic payment systems by collaborating with relevant stakeholders (e.g. Central Banks, BIS, World Bank, other institutions, etc.).

4.5.1.2 The RTGS system presently settles domestic fund transfer transactions on gross basis. The system which runs on ISO 20022 standard, customised to suit domestic requirements, shall be streamlined with the internationally accepted standard for cross-border fund transfers. The feasibility of expanding RTGS to settle transactions in major trade currencies such as USD, Pound, Euro, etc., shall be explored through bi-lateral or multi-lateral arrangements. The arrangements could be expected to provide real time proceeds in foreign currencies to traders and establishing the country as a major centre for international financial trades.

4.5.1.3 In order to access the Reserve Bank operated CPS, an entity is required to maintain a current account and a settlement account with RBI. To facilitate payments to and from other jurisdictions through CPS, the feasibility of other central banks maintaining current account and settlement accounts with RBI in INR (₹) shall be explored. Similarly, RBI shall

examine maintaining accounts with other central banks for the purpose of facilitating direct remittances in foreign currencies. This could be expected to increase acceptance of INR in other jurisdictions and making cross-border transactions cost effective and timely.

4.5.1.4 The Indo-Nepal Remittance Facility Scheme was launched by the RBI in May 2008 for cross-border remittances from India to Nepal, using the NEFT system. To boost trade payments between the two countries, as also to facilitate person-to-person remittances electronically to Nepal, ceiling per transaction was increased from ₹ 50,000 to ₹ 2 lakh and the cap of 12 remittances in a year per remitter was removed. Efforts shall be undertaken to extend such remittance facilities to other countries depending on feasibility.

4.5.2 EXPAND SFMS AND INFINET FRAMEWORKS ACROSS JURISDICTIONS

The Indian Financial Network (INFINET) is a membership-only Closed User Group network that comprises the RBI, CPS member banks and financial institutions. It provides financial messaging services through its Member Interface application to all RTGS participants. Backed by the communication medium of INFINET, SFMS is the Indian standard for domestic financial messaging for centralised payment systems, viz. NEFT and RTGS, which supports ISO 20022 standard message format for payment systems. The feasibility of providing membership / technology of INFINET to other jurisdictions shall be explored. Further, it shall be explored to expand the framework of SFMS to provide a domestic payment system platform to other jurisdictions. This could be expected to provide faster, convenient and cost-effective direct payment channels with other jurisdictions.

4.5.3 2FA FOR CROSS-BORDER CARD TRANSACTIONS

AFA has been a predominant factor in safeguarding domestic payments and giving confidence to users in digital payments. To give a similar experience and increase safety of international transactions done using cards issued in India, implementing AFA for cross-border transactions shall be explored.

4.5.4 SEEK INCLUSION OF INR IN CONTINUOUS LINKED SETTLEMENT (CLS)

CLS is an initiative, with settlement in Payment versus Payment (PvP) mode, to address the Herstatt risk associated with the settlement of foreign exchange trades. CLS provides protection for cross-currency settlement in 18 currencies. In India, CCIL participates in CLS as a third-party member acting as an aggregator of trades for its member banks. Internationalisation of domestic currency is gaining importance in recent times with many countries pursuing efforts in this direction. With excellent FMIs already in place and deepening of forex and financial markets, a mechanism for international INR settlement through CLS Bank would help increase global acceptance of INR. RBI shall initiate dialogue for including INR as a currency in CLS.

4.5.5 BRING FURTHER EFFICIENCIES IN PAYMENT PROCESSING AND SETTLEMENTS ON INTRODUCTION OF CBDCs – DOMESTIC AND CROSS-BORDER

CBDC has been gaining much traction with 86% of the central banks globally reviewing its feasibility for cross-border transactions as well as for internal benefits (2021 BIS Survey). CBDC is also an area of interest for G20 under its priority initiative to enhance cross-border payments. Reserve Bank is working towards introduction of CBDC in India. Various use cases shall be studied and explored to bring in further efficiencies in domestic and cross-border payment processing and settlement using CBDCs.

Acronyms

2FA	Two Factor Authentication
APBS	Aadhaar Payment Bridge System
AePS	Aadhaar-enabled Payment System
AFA	Additional Factor of Authentication
ATM	Automated Teller Machine
BIS	Bank for International Settlements
BNPL	Buy Now Pay Later
BPSS	Board for Regulation and Supervision of Payment and Settlement Systems
CAGR	Compound Annual Growth Rate
CCIL	Clearing Corporation of India Limited
CCP	Central Counter Party
CIC	Cash in Circulation
CLS	Continuous Linked Settlement
COFT	Card-on-File Tokenisation
CPFIR	Central Payments Fraud Information Registry
CPMI	Committee on Payments and Market Infrastructures
CPS	Centralised Payment System
DPI	Digital Payment Index
e-BAAT	e-banking awareness & training
FMI	Financial Market Infrastructure
FSB	Financial Stability Board
GDP	Gross Domestic Product
IFSC	Indian Financial System Code
IMPS	Immediate Payment Service
INFINET	Indian Financial Network
INR	Indian National Rupee
IoT	Internet of Things
ISO	International Organisation for Standardisation
KYC	Know Your Customer
LEI	Legal Entity Identifier
NACH	National Automated Clearing House
NCMC	National Common Mobility Card
NEFT	National Electronic Funds Transfer
NFS	National Financial Switch
NPCI	National Payments Corporation of India

ODR	Online Dispute Resolution
OTP	One Time Password
PA	Payment Aggregator
PAC	Payments Advisory Council
PFMI	Principles for Financial Market Infrastructure
PG	Payment Gateway
PIDF	Payments Infrastructure Development Fund
PoS	Point of Sale
PPI	Prepaid Payment Instrument
PSO	Payment System Operator
PSS	Payment and Settlement Systems
PvP	Payment versus Payment
QR	Quick Response
RBI	Reserve Bank of India
RE	Regulated Entity
RTGS	Real Time Gross Settlement
SFMS	Structured Financial Messaging System
TAT	Turn-Around-Time
UPI	Unified Payments Interface
USSD	Unstructured Supplementary Service Data
VPA	Virtual Payment Address