DIGITAL PAYMENTS IN INDIA

An AtmaNirbhar India pioneering
and leading the Digital Revolution

SMAHI

June 2021

SMAHI

ABOUT SMAHI FOUNDATION OF POLICY AND RESEARCH

Smahi Foundation of Policy and Research is a non-profit organization based in Bengaluru. The word Smahi stands for progress. Smahi Foundation of Policy and Research (Smahi) works towards forward-looking policy making and harmonization of stakeholder views on issues of public policy to lead India towards progress. We focus on technology-led solutions to spur creation of stronger public digital infrastructure.

AUTHORS

RITU BHANDARI
Head of Research, Smahi

Ritu Bhandari is a Chartered Accountant by profession, with extensive experience working in the banking industry.

AASHISH CHANDORKAR
Director, Smahi

Aashish Chandorkar is an engineer and MBA, with global experience running management consulting businesses.

NIMISH JOSHI
Director, Smahi

Nimish Joshi is an engineer and MBA, with experience in conceptualizing, funding and scaling technology businesses.

https://twitter.com/SmahiFoundation

Contact Us: +91 97300 13314 | chandorkar@gmail.com

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DEFINITIONS

ACCOUNT AGGREGATOR (AA)

Account Aggregator (AA) is a financial entity that is in the business of retrieving or collecting information of its customers pertaining to financial assets and consolidating, organizing and presenting such information to the customer or any other person as per the instructions of the customer.

PERSONAL DATA

Personal data is data which pertains to characteristics, traits or attributes of identity, which can be used to identify an individual.

CRITICAL PERSONAL DATA

Critical personal data is as notified by the government from time to time.

SENSITIVE PERSONAL DATA (SDP)

Sensitive Personal Data amongst other information includes financial data (including payment data), biometric data, health data, official identifiers, caste, religious or political beliefs.

DATA PRINCIPAL

Data Principal means the natural person to whom the personal data relates to.

DATA FIDUCIARY

A Data Fiduciary means any person, including the State, entity or any individual who alone or in conjunction with others determines the purpose and means of processing of personal data. Such processing will be subject to certain purpose, collection and storage limitations.

PAYMENT AGGREGATOR (PA)

PAs are entities that facilitate e-commerce sites and merchants to accept various payment instruments from the customers for completion of their payment obligations without the need for merchants to create a separate payment integration system of their own. PAs facilitate merchants to connect with acquirers. In the process, they receive payments from customers, pool and transfer them on to the merchants after a time period.

PAYMENT GATEWAYS (PG)

PGs are entities that provide technology infrastructure to route and facilitate processing of an online payment transaction without any involvement in handling of funds. PGs shall be considered as 'technology providers' or 'outsourcing partners' of banks or nonbanks, as the case may be.

EXECUTIVE SUMMARY

India has built an expansive, secure, efficient and scalable public digital infrastructure. The entry of well-funded and aggressive technology-first companies (erstwhile dominated by Banks) has made digital payments ubiquitous in India and laid a strong foundation for digitization and cross-selling of other financial services and products. Select regulatory unlocks can further incentivize innovation among fin-tech players driving accelerated digitization of financial services and helping greater financial inclusion.

India Stack (Aadhar, UPI, e-KYC, e-signature among others), is paving the way for a massive world-leading 'Digital Payments Revolution'.

Cash is king, but Digital is divine. **NPCI** has played a pivotal role as India continues to innovate with contactless, offline payments and new use cases of UPI. With **interoperability,** the cornerstone of RBI's regulatory approach, it has been ensured that payment solutions can be used across the system participants. There is a blurring of industry lines as e-commerce companies seek to offer a gamut of financial services and financial services companies integrate in a big way with retail commerce.

While India continues to have a cash bias, macro-events such as demonetization in 2016 and the current Covid-19 pandemic, have shifted consumer preference towards digital payments in a big way.

However, abolition of MDR on UPI has disincentivised the banks in investing in technological upgrades in the face of exponential growth in throughputs and thereby increased transaction failures.

Financial inclusion would be incomplete without the last mile inclusion of the weaker sections and low-income groups in not only opening a bank account but getting easy access to credit, insurance and micro-investment products. Digital payments has laid the premise for the digitization and **cross-selling** of financial services such as Lending, Insurance, Wealth Management etc. to **monetize the data** collected from the large user base.

Lending and coverage to self-employed retail and MSME is an issue, primarily due to the presence of a large informal sector, that banks are not able to assess and underwrite due to volatile income or lend and collect due to high operating cost. What is needed to plug the funding gap of self-employed retail and MSMEs is to address the information asymmetry that impedes the access to credit, for which we need to focus on digital infrastructure development. Open Banking and Account Aggregator framework can digitise data aggregation, assist in risk assessment and credit monitoring, and thereby enable flow-based lending. Higher digitization, leading to higher formalization, higher financialization (savings) and democratization of data and lending would lead to easier, faster and higher lending.

The draft Personal Data Protection Bill is balanced in comparison to EU GDPR, but gives the Indian government more leeway than EU. While any data transaction is consensual, the inclusion of non-personal data giving unhindered access to Government and data localisation may bother the Big Tech for whom India is the largest internet market outside the USA, since China has not given them entry.

Digitization of payments will help transition the huge informal sector in India to a formal economy and generate higher tax revenues. With only **100 million** active users for digital payments on board, the journey has just begun.

1 BACKGROUND

Digital Revolution has truly hit Payment Systems in India. Till early 2000s, wholesale payments were largely by cheques and other paper-based instruments, entailing a time-consuming and arduous clearing process, while retail transactions were almost entirely in cash. A turning point came with the advent of internet and with the passing of **Information Technology Act, 2000,** which made electronic transactions valid in a court of law.

Soon thereafter, Real Time Gross Settlement (RTGS) and National Electronic Fund Transfer (NEFT) were launched in India. Since then, there has been no looking back for India in its move towards digital payments. The shift in payment preference in the last 10 years is evidenced by the fact that the volume of paper clearing, which comprised of 60 per cent of total retail payments in the FY11 (90 per cent in value), shrunk to 3 per cent in FY20 (20 per cent in value).

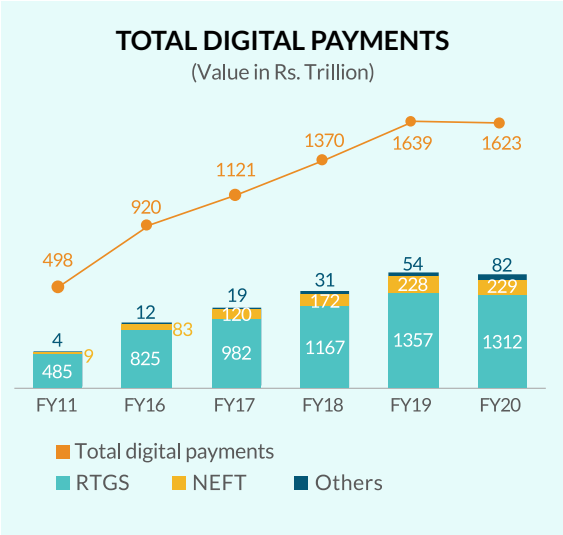
INDUSTRY SIZE

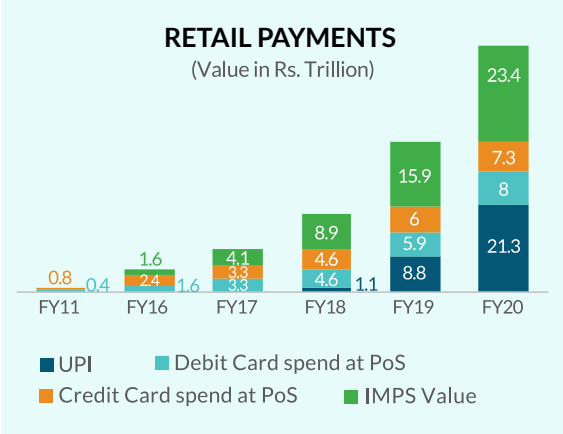
This represents a 10-year CAGR of almost 50 per cent in volume and 14 per cent in value terms. Currently, RTGS accounts for **80 per cent** of all digital payments in India, having quadrupled from Rs 332 trillion in FY10 to Rs **1,312 trillion** in FY20.

Total digital payments have grown from about 1 billion transactions with a value of Rs 498 trillion in FY11 to 34.4 billion transactions with a value of Rs 1,623 trillion in FY20.

In this report, we focus on growth of digital payments in the retail segment, which has a huge growth potential in India. Note that there is some overlap between wholesale and retail, through RTGS, NEFT, cards, UPI etc.

1. Snapshot of digital payments in India:





Source: RBI Annual reports, RBI Book on Payment

In addition to the above, non-digital payments through the banking channels vide **paper-based instruments** (considered retail) accounted for **Rs 78 trillion** in FY20 (20 per cent of total retail payments), declining from Rs 101 trillion in FY11 (90 per cent of total retail payments). Cheques present a huge potential to transition to digital payments. Indians are already transitioning from using cheques to digital modes of payment.

INDIA STACK

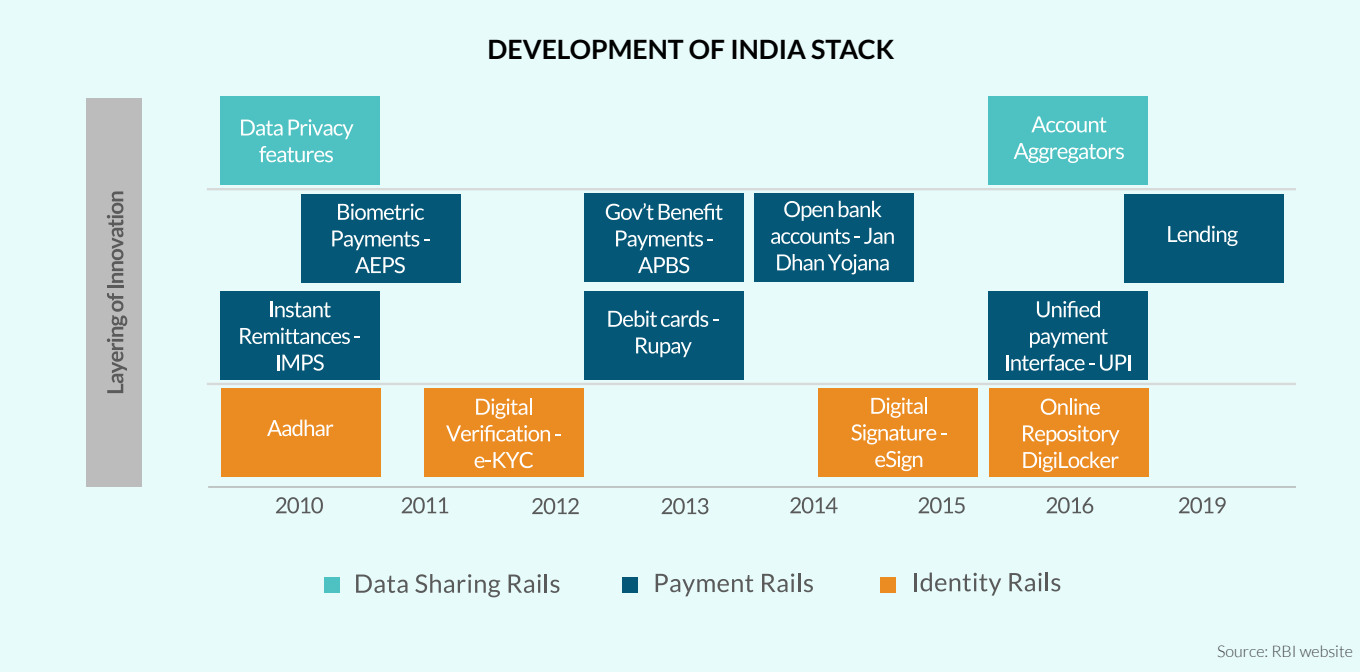
India has recognized the need to invest in creating a large, cost efficient, real time public digital infrastructure.

India's evolution as a FinTech hub is built on 'India Stack' – an indigenous set of technologies, APIs and policies that act as enablers to innovation, by building digital platforms as public goods.

India Stack consists of (i) Aadhar (world's largest identity database with more than **1.27 billion** biometrics identities covering **94 per cent** of the population); (ii) Unified Payment Interface or UPI (which facilitates bank account transfers); (iii) e-KYC (or digital verification of KYC); (iv) e-Signature; and (v) Digi locker (cloud storage). Much of the fin tech development in India has been built on top of the India Stack.

India Stack allows governments and businesses to utilize a unique digital infrastructure towards presence-less (capable of being authenticated from anywhere), paperless (reliant on digital records), cashless (universal access of digital payments) and consent layer-based (allowing secure movement of data authenticated by its owners).

India has successfully created foundational digital infrastructure along with digitally enabled tax governance networks like Goods and Services Tax Network (GSTN) or digitally enabled health coverage such as Pradhan Mantri Jan Arogya Yojana (PM-JAY) and Account Aggregator framework (data sharing).



Source: RBI website

JAM TRINITY

Aadhar and e-KYC have been instrumental in easy and fast on-boarding of bank accounts and phone connections.

By mandating bank accounts to link to Aadhaar for authentication, RBI has facilitated bringing a large share of the previously unbanked into the formal financial system and lowered the costs of opening accounts. Bank account ownership rose from roughly 15 per cent in 2008 to over 80 per cent - a level comparable to that of countries with much higher GDP per capita.

This was also facilitated by one of the biggest financial inclusion initiatives in the world, **Pradhan Mantri Jan Dhan Yojana** launched in 2014. The coverage of Aadhaar biometric identification has witnessed increased use in Government to Person (G2P) payments and has helped reduce leakages from the system by eliminating fake beneficiaries.

India has a high tele-density of **85 per cent** (urban 137 per cent and rural 59 per cent). India has large and widespread cheap smart phone penetration with some of the lowest wireless data rates, contributed by Jio's ability to provide world's cheapest 4G LTE services.

JAM REACH

	Aadhar biometric identities (as at date)	Jan Dhan Accounts	Wireless telephone subscribers (as at October 2020)	*Smart phone subscribers (from 500 million end 2019 to expected 830 million by 2022)	Internet subscribers (as at October 2020)
Number (Million)	1,270	>400	1,151	830	734

Source: RBI Book on Payment
*As per a report by the Indian Cellular & Electronics Association and management consultancy KPMG

India, therefore needs to focus on increasing digital literacy across the country, in order to leverage the JAM Trinity, which has potentially set the stage for digital payments in India.

However, an estimated **48 per cent** of the bank accounts were inactive, as per a Global Findex database report released by World Bank in 2018.

While India has several financial literacy programs, India must also embed digital literacy training, in the same.

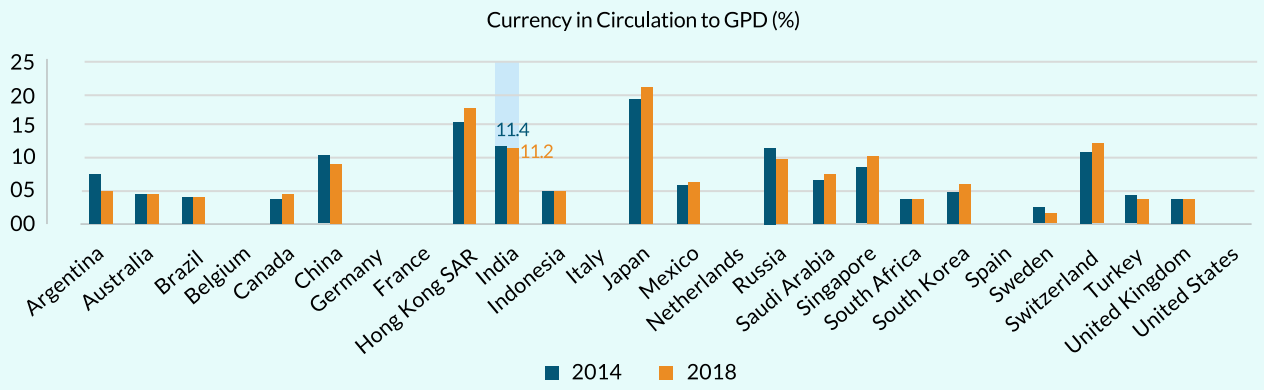
SHIFT AWAY FROM CASH, STILL CASH IS KING

Cash is still pervasive but payments are shifting to digital instruments. A large proportion of the cash transactions take place under the parallel economy, which is difficult to digitize. While there is no accurate estimate of the cash payments, it is assumed that having high Currency in Circulation (CIC) relative to GDP indicates that cash is highly preferred as a payment instrument. Based on this assumption, India continues to have a strong bias for cash payments.

Digital payments had got a massive boost during **demonetisation in 2016**, when the government invalidated approximately **85 per cent** of the bank notes in circulation, in the form of Rs 500 and Rs 1,000 notes, in a move to curb black money and corruption.

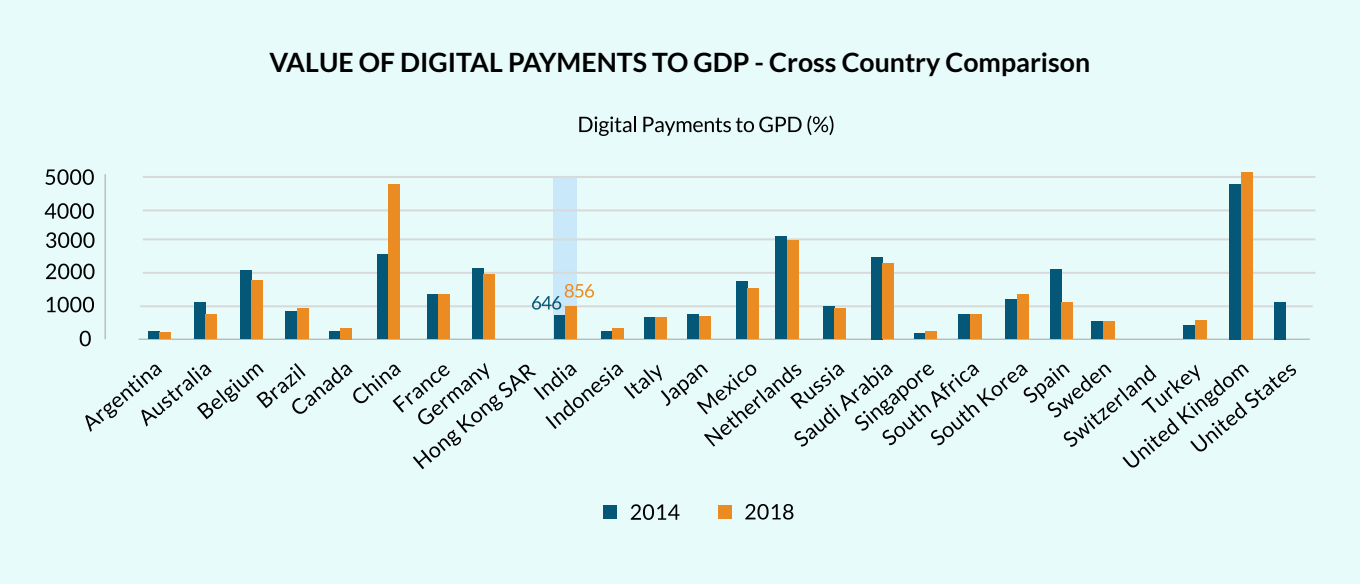
Although cash is deeply embedded in the payment systems in India, planned efforts post-demonetisation have shown a marked shift from cash to digital payments. The notes issued by RBI (which includes notes in circulation) as a percentage to GDP fell to a historical low after demonetization at 5.9 per cent in December 2016. However, after more than three years since demonetization, cash bounced back to its former stature and currently exceeds level before the note ban at **12.6 per cent** of GDP in June 2020.

CURRENCY IN CIRCULATION AS A PERCENTAGE OF GDP - Cross Country Comparison



Source: Bis Red Book 'Country Tables' compiled by the Bank for International Settlements.
CIC figures were not available for Euro area countries

According to an RBI report, India's digital payments per capita has grown to 22.4 as of March 2019 from 2.4 as of March 2014. It is still much lower than China's 96.7 and the USA's 473.6. The value of total digital payments to GDP increased from 660 per cent in FY15 to 862 per cent in FY19, making the shift to digital payments in India clearly perceptible. In India, mobile-based transactions have grown 3x in the last two years, according to investment research firm Sanford C Bernstein in October 2020.



Source: Bis Red Book 'Country Tables' compiled by the Bank for International Settlements.
Note: The value of paper clearing is subtracted from the cashless payments value.

Despite the staggering numbers, cash is still the preferred mode of transaction especially in the rural areas. Many merchants, especially in rural areas, remain unable or unwilling to accept digital transactions due to network connectivity issues, due to lack of a sufficient digital infrastructure and lack of digital literacy.

Given the anonymity of cash transactions, it is very difficult to establish the exact volume of transactions conducted in cash, and consequently the value of such transactions. **72 per cent** of India's consumer transactions take place in cash, as per a report by Credit Suisse. We may therefore, roughly estimate cash transactions at about Rs 250-300 trillion in India. A mere 16 per cent of rural users access the internet for digital transactions as compared to nearly 45 per cent of urban users, as of December 31 2019, as per a study by the Internet and Mobile Association of India.

2 EVOLUTION OF DIGITAL PAYMENTS IN INDIA

RUPAY

India had launched Immediate Payment Service (IMPS) for online payments below Rs 2 lakh, in 2010. While debit cards and credit cards offered by the international card networks, Visa and MasterCard were gaining in popularity in India, a landmark moment for financial inclusion in India, was the launch of the indigenous 'RuPay' card in 2012, by NPCI. RuPay came at a time, when Visa and Mastercard were only keen on tying up with the big banks and did not want to onboard various co-operative banks and small private banks.

RuPay is an answer to global card networks and is in line with RBI's vision of a 'cash less' economy. As Prime Minister Modi said in 2018, "If we use other cards, the earnings from them go to foreign countries, but in case of RuPay, all transactions stay in India."

By 2018, Rupay started gaining traction in tier 2 and tier 3 cities, and today, RuPay is the biggest card network in India. RuPay broke the Visa-Mastercard duopoly, shifting the power balance in the card network game. Rupay debit cards have higher penetration in India than Visa and MasterCard, being issued by more than 1,100 banks.

India has massive debit card penetration; outstanding debit cards of 874 million, while outstanding credit cards of 59.4 million, as at October 31 2020. These include 592 million RuPay cards (roughly 70 per cent) as of December 2019, of which 300 million RuPay cards have been issued to Jan Dhan Yojana bank account holders- these would be largely for use at ATM and not at PoS. A significant proportion of RuPay cards is in the nature of debit cards with only about 1 million credit cards issued as on November 30, 2020.

CARD PENETRATION

	No (Million)
O/s debit cards (as at October 2020)	874
-including RuPay debit cards (as at December 2019)	591
Active debit cards at PoS	100

	No (Million)
PoS terminals (as at November 2020)	54

O/s debit cards (as at October 2020)	59
-including RuPay debit cards (as at December 2019)	1
Active debit cards at PoS	30-40

ATMs (as at December 2020)	0.23

Though the debit card penetration is impressive, the actual usage on cards at PoS is abysmally low.

The active cards would be far lesser; estimated at about 30-40 million credit cards at PoS and 100 million debit cards at PoS, which is reflected in the low transaction value (debit card spend at PoS of Rs 8 trillion and credit card spend at PoS of Rs 7.3 trillion in FY20).

RuPay only makes up about 13-14 per cent of all the transactions in card swiping machines as majority of RuPay cards holders are from tier-2 and tier-3 cities, where card swiping and e-commerce is relatively less popular. RuPay has failed to gain much traction in metros as the service infrastructure of Visa and Mastercard are superior to RuPay.

Moreover, the abolition of Merchant Discount Rate (MDR) on RuPay debit cards has made it an unprofitable proposition for banks, which earn nothing for processing transactions. The cost of issuing cards, card swiping machines and network charges are all borne through MDR and interchange fees. Every transaction at an ATM costs the bank about Rs 20. The same transaction on a card swiping machine means revenue to the bank. Now, RuPay cards are either dead or used for ATM transactions and very less for online transactions.

UNIFIED PAYMENT INTERFACE (UPI)

The launch of the indigenously developed UPI, a platform for making payments between any bank and smart phone app, in 2016, is a watershed moment for the digital payments industry.

Till the launch of UPI by NPCI, banks were the sole provider of digital payment services in India. However, the launch of UPI and entry of Third-Party Application Providers (TPAPs) have disrupted the digital payments in India. UPI's ease of transacting and easy accessibility has made it an instant winner.

UPI is a mobile based, round the clock, 'fast payment' system wherein users can send and receive money instantly using a Virtual Payment Address (VPA) set by the user itself. The unique feature of VPA based transaction is the secure aspect of UPI architecture as it obviates the need for sharing account or bank details to the remitter.

UPI and IMPS, the two fast payments, have revolutionised real-time payment in India. Both UPI (2.23 billion transactions valued at Rs 4.16 trillion in December 2020) and IMPS (339 million transactions valued at Rs 2.76 trillion in November 2020) have touched all-time highs recently. The two systems together handled 83.5 million transactions on a daily basis for value of Rs 228.5 billion in December 2020. IMPS has grown from Rs 1.6 trillion in FY16 to Rs 23.4 trillion in FY20, recording a **CAGR of 95 per cent.**

According to an earlier report by FIS Global, India has emerged as the global leader in real-time payments, handling 41 million transactions per day, followed by China (38 million) and South Korea (12 million). The real-time transaction volumes in India have more than doubled while the value has increased by 80 per cent, over the previous year. Overall, India follows China, which is a leader in digital payments. India registers about one-eighth the transactions that China does, but it matches China on growth.

In a bid to increase merchant adoption of digital payments, the government had abolished MDR on UPI and RuPay debit card w.e.f. December 30 2019.

Comparatively, the merchant pays a fee to the various parties involved while receiving payments via debit card (~0.7 per cent) and credit card (2 per cent) though debit/ card credit transactions are free for a consumer. This has given an impetus to UPI as Indians are highly price sensitive. Prime Minister Narendra Modi also launched a free UPI app BHIM, which helped UPI go mainstream.

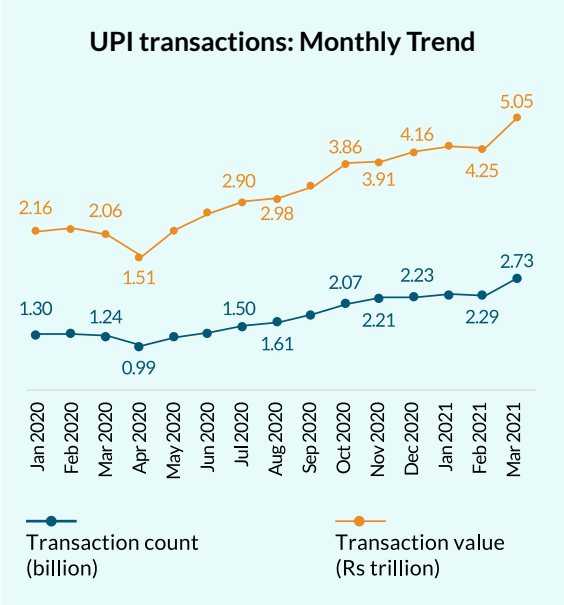
Covid-19 seems like another demonetisation-like catalyst for the digital payments industry. Other drivers include the growth of e-commerce companies, payment aggregators and payment gateways, ease of using QR codes and a gradual shift in the customer behaviour from cash to digital payments. Moreover, RBI and NPCI have taken several initiatives to facilitate digital payments (discussed later in Chapter 4).

UPI transactions have been growing at a break neck speed with about 100 million active UPI users.

Launched in 2016, UPI crossed 1 billion transactions for the first time in October 2019. While it took UPI three years to reach a billion transactions in a month, the next billion came in just a year. The transactions crossed the **2 billion** mark in October 2020 and crossed **Rs 4 trillion** in value in December 2020, as against Rs 21 trillion in FY20. E-commerce platforms and the festive season have been the key growth drivers. At this pace, UPI transactions can be expected to reach Rs 48-50 trillion annually.

UPI has overtaken debit card and credit card transactions. While UPI is playing the role of financial inclusion (cash-> digital) as well as cannibalizing debit card, credit card continues to be a very different customer proposition. Over the years, credit card has emerged as a key pool of profitability as well as a driver of growth for banks. Credit card on UPI is expected to help drive the usage of credit card.

Customer behaviour evidence has been that they use different payment mechanisms for different use-cases. Behaviour also changes based on the age of the transactor – with younger generations in India preferring to pay more digitally, while older generations preferring cash payments and cheques. Such behaviour is observed in the US as well. India is a young country with a median age (27.9 years in 2019), resulting in a rapid adoption of digital payments. India has 34 per cent millennials (436 million) and 32 per cent Gen Z (472 million).



Source: NPCI

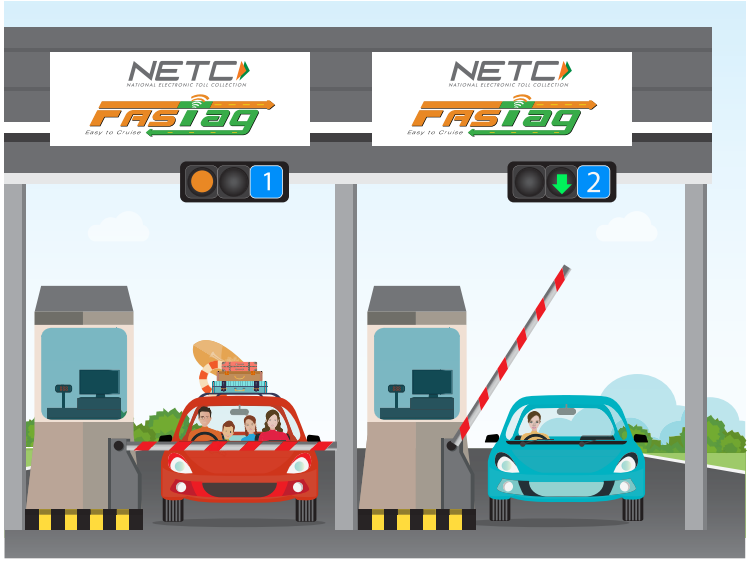
Peer-to-Peer (P2P) accounted for about 60 per cent by volume and 85 per cent by value of all UPI transactions, while Peer-to-Merchant (P2M) accounted for the balance (as per December 2020). Average ticket size in UPI is Rs 1,700. Credit cards are generally used for higher ticket transactions having an average ticket size of ~Rs 3,350, which would be largely P2M.

AVERAGE TICKET SIZE ACROSS MODES

Based on FY20

UPI*	UPI P2P*	UPI P2M*
Rs. 1,800	2,700	700
Debit Card PoS	Credit Card PoS	IMPS
Rs. 1500	3,350	9,000
NACH	NEFT	RTGS
Rs. ~9,500	84,000	87 LAKH

Source: RBI Annual report, NPCI website
*Based on December 2020



OTHER INNOVATIVE PAYMENT SOLUTIONS- WALLETS, NACH, APBS, FASTAG, BBPS, NCMC, AEPS

In India, Pre-paid Instruments (PPIs) are issued as wallets and cards. Demonetisation in 2016 was a game-changer as people switched to electronic-modes of payments resulting in a y-o-y growth of 162.5 per cent in the year 2016. While medium to large-value transactions continue to be made through digital banking channels and cheques, the low-value day-to-day transactions shifted to wallets. While wallets have been growing, wallet users continue to transition to UPI payments. Mandatory KYC requirement in wallets has reduced its preference even further. Wallets accounted for only Rs 1.8 trillion in FY19 and Rs 2.2 trillion in FY20.

NACH is a centralised ECS system operated by NPCI, for recurring e-payments. Payments under government's social security schemes like pension, subsidies, income support, etc., are processed using the NACH platform. NACH has grown to Rs 19.8 trillion in FY20 as compared to Rs 3.8 trillion in FY16, recording a CAGR of 50 per cent.

Aadhaar Payment Bridge System (APBS), a component of NACH, which uses Aadhaar number for electronic crediting of government subsidies and benefits in Aadhaar-linked bank account, was implemented in 2012. The system has led to electronification of large number of government payment transactions which were predominantly done either in cash or cheque.

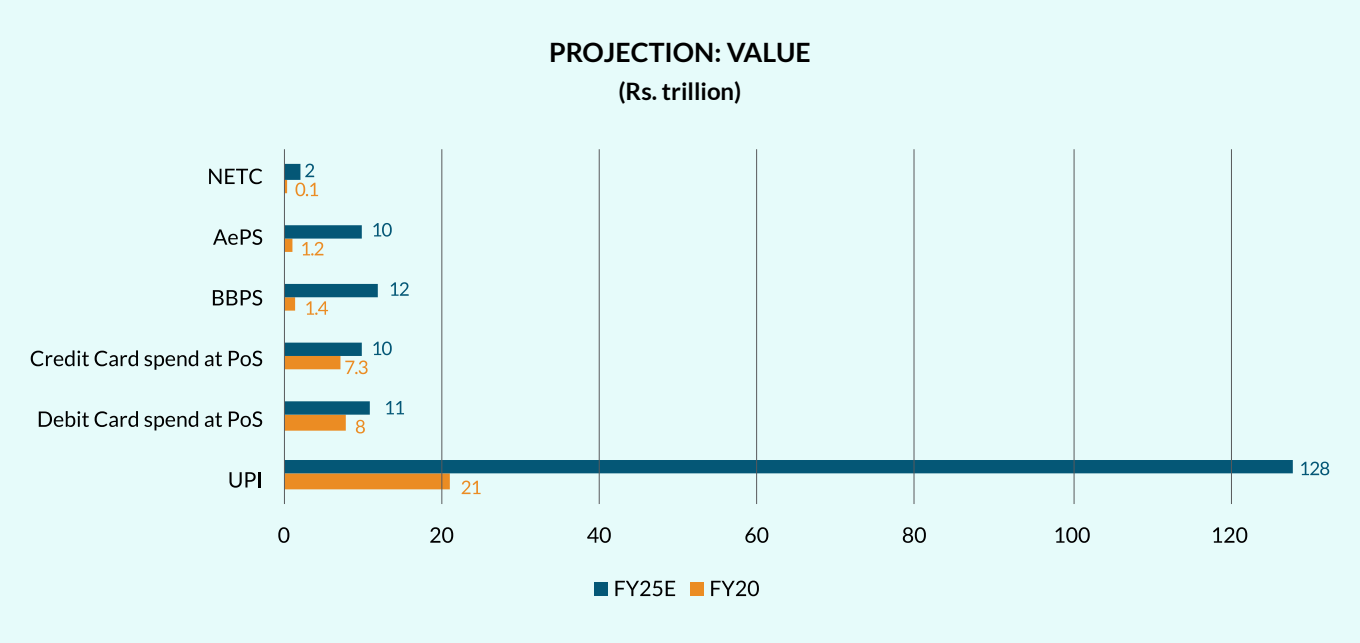
NPCI has developed NETC (National Electronic Toll Collection) program to meet the electronic tolling requirements of the Indian market. FASTag is a device that employs Radio Frequency Identification (RFID) technology for making toll payments directly while the vehicle is in motion. FASTag has facilitated safe and contactless payments of tolls and parking charges, making essential travel during lockdown safe and non-stop. As at December 2020, 23 million FASTags were issued. FASTag saw transaction count increase to 125 million in November 2020, up almost 300 per cent from last year.

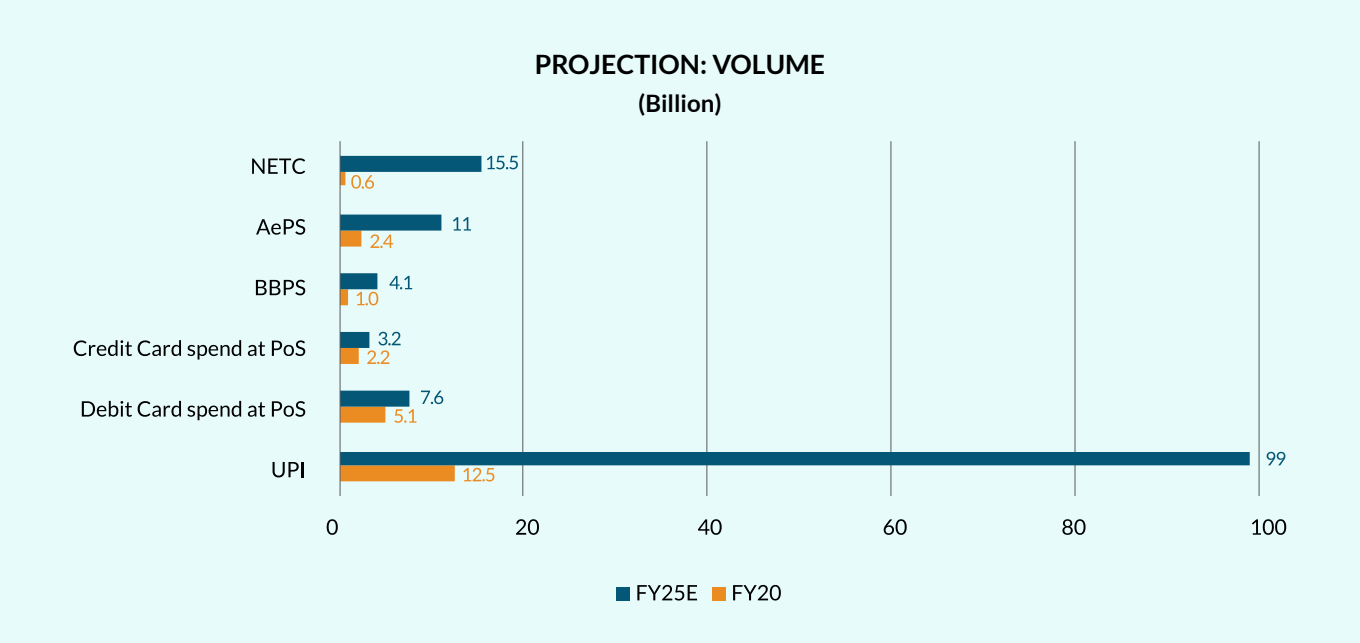
Bharat Bill Payment System (BBPS) is an integrated bill payment system in India offering interoperable and accessible bill payment service to customers through a network of registered agents enabling multiple payment modes, and providing instant confirmation of payment. Payments may be made through the BBPS using cash, transfer cheques, and electronic modes.

RBI's paper on Benchmarking India's Payment Systems observed that only 3 per cent of the population in India used the internet to pay utility bills in the year 2017. As at December 2020, 19,316 billers are registered on the BBPS platform. BBPS recorded 24 million transactions worth Rs 37 billion in November 2020.

Aadhar Enables Payment System (AePS) is a bank led model which allows online interoperable financial inclusion transactions at PoS (Micro-ATM) through the Business correspondent (BC) of any bank using the Aadhaar authentication. AePS allows you to do six types of transactions namely cash deposit, cash withdrawal, balance enquiry, mini statement, Aadhaar to Aadhaar fund transfer, authentication and BHIM Aadhaar Pay. The only inputs required for a customer to do a transaction under this scenario are bank name, Aadhaar number and fingerprint captured during enrolment.

National Common Mobility Card (NCMC), is an inter-operable transport card, launched on 4 March 2019. The transport card enables the user to pay for travel, toll duties, retail shopping, and withdraw money, enabled through the RuPay card mechanism. The NCMC card is issuable as a prepaid, debit or credit Rupay card.





Source: India Payments Handbook, PwC

Roughly, cash transactions to the tune of Rs 150 trillion are projected to move to digital payments in the 5-year period from FY20 to FY25. This would be largely driven by UPI (more than 70 per cent of the increase). India has already clocked 15 billion UPI transactions at Rs 27.4 trillion in 9MFY21 as compared to 12.5 billion UPI transactions at Rs 21 trillion in FY20, recording an annualized growth rate of 75 per cent in value. UPI is projected to grow 5x to Rs 128 trillion in FY25 over FY20, as per a India Payments Handbook PwC.

Debit card at PoS transactions is projected to increase to Rs 11 trillion in FY25 as compared to Rs 8 trillion in FY20, at a CAGR of 39 per cent. Meanwhile credit cards are projected to increase to Rs 10 trillion in FY25 as compared to Rs 7.3 trillion in FY20, at a CAGR of 37 per cent. Other modes like BBPS, AePS and FASTag are projected to record exponential growth from their low base in FY20.

3 DIGITAL PAYMENTS ECOSYSTEM

Till the launch of UPI, banks were the sole facilitator of digital payments through netbanking and cards.

With the entry of Third-Party Apps (TPAs), there is a battle of sorts between the Banks and FinTech. However, this has led to an increase in the user base of digital payments and has not adversely affected the banks as such.

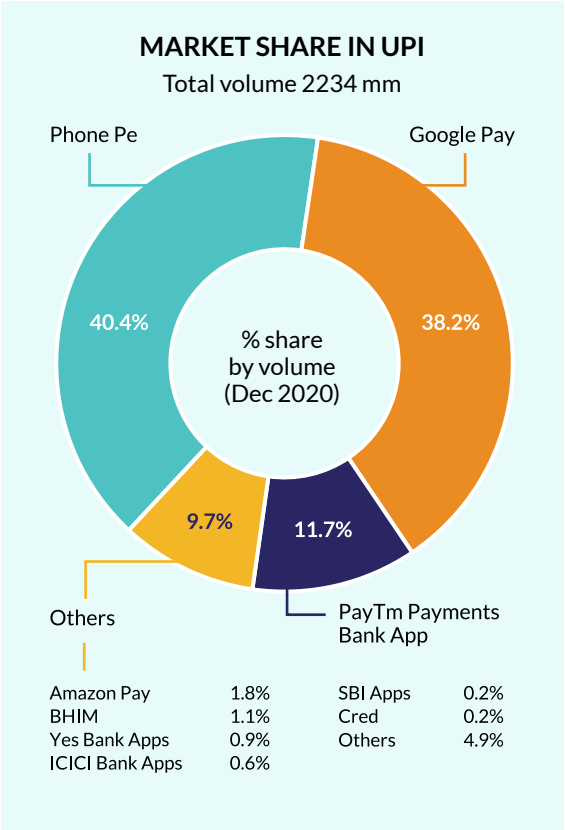
In the payment space, Third Party Service Providers (TPSPs) are primarily in the form of Payment Gateways (PGs), Payment Aggregators (PAs) and Third-Party Application Providers (TPAPs) in UPI. PAs and PGs are intermediaries playing an important function in facilitating payments in the online space. E-commerce companies provide online shopping platforms that facilitate digital payments. We discuss the key players including Payment System Operators (PSOs) across the spectrum in digital payments.

THIRD-PARTY APPLICATION PROVIDERS (TPAPS)

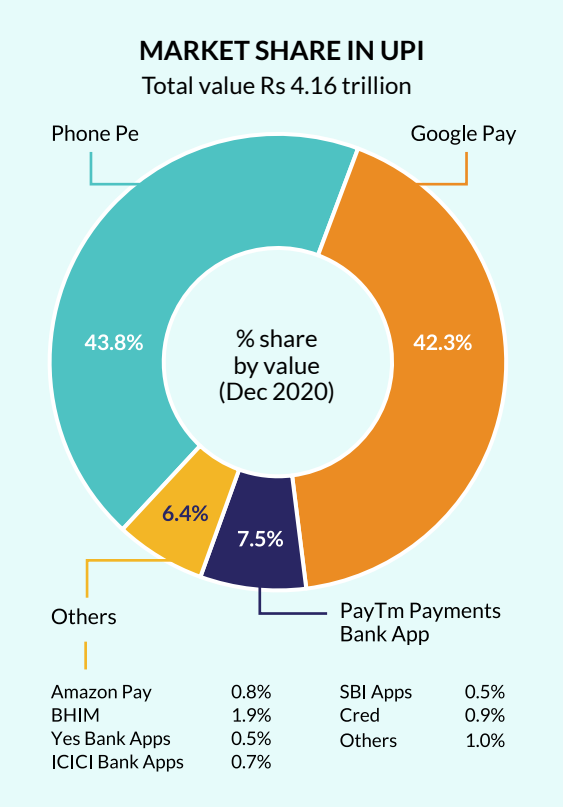
While only a banking entity can directly interact with the UPI switch, non-banking entities can participate by partnering with a banking entity which is already on UPI platform, and developing their own APIs referred to as Third Party Apps (TPAs). The role of TPAPs is more in the nature of facilitator for transactions as the entire operational and financial liability of transactions originated through TPA lies on the bank. TPAs are the best examples of public-private partnership and underscore the importance of FinTech in the payments' ecosphere.

The launch of UPI has seen the entry of TPAPs such as Google Pay, Phone Pe, Amazon Pay, newly approved Whatsapp Pay etc. and PayTm Payments Bank App that facilitate UPI transactions between a user's smart phone and banks. There are over 20 TPAPs in UPI.

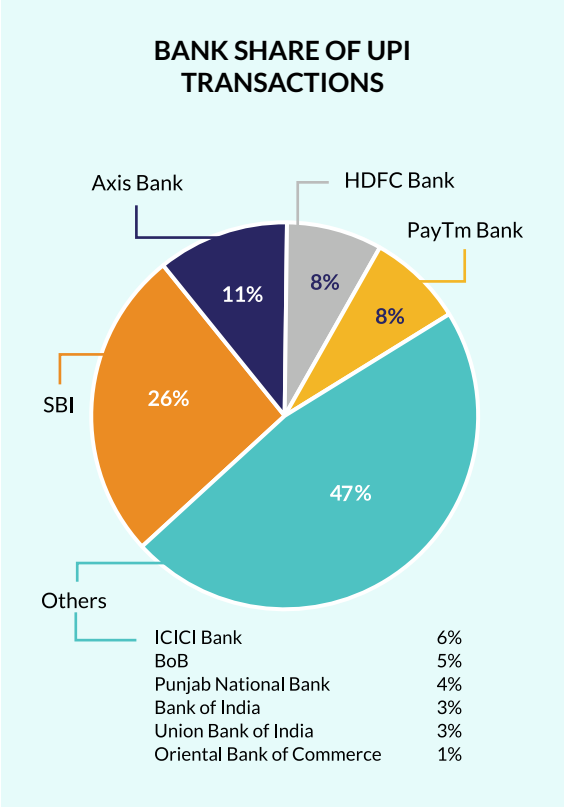
The top 3 players account for 94 per cent of UPI market share by value and 90 per cent by volume (as per December 2020); Phone Pe 44 per cent by value, Google Pay 42 per cent, PayTm 7.5 per cent.



Source: NPCI website



Source: NPCI website



Source: NPCI website

In order to acquire scale in customers and merchants, the top players in UPI, spend aggressively on marketing and advertising through promotional offers, huge cashbacks, discounts, celebrity endorsements and big event sponsorship (e.g. IPL 2020).

While this has resulted in exponential growth rate in UPI transactions and massive growth in user base, it has resulted in whopping losses for the companies. The waiver of MDR on UPI has also hit the revenue model.

A FINANCIAL SNAPSHOT OF KEY PLAYERS IN UPI

(Rs crore)	Revenues		Profit/ (Loss)		Equity infusion	Investors
	FY19	FY20	FY19	FY20		
PayTm Payments Bank	3,580	3,629	(4,217)	(2,942)	$2.2 billion	SoftBank, SAIF Partners, Alibaba Group, Ant Financial
Phone Pe	246	427	(1,905)	(1,771)	$1.4 billion	Flipkart, Walmart
Google Pay India	1,119	1,501	5	33	NA	Parent Google
Amazon Pay India	835	1,370	(1,160)	(1,868)	NA	Parent Amazon

Source: Tofler, Annual reports

However, these numbers are not comparable and do not depict the true picture. Some of these players offer a range of digital payments (including wallets, co-branded cards etc.) and have also diversified into e-commerce, payment gateways and other financial services like insurance, lending, investments, mutual funds, gold investments, broking, trading etc.

Even though Google Pay India seems to have recorded a book profit, about 80 per cent of its revenue (Rs 1,173 crore in FY20 and Rs 1,079 crore in FY19) has come as reimbursement from its Singapore-based holding entity, Google Asia Pacific, rather than from actual operations.

iSpirt's early hackathon sessions to create UPI led to the birth of Phone Pe, the first private app to offer UPI-based payments. Phone Pe is now owned by Flipkart, which in turn is owned by Walmart. In March 2020, Phone Pe suffered a service outage for nearly 24 hours that had started after the RBI placed its bank partner, Yes Bank on moratorium, which brought down 30 per cent of the UPI platform.

Thereafter, RBI has enforced a multi-bank service payment provider mechanism for diversifying risks.

PayTm's FY20 results show that its payments business has peaked, with its revenues staying flat over the last two years. All of PayTm's operations are run on Alibaba Cloud, for which Paytm pays money to its investor. PayTm believes financial services such as micro-insurance, micro-loans, sachet-sized wealth management products, etc. can help it unlock more revenues, with its 10 million-strong merchant network and 250 million users, mostly from tier 3 and tier 4 cities.

The bet is that since these companies have achieved significant scale and have a huge user base, they can leverage the same by cross-selling financial services and turn highly profitable in due course.

While PayTm is valued at $16 billion, Phone Pe is valued at $5.5 billion. Both companies have raised huge amount of funding and plan to come out with an IPO by 2023. However, monetisation by cross-selling could be much harder to achieve. For instance, KYC norms as per RBI don't apply to SEBI, as of now. This reduces the synergies between different business lines.

NPCI stipulates cap of 30 per cent for TPAs in UPI payments

NPCI has capped the volume of transactions via UPI on TPAs to 30 per cent w.e.f. January 1 2021. While Google Pay and Phone Pe, which currently exceed NPCI's stipulated cap, will be adversely impacted and will get two years to comply with the new rules, PayTm and dozens of others, who split the remaining 20 per cent share could benefit. Notably, the new caps do not apply to Reliance's Jio Payments Bank, or to PayTm Payments Bank, which have niche banking licences and do not fall into the TPA category.

Whatsapp Pay- potential growth horse given NUE framework

RBI has finally accorded approval to Whatsapp Pay, after a long wait, after ensuring necessary regulatory compliance with RBI's mandated data localisation laws.

Whatsapp has a huge user base of 400 million for its chatting and messaging service.

Whatsapp Pay with its simplicity and already huge user base can be just the thing to prod its non-digital payment users to start using digital payments (currently India has **100 million** digital payment user base). The WhatsApp and UPI combination would boost rural participation in the digital economy.

Given the 30 per cent cap by NPCI on third party apps on UPI transactions, Whatsapp Pay may not be able to grow its user base as one would expect. Unless a New Umbrella Entity (NUE) formed in competition with NPCI, comes up with its own set of regulations and relax the cap on UPI transactions for TPAs.

Jio's strategic partnership with Facebook and Google

Big Tech Google (7.7 per cent at $4.5 billion) and Facebook (9.9 per cent at $5.7 billion) have picked up strategic stake in Jio Platforms aggregating 17.6 per cent, at a cheaper valuation than other investors. Both strategic investors will also bring on board their own technology. Jio Platforms was valued at $58 billion in July 2020.

With Facebook, Jio hopes to leverage Whatsapp's 400 million user base in India to grow its online retail venture – JioMart, a small business initiative to connect millions of shops (kiranas) across India with WhatsApp. Consumers can transact seamlessly using Whatsapp Pay for purchase made on JioMart.

With Google, Jio hopes to leverage on Google's prowess in read search, voice, and collaboration apps, with its own strength in cheap internet connectivity. Not to mention that Google Pay has a 42 per cent market share in UPI by value. They could as a consortium, apply for a New Umbrella Entity (NUE) license.

PAYMENT AGGREGATORS (PAS) AND PAYMENT GATEWAYS (PGS)

PAs and PGs are intermediaries playing an important function in facilitating payments in the online space. The prominent players are banks, BillDesk, PayTm, Mobikwik, PayUmoney, CCAvenue, Cashfree, Citrus, Razorpay, Instamojo, Cashfree, EBS, PayPal India etc.

Licensing requirement

The RBI guidelines seek to regulate the activities of online PAs while providing baseline technology-related recommendations to PGs. Banks, provide PA services as part of their normal banking relationship and do not therefore require a separate authorisation from RBI. Non-bank PAs shall require authorisation from RBI under the Payment and Settlement Systems Act, 2007 (PSSA). Existing players are required to submit applications before June 30 2021 and can continue operating their existing payment aggregation business until processing of their applications by the RBI.

E-commerce marketplaces which also provide payment aggregation services are required to discontinue such services, house the payment aggregation business in a separate entity, and submit applications for obtaining authorisation. E-commerce marketplaces availing the services of a PA shall be considered as merchants.

E-COMMERCE COMPANIES

The widespread growth of e-commerce companies and boom in online shopping has been a huge driver for growth in digital payments. Covid-19 pandemic has given a massive push for online shopping done at the convenience of one's home, inculcating social distancing, contactless delivery and digital payments.

E-commerce is $30 billion gross merchandise value (GMV) industry in India in FY20, as per Bain & Co and Sequoia Capital India report. India e-commerce is expected to reach $99 billion by 2024, growing at a 27 per cent CAGR over 2019-24, as per the latest E&Y India Trendbook.

A SNAPSHOT OF E-COMMERCE PLATFORMS

CAB SERVICES
Uber, Ola

E-PHARMACY
Netmeds, Pharmeasy

SERVICE LISTING
Big Basket, Grofers, Dunzo

FOOD DELIVERY
Swiggy, Zomato

LOGISTICS
Delhivery, Ecom Express, Wefast

GROCERY DELIVERY
Big Basket, Grofers, Dunzo

E-RETAILING
Amazon, Flipkart

OTT PLATFORMS
Netflix, Amazon Prime, Hotstar

ONLINE GAMING
Dream 11, Mobile Premier League (MPL), Halaplay, Winzo

Source: various newspaper articles

CONVERGENCE BETWEEN COMMERCE, PAYMENT AND FINANCIAL SERVICES

There is a blurring of industry lines as e-commerce companies seek to offer a gamut of financial services (for e.g. Amazon Pay, Ola Financial Services) and banks seek to offer commerce.

As Bill Gates famously said, "We need Banking, not Banks". Neobanks are digital banks that leverage technology to provide banking services through mobile applications and internet-based platforms, unlike traditional banks, which require brick-and-mortar infrastructure or physical access points. While regulatory framework does not allow digital 'only' banks in India, they have come up in Singapore, UK, China, South Korea.

We are seeing Bank-FinTech partnership in India, wherein the Neobanking platforms provide a technological interface through which customers can access a suite of financial services. Emerging ecosystem plays in partnership with banks are likely to be relatively successful as banks partner (with FinTechs such as Open, Jupiter, epiFi), collaborate (with e-commerce giants Google, Amazon) and compete. While FinTechs cannot directly lend to consumers, they can enter into partnership with Banks/ NBFCs by disclosing upfront the name of the bank or NBFC they partner with, on their lending platforms.

Increasing number of e-commerce players with access to customers are seeking to monetize the same via issuance of cards in partnership with Banks. Amazon launched its own co-branded card with ICICI Bank. PayTm, launched its co-branded credit card, in partnership with Citibank. Visa partnered with Google Pay and Axis Bank, to launch co-branded credit cards on Google Pay.

RBL Bank, in partnership with Visa, has launched Visa Direct, a processing capability that facilitates instant, real-time and secure fund settlement on debit and credit cards. SBI is partnering with Titan to launch the country's first contactless payments-enabled smart watch.

PAYMENT SYSTEM OPERATORS (PSOS)

RBI regulates the payments industry through circulars and notifications under the Payment and Settlement Systems Act, 2007 (PSSA) and through the Board for Regulation and Supervision of Payment and Settlement System (BPSS), a central bank sub-committee, which is responsible for prescribing policies and setting standards for the industry.

RBI issues certificate of authorization to PSOs under the PSSA, for setting up and operating payment systems in India. These include NPCI and card payment networks such as Visa, Mastercard, and American Express.

National Payments Corporation of India (NPCI)

NPCI, an umbrella organisation for operating retail payments and settlement systems in India, is an initiative of RBI and Indian Banks' Association (IBA) under the provisions of the PSSA. The ten core promoter banks are State Bank of India (SBI), Punjab National Bank (PNB), Canara Bank, Bank of Baroda (BoB), Union Bank of India, Bank of India, ICICI Bank, HDFC Bank, Citibank N. A. and HSBC. As at date, the shareholding has been broad-based to 56 member banks and 10 PSOs. Nandan Nilekani has been an advisor to NPCI since 2015.

NPCI has launched various innovative products and covers UPI, RuPay Cards, IMPS, NACH, AePS, BBPS, NETC, Bharat QR etc.

New Umbrella Entity (NUE)

While the NPCI has been successful in democratising digital payments in India, RBI has now invited private players to form a pan-Indian NUE for retail payment systems.

This is primarily to ensure there are checks and balances to prevent monopoly and any concentration of risk in the hands of a single player.

The scope of the new payment systems activities that can be carried out is quite broad and allows players to develop '**innovative**' use-case scenarios to include hitherto excluded cross-sections of the society. The payment system is expected to be interoperable, to the extent possible, with the systems operated by the NPCI.

Though the NUE framework allows for an innovative setup and solutions, it remains to be seen if an NUE can be really profitable or successful given the competition by NPCI. It is unlikely that a chargeable new payment system would appeal to merchants or consumers. If RBI does reinstate MDR on UPI, it could lead to price wars between the players. Against this backdrop, the NUE is expected to grow the digital user base 5x from 100 million users to over 500 million users.

Indians are very price sensitive as can be seen from the success of cashbacks and massive growth of the zero MDR, UPI.

RBI has invited groups of companies to form consortiums, with the promoter holding no more than 40 per cent of the NUE and a promoter lock-in of 25 per cent at all times. All entities eligible to apply as promoter of the umbrella entity shall be owned and controlled by resident Indian citizens' with 3 years' experience in the payments ecosystem. While the entity shall have a minimum paid-up capital of Rs 5 billion, a minimum net-worth of Rs 3 billion shall be maintained at all times. While RBI is expected to receive 10-12 applications, they may grant license to 2-3 only. It may take the NUE a couple of years, to launch the payment system.

The banks don't really earn any money from UPI under NPCI. Under the NUE, banks have the freedom to design a new payments system, with an entirely new business plan, and earn money out of it. It is unclear whether the banks, will divest their existing stake in the NPCI to avoid conflicts or continue to hold the stake passively.

With Jio's partnership with Google and Facebook, this could be a formidable group with its combined reach. Google Pay has 42 per cent market share in UPI payments, while Facebook's WhatsApp Pay has a huge potential to leverage its chat user base of 400 million users. This NUE could be designed with no caps on market share (such as the 30 per cent on TPAs mandated by NPCI). This can really help in penetration of digital payments in India.

PROBABLE NUEs

Reliance Jio	Tata Group	Amazon	PayTm
Facebook	Bharti Airtel Ltd	Visa	Ola
Google	Mastercard	Bill Desk	IndusInd Bank
Infibeam	HDFC Banks	Pine Labs	Centrum Finance
(SoHum) CC Avenue	KotakMahindra Bank	ICICI Bank	Zeta Pay
Navin Surya Chairman Emeritus of PCI		Axis Bank	Electronic Payment and Services (EPS)
Yes Bank			

Source: Newspaper reports

4 REGULATORY INITIATIVES TO FACILITATE DIGITAL PAYMENTS

The government has been taking several initiatives to facilitate digital payments and transition towards a cashless economy. To discourage cash transactions, the government had introduced various sections in the Income-tax Act, 1961 such as section 269SS, section 269ST, section 269T etc.

RBI has made RTGS and NEFT available round the clock on all days and waived the processing charges.

In a bid to increase merchant adoption of digital payments and facilitate financial inclusion, the government has abolished MDR on UPI and RuPay debit cards and relaxed onboarding norms for merchants.

RBI has supported numerous innovations in payment mechanisms, such as contactless card payments, tokenisation and scanning of QR code for making payments using smartphones. India continues to innovate with new uses on UPI such as eMandates and recurring payments with UPI Autopay, to make collections easy for financial institutions and subscription-based businesses, the launch of extensive business services on real-time rails, including IPO subscription, mandate management and invoice-in-the-box etc.

In order to measure the adoption of digital payments, RBI has established a framework (geo-tagging) to capture the location and business details of commercial bank branches, ATMs and BCs across the country. It is envisaged to extend a similar framework for PoS terminals and other payment system touch points.

INCREASE IN THE LIMIT FOR CONTACTLESS CARD TRANSACTION FROM RS 2,000 TO RS 5,000

RBI has increased the limit for contactless card transactions from Rs 2,000 to Rs 5,000 w.e.f. from January 1 2021, for enhanced customer convenience. Contactless card payments are done without punching in the PIN. The increased limit would help to boost the average value of transactions and push the adoption of digital payments. This move will allow card players to effectively compete with the QR-based payment players.

This has been done for e-mandates for recurring transactions through cards and UPI. UPI's AutoPay feature should also get a boost as a result of this. It will now be able to execute high-ticket recurring payments like utility bills, investments, two-wheeler EMIs, consumer durable EMIs, seamlessly.

Card companies will have to ensure that all their cards are enabled with contactless Near Field Communication (NFC) technology. NFC is what allows for contactless payments, where you simply tap the card to a PoS terminal rather than inserting it and entering a PIN.

Recently, SBI Card, has launched SBI Card Pay that allows users to make payments simply with their smartphone, with the use of Host Card Emulation (HCE) feature. Users don't have to carry SBI Credit Card anymore, just tap their android smartphone on NFC enabled POS machine to make faster and secure payments. HCE allows users to have a virtual version of the physical bank card, be it credit or debit, on their NFC-enabled mobile phone and then simply tap their mobile phone on NFC POS machines to make the payment.

INTEROPERABILITY

Interoperability is the corner stone of payment systems in India.

Interoperability across instruments, networks and infrastructure as evidenced in the interoperability of ATMs, PoS, Mobile Banking, PPIs, QR codes, BBPS etc. has enabled use of any card on any PoS or ATMs, use of mobile banking products independent of mobile network operator, enabled QR code payments and bill payments irrespective of app provider and many more such instances resulting in optimum and efficient use of available infrastructure, decreased cost and increased convenience.

RBI has mandated interoperability of all KYC-compliant prepaid payment instruments (PPIs) to allow interoperability between wallets and UPI, interoperability between wallets and bank accounts through UPI, and interoperability between cards through card networks.

The interoperability rules would allow users to not only be able to transfer money between wallets but will also have the options of transferring money from wallets to bank accounts. Fintech companies are using interoperability norms to introduce new products for facilitating payments and disbursing loans.

QR codes are two-dimensional machine-readable barcodes, which are increasingly used to facilitate mobile payments at the point-of-sale. QR codes can store a large amount of information. QR based payments are rapidly increasing and the acceptance infrastructure for QR codes is a key element for the overall development of digital payments in India. QR code- based payments present the most cost-effective way of expanding the digital footprint.

In India, QR Code Payment Systems broadly support three different types of QR Code payments- Bharat QR, UPI QR and proprietary QR. Over 20+ million UPI QRs are deployed in the market. The volume of digital payments using UPI QR are approximately over 250 million on a monthly basis.

Recently, RBI has decided to continue with only two interoperable QR codes- UPI QR and Bharat QR, based on recommendations of Deepak Phatak committee.

RBI has, therefore, barred PSOs from launching new proprietary QR codes for payment transactions since proprietary, closed loop QR codes are a hindrance to an open, interoperable payments ecosystem. PSOs that use proprietary QR codes shall shift to one or more interoperable QR codes; the process of migration shall be completed by March 31, 2022. A pilot on QR code-based cash withdrawals from ATMs is underway.

REGULATORY SANDBOX – FIRST COHORT OF TESTING OFFLINE RETAIL PAYMENTS

RBI has set up a 'Regulatory Sandbox' for issuing facilitative regulation that allows FinTech start-ups and other innovators to conduct live testing of new products in a controlled regulatory environment to generate evidence on the benefits and risks of financial innovations.

The first cohort of applications considered for the Regulatory Sandbox is in offline retail payment solutions. RBI received 32 applications, of which six have been selected for the 'Test Phase'.

Visa and Yes Bank with its digital wallet Yuva Pay are running an offline pilot project for 3 months from mid December 2020. Around 2 lakh households in 5 villages in Karnataka have been given a Yuva Pay prepaid card with a daily transaction limit of Rs 200 to conduct offline payments. A one-time internet connection is required to finish the KYC and load the money onto the prepaid card and then the users can make payments through Interactive Voice Response System (IVRS) technology; wherein all transactions are processed through OTP and a telephone pin-based authentication. The offline prepaid card, which can be both virtual and physical, can be registered through mobile number and linked to any bank account.

RBI has opened up the second cohort on **'Cross Border Payments',** in December 2020. RBI has selected **'MSME Lending'** as the theme for the third cohort.

PAYMENTS INFRASTRUCTURE DEVELOPMENT FUND (PIDF)

RBI has operationalised the PIDF scheme, which is intended to subsidize deployment of payments acceptance infrastructure in tier-3 to tier-6 cities, with a special focus on north-eastern states.

The primary targets will be merchants providing essential services, such as transport and hospitality, government payments, fuel pumps, public distribution system (PDS) shops, healthcare facilities, and kiranas, especially those who do not have a payment acceptance device. PIDF would support multiple payment acceptance devices/ infrastructure supporting underlying card payments, such as MPoS (mobile PoS), GPRS (General Packet Radio Service), PSTN (Public Switched Telephone Network), QR code-based payments.

A subsidy of 30-50 per cent of cost of physical PoS and 50-75 per cent subsidy for digital PoS shall be offered. PIDF will operate for three years from January 1 2021 and may get extended for two more years.

The fund has a corpus of Rs 345 crore, of which Rs 250 crore is given by RBI and Rs 95 crore by card networks. The PIDF Scheme shall receive annual contribution from card networks and card-issuing banks. Card networks such as Visa, Mastercard and Rupay, will contribute 0.01 paisa per rupee of transaction. Card-issuing banks will give 0.01 paisa and 0.02 paisa per rupee of transaction for debit and credit cards, respectively and Re 1 and Rs 3 for every new debit and credit card issued, respectively in the year. The RBI shall contribute to yearly shortfalls.

OTHERS

Video KYC

Video KYC is a paperless, seamless, presence-less and cost-effective solution for KYC by fintech industry. It enables remote on-boarding of customers.

For instance, Kotak Bank has launched its 'Kotak 811', under which people can open a full-fledged savings account in a completely digital, paperless and zero-contact manner, executed entirely at home, without the need for any physical interaction with a bank official.

Doorstep QR code payments for post-paid orders

Recently, NPCI has come up with innovative solutions such as doorstep QR code payments to replace Cash on Delivery (CoD) for post-paid orders. Snapdeal has partnered with NPCI to allow shoppers to make QR-based digital payments at the time of accepting delivery of their orders.

The facility is aimed especially at new or first-time users who are not comfortable in pre-paying for the goods at the time of purchase. The facility will work with all UPI-payment options. This integration is aimed at increasing the usage and adoption of UPI-based payments in smaller cities.

Positive Pay System for cheques

Rather than go through the extra layer of online security in Positive Pay System, this step may prompt users to use digital payment methods instead. Paper-based instruments (non-digital) accounted for Rs 78 trillion in FY20, declining from Rs 82.5 trillion in FY19.

RBI is introducing the 'positive pay system', for cheque w.e.f. January 1 2021, for re-confirmation of key details of large value cheques, wherein issuers shall electronically submit details to the drawee bank. It matches specific information related to the cheque presented for clearing, such as the cheque number, cheque date, payee name, account number, amount, and other details against a list of cheques previously authorized and issued by the issuer. This is an automated fraud detection tool with the primary objective of consumer safety. While it shall be discretionary for cheques beyond Rs 50,000, it shall be mandatory beyond Rs 5 lacs.

Composite Digital Payments Index (DPI)

RBI has constructed a Composite Digital Payments Index (DPI) with March 2018 as the base period (meaning DPI score for March 2018 is set at 100) to capture the extent of digitisation of payments across the country. The DPI for March 2019 and March 2020 work out to **153.47** and **207.84,** respectively, showing a substantial growth in digital payments.

Going forward, RBI-DPI will be published on the central bank's website on a semi-annual basis from March 2021 onwards with a lag of four months. The objective of DPI is to reflect accurately the penetration and deepening of various digital payment modes in India.

Digital Literacy and Financial Literacy

RBI has been taking measures to improve financial literacy and digital literacy through initiatives such as e-BAAT (electronic Banking Awareness and Training) programs, RBI Kehta Hai campaign, DigiVAARTA app etc. The government runs a 24*7 TV channel 'DigiShala' on Door Darshan (DD) Free Dish to guide people and help them adopt digital payments.

RBI plans to set up Centres for Financial Literacy (CFLs), with the help of NGOs and sponsor banks, to promote financial literacy at a grass root level through community led participation, at every block in the country, in a phased manner, by March 2024. RBI has also operationalised 1,467 Financial Literacy Centres (FLCs) in the country, as at March 2020.

Photo source: https://newint.org/sites/default/files/2019/IT63-7.jpg

5 DRAFT PERSONAL DATA PROTECTION BILL, 2019 (PDP)

In view of growing anti-trust and data privacy issues along with technology inadequacy, banks and FinTech may require tighter regulatory oversight. There are also worries about possible monetisation of consumer data in the future.

In order to devise a solid data protection, privacy and governance framework and to replace the Information Technology Act 2000, the government has introduced a draft PDP Bill based on the Justice Srikrishna Committee report.

The idea is to balance the fundamental right of the individual to data privacy and autonomy as well as the need to foster a data and digital economy. The Bill, which is meant to ensure that citizens have control of their personal data, is being analysed by a Joint Parliamentary Committee (JPC) in consultation with experts and stakeholders.

Framework includes data localisation, liability (conceptually similar to Product Liability, theoretically uncapped), consent dashboards and registration of data fiduciaries who will be subject to regular data audits. Sector regulators (RBI, TRAI etc) will formulate their policies based on this overarching framework.

The draft Personal Data Protection Bill is balanced to EU GDPR, but gives the Indian government more leeway than EU.

While any data transaction is consensual, the inclusion of non-personal data giving unhindered access to Government and data localisation may bother the Big Tech for whom India is the largest internet market outside the USA, since China has not given them entry.

DATA LOCALISATION

Data localisation is the act of storing data on any device physically present within the borders of a country.

While India may be a poor country in terms of per capita income, it is rich in data creation and the data must be mined within India for the country's benefit to help government form better domestic policies for its citizens.

Given the presence of foreign players in digital payments such as Google Pay, Amazon Pay, Whatsapp Pay and card networks Visa, Mastercard, American Express, localization of data is a key development.

There has been a global clamour for data localisation following revelations of Facebook sharing user data with Cambridge Analytica, which is alleged to have influenced voting outcomes, assisting the Donald Trump campaign, in the 2016 USA elections. Recently CBI has filed an FIR against Cambridge Analytica for collecting and harvesting unauthorised data of approximately 5.6 lakh Indians from Facebook.

Russia has a detailed data localization law in place, in relation to all personal data of Russian nationals which requires that any organization that stores any personal data or information of Russian nationals, whether of customers or social media users, must move and store that data on Russian servers. China and EU all have data localization laws in place.

Current position

The RBI had introduced the data localisation norms in **April 2018** which were to come into effect from October 2018. This mandated data localisation requirements on all information relating to payment systems including complete transaction data in India. The data to be stored only in India includes "full end-to-end transaction details/ information collected/ carried/ processed as part of the message/ payment instruction." The norms required entities to store domestic customer transaction data in servers located in India and certify compliance through a system audit report submitted to the RBI.

For a foreign leg of a transaction (if any), the data can also be stored in a foreign country, if required. While there is no bar on the processing of payment transactions outside India, the PSOs had to ensure that the data is stored in India after the processing. The data stored in India can be accessed for handling customer disputes, whenever required.

This covered banks, NPCI, card networks such as Visa and MasterCard, Big Tech such as WhatsApp, Google and TPSPs which offer electronic or digital payment services etc. Multiple international payments firms such as Mastercard and Visa had sought extensions. Many companies are yet to comply with this rule.

In case of breach of the directive, as in the case of breach of other directives and regulations issued by the RBI, the RBI has discretionary power to impose fines or even imprisonment in certain cases.

In a first such action, RBI has barred **American Express** and **Diners Club,** which conduct credit card business in India, from on-boarding new credit card customers in India from **May 1, 2021** citing non-compliance with norms that require storing transaction data locally. These entities have been found non-compliant with the directions on Storage of Payment System Data. However, this does not impact their existing customers.

As of February 2021, American Express had **15.6 lakh** cards in circulation in India with monthly spends of **Rs 2,324 crore** at POS terminals. Diners Club operates in India through a tie-up with **HDFC Bank** since 2011. Both AmEx and Diners Club offer credit card services to affluent and high-net-worth clientele. In December 2020, the RBI had also barred HDFC Bank from on-boarding new credit card customers after the bank reported multiple system outages. The regulator has ordered a third-party audit of HDFC Bank's IT infrastructure and would review its order only after it is satisfied that adequate efforts have been made to prevent system failures.

Proposed under PDP

The committee has recommended local storage and processing of personal data by classifying data into different categories.

Personal data determined to be 'critical' will be subject to the requirement to processed only in India. Other types of 'sensitive' personal data (non-critical) will be subject to the requirement to store at least one serving copy in India.

Cross border data transfers of such 'sensitive' personal data (non-critical) will be through model contract clauses containing key obligations with the transferor being liable for harms caused to the principal due to any violations committee by the transferee.

Data localisation is essential to national security. Localization of data is needed as once the data is transferred to foreign jurisdictions, Indian authorities may not be able to access that data even for statutory purposes, such as prevention of crimes and intelligence activities. In such cases, even if the data relates to Indian users, Indian authorities may have to route their data access requests through complicated procedures with the recipient country such as Mutual Legal Assistance Treaties (MLATs), delaying investigations. Meanwhile, government agencies in the recipient country may freely access such data of Indian users, subject to its laws.

Interestingly the report highlights that 8 out of top 10 most accessed websites by individuals in India are owned by US entities. Over Jan 2014 – June 2017, out of the 3,843 user data disclosure requests by Indian governmental agencies, Google refused to provide data in 46 per cent of the cases.

Cloud Service Providers (CSPs)

Cloud computing, with its easy on-boarding and secure hosting services, has been a driver of FinTech growth in India. Cloud computing is the on-demand availability of computer system resources, consisting of cloud storage and computing power, without direct active management by the user. Banks and FinTech have been using the pay-as-you-go model in hybrid multi-cloud (combination of both public and private cloud). Cloud computing reduces the need for investment in dedicated hardware and software along with the staffing to maintain them and enables firms to quickly respond to changing market demand.

The concept of cloud computing and data localization are two ends of a spectrum. Data localization entails storing all the data in local servers whereas cloud computing is all about storing and processing data from remote data centres via the internet. Client-side encryption guarantees that an external party or even the cloud service provider cannot access data. However, this may affect performance and thus a trade-off between functionality and security must be found.

Cross-border cloud services pose issues even under the PDP Bill. The PDP Bill does envisage the applicability of its provisions to processing of personal data by foreign CSPs if they provide services to users in India. However, in case of data breaches or non-compliance with Indian laws, enforcing remedies against a foreign CSP in Indian or foreign courts under the IT Act or the PDP Bill remains to be tested.

Given the absence of a global data protection framework, conflicts also arise over the extra-territorial applicability of Indian laws to a foreign CSP. Since foreign CSPs may not be required to comply with privacy and data protection safeguards under Indian laws, such as conditions relating to data retention and disclosure, the chances of unauthorised or unlawful access to data of Indian users remain. Invariably, Indian users not only contractually consent to the cross-border transfer of their data but also to the processing of their data being subject to foreign laws.

In the global context, the European Court of Justice in a recent judgment popularly known as **Schrems II,** has held that data transfers from EU to a CSP outside the EU may be illegal if the CSP is unable to comply with EU data protection and privacy standards for any reason. This may prompt non-EU CSPs to either exit the EU market or be forced to invest in localising user data within the EU. If other countries adopt this stance as well, then it may trigger an unprecedented localisation of the cloud industry.

Implications

There are different views on data localization. There are views that India must not mandate strict data storage within the country, but allow it to be stored in any jurisdiction approved by the government that permits lawful access to the government of India under defined exceptional circumstances.

The view is that unless we allow data to flow out, a lot of industrial activity will be curtailed. The counter-argument is that is the reason for the categorisation of data into sensitive and critical data, in order to decide which data can be allowed to go outside. However, this categorization may be costly to execute.

Maintaining multiple local data centres may entail significant investments in infrastructure and higher costs for global companies. As per some reports, India needs to ramp up its data center capacity by at least 15 times in next 7 to 8 years to be able to handle the massive amount of data influx that will enter its borders because of data localization.

If one was to compare the cost of manpower, real estate and bandwidth, India is much cheaper than US or Singapore. These savings will ultimately go to the customers looking for rack space. Bangalore, Hyderabad, Pune, Gurugram can become the hub of innovation and data processing. On-shoring global data could also create domestic jobs and skills in data storage and analytics too. But we must ensure the security of the data centres, making then nuclear bombproof, earthquake-proof etc.

Many players such as Adani group, Hiranandani group, Sify, international players like Microsoft, Colt, Bridge etc are planning to set up/ ramp up capacity in India. While most of the Indian companies are already localising the data, most foreign companies are not localising it, with a few exceptions.

There are many foreign CSPs in India. Microsoft has signed a 10- year deal with Reliance in 2019, to power Jio's data centres with its Azure cloud, targeting the enterprise and small business users who want to make a shift to a cloud technology infrastructure.

Amazon Web Services (AWS) provides on-demand cloud computing platforms and APIs to individuals, companies, and governments, on a metered pay-as-you-go basis. With support from the Telangana government, AWS has procured 150 acres of land, where it plans to build three data centres. Amazon has invested around $197 million in its data services arm in India.

Google is looking to create its second data centre region in NCR. Google intends to scale its data centre capacity in the country to 500MW over the next five years.

GOVERNMENT TO HAVE UNHINDERED ACCESS TO CITIZEN'S DATA

Section 35 of the bill gives central government the power to exempt any government agency from the bill's requirements on grounds related to national security, national sovereignty and public order.

There are arguments that this should be granted only if it is necessary, proportionate and when public interest outweighs breaching the right to privacy.

Under the bill, the government can require any private business to share valuable non-personal data (such as aggregate mobility data collected by apps like Google maps or Uber) or anonymized data with the government to better deliver services or to develop evidence-based policies.

Concerns have been raised on the proposed government's powers to access citizen data without consent as it can lead to violation of proprietary rights of businesses, privacy risks and discouraging business innovation and growth. This runs contrary to the Puttaswamy judgment that deals with the Right to Privacy. Justice BN Srikrishna, who led the committee that drafted the bill, has already warned that government exemption is dangerous and can turn India into an Orwellian state.

Notably, this is akin to section 69 of the Information Technology Act, 2000, which empowers the central government or a state government to intercept, monitor or decrypt or cause to be intercepted or monitored or decrypted, any information generated, transmitted, received or stored in any computer resource in the interest of the sovereignty or integrity of the country.

Recently, the government has asked Facebook to decrypt messages, citing national security and asserting that terrorists cannot claim privacy. Big Tech argue that they are not obliged to share the user data and any leeway given to the security agencies will weaken the security architecture and render it vulnerable to hackers and cyber criminals. Earlier, the Government had threatened BlackBerry with closure in 2012, forcing it to share user data.

Moreover, the new Data Protection Authority (DPA) shall decide which small businesses qualify for exemption from the requirements of the bill. Several opposition leaders have pushed for more judicial representation in selecting the DPA chairperson. Currently, the selection panel consists of only government representatives. Members want to include the Chief Justice of India, a judge of the Supreme Court, a retired high court judge, opposition leaders and independent industry experts on the panel.

Section 28 of the Bill notes that every social media intermediary shall enable Indian users to 'voluntarily' verify their accounts, for they shall be provided a demonstrable and visible mark of verification, visible to all users of the service. The aim here to help stop online trolling and curtail fake accounts. However, for this to be effective, we can expect a mandatory authentication process for all India social media users in future.

CONSENT TO BE SPECIFIC, CAPABLE OF BEING WITHDRAWN

PDP bill proposes a consent framework to ensure that consent is free, informed, clear, specific and capable of being withdrawn (ease of such withdrawal is comparable to ease with which consent is given).

Given that consent is often uninformed, not meaningful and operates in an all or nothing fashion reflective of unequal bargaining power, an alternate framework for consent has been proposed. The data fiduciary shall not make the provision of any goods or services or the quality thereof conditional on consent to processing of any personal data not necessary for the purpose.

Sensitive Personal Data (SPD) (which includes financial data) can be processed only with explicit consent.

Current State of Seeking Consent

According to a study by enterprise cyber security and data privacy platform, Arrka Consulting on 100 Indian apps with each having at least a million downloads, about a third of the permissions sought are not required for core functionality of those apps. In some categories like travel, shopping and wallets, homegrown apps end up taking 1.5-3x higher permission than global peers.

Access to SMS, microphone, contact books are sought by significantly higher number of Indian apps as compared to global apps. 99 per cent of these apps send data to one or more third parties for advertising, analytics etc. On an average, an app/ website sends data to more than 5 third parties. Google has consciously separately limited the degree to which various mobile applications can access users' SMS and call logs.

Implications

Consent framework (explicit, multi-layer) for data collection, processing or sharing with external parties will arguably limit the quantum or granularity of data points and therefore limit (but not impair) the ability of TPSPs (apps) to pursue advertising or bundle services and cross-sell financial services, particularly if it is not core to the primary service offering.

The boundaries as well as what is acceptable will evolve with time with the sector regulator. Let us discuss a few instances of where this will be tested; the ability of an e-commerce site that seeks access to sms to build a financial profile to provide loan offers at the point of purchase or the ability of a ride sharing app to use geo-location to provide retail shopping offers or read sms.

While unhindered access to sms, contact list and location etc that various apps sought to build customer profile will be impacted, TPSPs (apps) may seek to overcome the constraint by charging consumer for the services (e.g. payment apps) in case consent to collect and process data is limited by the consumer and thereby incentivize consumer to consent. Apps may seek to bundle services or justify access to data on grounds of loyalty program etc.

PRINCIPLE OF PURPOSE/ USE LIMITATION; DATA MINIMIZATION/ COLLECTION LIMITATION; PORTABILITY

Processing of personal data where the purpose of the processing is not known at the time of its collection and cannot be reasonably communicated to the data principal can be undertaken only with explicit consent and concept of layered privacy notices has been introduced. The committee recognizes that use to which personal data can be put often becomes apparent over time.

The following purposes will be generally acceptable viz. to improve the provision of the service or purpose reasonably expected by the principal, analysis of general trends or patterns. To the extent possible, anonymized data can be used which later cannot reidentify an individual. While the draft Bill permits use of anonymized data, the Ministry of Health (MoH) in the Digital Information Security in Healthcare Act (DISHA) has not permitted any processing of anonymized data.

The data fiduciary shall retain personal data only as long as may be reasonably necessary to satisfy the purpose for which it is processed. The data principal shall have the right to restrict or prevent continuing disclosure of personal data by a data fiduciary where such disclosure has served the purpose for which it was made or is no longer necessary or the consent has been withdrawn.

The data principal shall have the right of data portability i.e. to receive as well as transfer to any other data fiduciary such data that has been provided by the data principal or which has been generated in the course of provision of services or use of goods by the data fiduciary.

APPROACHES ACROSS KEY JURISDICTIONS

Basically, USA follows a laissez-faire approach; no overarching data protection framework; businesses are permitted to own the data.

USA has taken a market-centric approach with light or no regulations, allowing innovators to grow rapidly. While the right to privacy is recognized and there exist sector specific laws, there is no single data protection legislation in the USA, it is an obligation of the 'states' and certain categories of data handlers.

Meanwhile, Europe has taken a more activist approach and shifted the burden for privacy to the security providers.

EU GDPR provides a comprehensive legal framework which lays down fundamental norms to protect privacy where the individual determines how her personal data is collected, shared, used and is therefore not an asset to be used freely and for profit by business in perpetuity.

China, under cyber-sovereignty has sought greater state control.

China has approached the issue from perspective of national security and framed its laws with the interest of collective as the focus.

6 FUTURE TRENDS IN PAYMENTS

NEW USE CASES OF UPI, OFFLINE RETAIL PAYMENTS, CONTACTLESS DIGITIZATION OF TRANSIT

We expect new solutions in the space of commerce, value-added financial services and merchant management where the UPI forms the core rails on which these businesses are built. Given its ease of transaction, mass popularity and acceptance, there are many innovations possible to extend UPI to desktop browsers, feature phones, offline payments as well as recurring payments. UPI could drive growth of financial services such as micro-insurance, retail investments, online education, kirana tech, agri tech and even cross-border supply chain services. UPI system has the potential to evolve into a cheaper and quicker alternative to available channels of remittance for cross-border payments as well, whether related to retail remittances or small-value trade transactions.

Credit on UPI like credit cards, could be a game-changer for lending.

We expect UPI transactions to continue to grow at a fast pace driven by new UPI uses such as recurring UPI payment to Ola, Netflix and new UPI apps. Government is planning to give GST rebate to merchants and customers based on UPI transactions. It will soon be mandatory for businesses to collect customer's GST/ PAN number while initiating UPI transactions. Wallet companies like Mobikwik are planning to link their post-paid credit businesses with UPI.

Lack of internet connectivity or low speed of internet, especially in remote areas, is a major impediment in adoption of digital payments. RBI is working on providing an option of off-line payments through cards, wallets and mobile devices.

The first cohort of the Regulatory Sandbox is testing **offline retail payments.** A pilot scheme on this is being undertaken till March 31, 2021 and based on experience gained, a decision will be taken on roll out of the offline retail payments scheme. We can expect to see card- and wallet-based solutions similar to UPI and mobile payment transactions using USSD code that are possible even without internet or smartphones.

With RBI increasing the limit of contactless payment to Rs 5,000, we expect **contactless payments** to grow substantially. Effective implementation of this technology has the potential to give substantial boost to small value digital transactions, with innovative solutions such as mobile and wearable devices.

Most effective mass market use case of contactless payments is the **digitization of transit systems** such as the metro rail system of London, Bucharest, Tokyo and Moscow. In India, Delhi and Mumbai metros could lead the way for mass adoption of contactless digitization of transit. Global contactless transaction values are estimated to triple from $2 trillion in 2020 to $6 trillion in 2024, as per a report by Juniper Research.

MASS DIGITIZATION OF SMALL BUSINESSES

*Image source

There are around **13 million** traditional grocery stores (Kiranas) in the country each of which are doing **100-200 transactions** a day on average. Contactless, offline as well as credit on UPI are likely to accelerate digitization in historically cash-based areas such as low-ticket items of everyday purchases and small merchants. Not just grocery or commerce stores but also services like plumbers, salon, etc are expected to be digitized.

The transformation of just 10 per cent of the 13 million Kiranas, could boost retail consumption by more than 5 per cent and generate approximately 3.2 million new jobs in India, according to a new report from Accenture and the Trust for Retailers and Retail Associates of India (TRRAIN).

FinTech players are targeting the small traders and the Tier 2 and Tier 3 cities with digital payment services and credit schemes. The Software as a Service (SaaS) model is enabling MSMEs to digitize their infrastructure, payments, accounting, book-keeping, marketing and selling operations. The increased transparency in bookkeeping and effective tracking of receivables and payables will facilitate credit assessments and eventually lead to access to credit for MSMEs.

Phone Pe for business app, for example, seeks to provide offline merchants with digital services such as receipts and reconciliation and the digital kirana platform of Amazon, Smart Stores, allows the kirana stores to set up a digital storefront facilitating UPI-based transactions as well as instalment-based purchases. The Shopify ecosystem offers businesses all the tools required to run an online store from data analytics, payments integration to inventory management, logistics and credit.

Start-ups such as Max Wholesale, Jumbotail, ShopKirana. Khatabook, OkCredit, Vyapar, Marg ERP, Open are helping local Kiranas place orders, maintain inventory, optimise delivery routes and make payments, all digitally.

OPEN BANKING TO DRIVE LENDING TO MSME

For India to become a $5 trillion economy, lending needs to be done at a mass scale so both businesses and individuals can grow. Currently, non-food bank credit, which increased by 6 per cent in FY20, stood at Rs 106 trillion, as at January 1 2021. Credit to GDP ratio is 51 per cent, as at March 2020. Lending in India can be broadly classified into three categories- corporate, retail and MSME. The initiatives taken by the RBI and the Government in order to promote financial inclusion have considerably improved the access to the formal financial institutions for the corporates.

There is a large financing gap within MSME as well as individuals, where the credit penetration in India is below 15 per cent.

Less than 20 per cent of MSME have access to formal credit amid an estimated MSME debt demand of Rs 70 trillion.

MSME had a total credit outstanding of Rs 15 trillion spread across 38 million borrowers as at March 2020, based on the RBI data. Banking sector accounts for 87 per cent, followed by NBFC at 9 per cent and foreign banks at 4 per cent.

MSME, with 63 million units, constitutes about 90 per cent of all enterprises in India, employs over 120 million people and contributes significantly to the GDP. Union Minister of MSME, Nitin Gadkari stated that MSME sector contributes 30 per cent to GDP and more than 40 per cent of export. 85 per cent of MSMEs are unregistered, 80 per cent are into service and balance in manufacturing. More than 70 per cent of these MSMEs are micro-enterprises, in active need of microfinance.

MSMEs have limited access to funding, especially in smaller towns and villages, where they are primarily based, and have to resort to informal sources for debt such as family, friends, local moneylenders and chit funds. They end up paying higher rates on loans borrowed with high collateral. Most of them being in the informal sector, barely possessing any recorded financial history, which affects their capability to borrow credit from organised lending sources.

*Image source: https://www.business-standard.com/article/companies/local-kirana-shops-embrace-retail-tech-as-covid-19-puts-focus-on-essentials-121041300588_1.html

Open Banking with Open Credit Enablement Network (OCEN) and Account Aggregator framework along with the proposed Public Credit Registry (PCR) which would be a repository of all credit related information, would help plug the information gaps and give a fillip to lending to MSMEs.

In consumer credit, the urban population is likely to avail FinTech lending services to avoid heavy documentation, and the rural population (which is NTB) can benefit from alternative credit scoring mechanisms to stay away from exploitative money lenders.

Almost 500 FinTech start-ups have come up in the lending segment, which can lend to segments that have been traditionally ignored by banks. They can help banks with alternate credit assessment processes which can widen the base for lending. With access to more data for credit scoring such as transaction, behaviour, app-based data, location information, social data and more, the new lending models could boost lending to MSME. An innovative channel for credit is the use of card POS machines as agents for loans.

The **use of technology** can assist in cross-sell, collections, AI-based early warning systems, fraud detection. Technology players such as Mihup and Floatbot can be leveraged to offer vernacular-based voice bot and chatbots for providing sales, collections services as well as other customer services in the hinterland.

A lot of product innovation and bank-tech partnerships are coming up. U GRO Capital launched unsecured loans on its Sanjeevani platform, SOLV launched a credit card with Standard Chartered Bank for the MSMEs to meet ongoing business expenses and Instamojo introduced a loan product for the segment. PayTm recently formed a partnership with Suryoday Small Finance Bank to empower MSMEs with instant digital loans. Kaarva has a credit line for regular income workers. Lakshya is working on improving the financial health of the urban undeserved.

Government digital ecosystem such as GSTN, Udyog Aadhar formalization (UAM), Trade Receivables Discounting System (TReDS), Project Kashi (direct benefit transfer-based digital lending service of small-ticket loans to farmers, labourers and other low-income families) and KYC Setu (integrated KYC sharing protocol) would help in faster digitization and formalization in India. The formalization of enterprises with Aadhaar, PAN and GST numbers will pave the way for accessing schemes and also bank finance.

Account Aggregator Framework (AA)

RBI has established a legal framework for a class of regulated data fiduciary entities, called Account Aggregators (AA), enabling customer data to be shared within the regulated financial system with the customer's knowledge and consent, through the use of APIs. It thereby separates the role of Custodian (Bank) and Permission/ Consent collector (Account aggregator), similar to the separation of Bank as the Custodian and Payment Service Provider (PSP) in UPI Payment infrastructure.

This is very similar to **PSD2 directive** wherein Banks in EU will be required to share customer information (account details, credit card history etc) with other financial institutions.

Only entities regulated by RBI, SEBI, IRDAI, PFRDA can be approved as Financial Information Users (FIUs) or Financial Information Providers (FIPs) but they are not mandated to be part of AA ecosystem. Consumers can selectively share and even revoke data once shared. Currently, using AA handles, borrowers can consent to share officially verified asset-based data such as bank accounts, deposits, mutual funds, insurance policies, pension funds with lenders that will be incorporated in the onboarding, underwriting and monitoring process. Other types of data such as home loan repayment record, credit card statements, income tax returns, GST returns etc are likely to be added over time.

Data would come directly from source, tamper proof, at a low cost and in real time. This would bring down the cost and burden of verifying the data.

The biggest challenge for an Issuer remains income assessment. AA would help share business' operational data in real-time to lenders. Bank account data, GST business flows or payment history could serve as collateral to get cash-flow based loans. AA would facilitate early-warning systems, as lenders can better monitor cash flows and anticipate default before it happens.

The big question is whether AA will neutralize the advantage that Banks enjoy from their Liability Franchise. Banks' are reluctant to be a part of this network as it could end up passing user info to other players and lose a potential borrower.

AA would democratise lending – so far banks enjoyed the privilege of data.

Meanwhile, AA could help banks in getting continuous data regarding NTB customers, thereby making them comfortable with lending to NTB. Open access to data could also lower switching costs for customers and generally foster competition and financial inclusion.

AA cannot read or resell consumer data. Therefore, unlike in UPI, where Big Tech and TPAPs drove user adoption by aggressive marketing to attain scale, inability to monetize data (given AA are data blind) may limit investment in customer onboarding.

Onboarding and scale up will therefore be slow and gradual, as and when customers need a loan, unless mandated by regulator similar to e-KYC.

FinTechs such as PayTm (12 million merchants), Phone Pe (11 million), Mobikwik (3 million), Bajaj Finance etc with large KYC verified user base can benefit by cross-selling into lending. KYC information, when combined with payment history, helps identify whom it can lend to. UPI platforms, on the other hand, did not need KYC data. Sahamati is a collective of account aggregators, promoted by Nandan Nilekani. Sahamati is to lending what NPCI is to UPI.

Recently, Axis Bank and IndusInd Bank went live as FIPs under the AA Framework. Other banks which are in the various stages of implementation are Bajaj Finserv, ICICI Bank, HDFC Bank and SBI.

OCEN

Open Credit Enablement Network (OCEN) is an open standards-based network that would accelerate access to affordable, formal credit. The OCEN protocol provides a standardized set of APIs so that applications that already interface with individuals and MSMEs can effectively 'plug-in' lending capabilities into their current product and service offerings.

OCEN is expected to democratise credit by using AA as enablers.

OCEN can do to lending what UPI did for payments. OCEN, will be launched through an app called Sahay. Sahay would enable MSMEs to access loans in as few as five minutes. Conceptualised and promoted by iSpirt, Sahay is to OCEN what BHIM app was for UPI. Just like payments, Sahay would democratize lending across multiple platforms.

Almost 30 customer facing entities across segments of tax and filing, payment gateways, agri-tech companies etc., are looking to become loan service providers and adopt this protocol. The merchants would be able to sign up and get instant loans from the lending partner bank and NBFC by providing GST ID number and their bank details. This will enable enhanced access to funding for the excluded segments such as small businesses and street vendors.

With Sahay, the idea is to reduce the cost of borrowing for borrowers by at least two percentage points. They would be invoice-backed loans, not as risky as unsecured lending.

Lending should not be limited to just Banks, NBFC or lending FinTech but also e-commerce companies such as Amazon, Flipkart (based on seller's invoices), cab hailing- Ola (based on driver's rides) or food delivery Swiggy (based on restaurant orders) etc.

However, in May 2020, Sahay's launch has been put on hold by iSpirt. Given the Covid-19 pandemic, small businesses need rescue and stimulus packages from the government to survive the health and economic distress. When the lending cycle picks up again in the market, Sahay would be launched to bring cash flow-based lending products in the market.

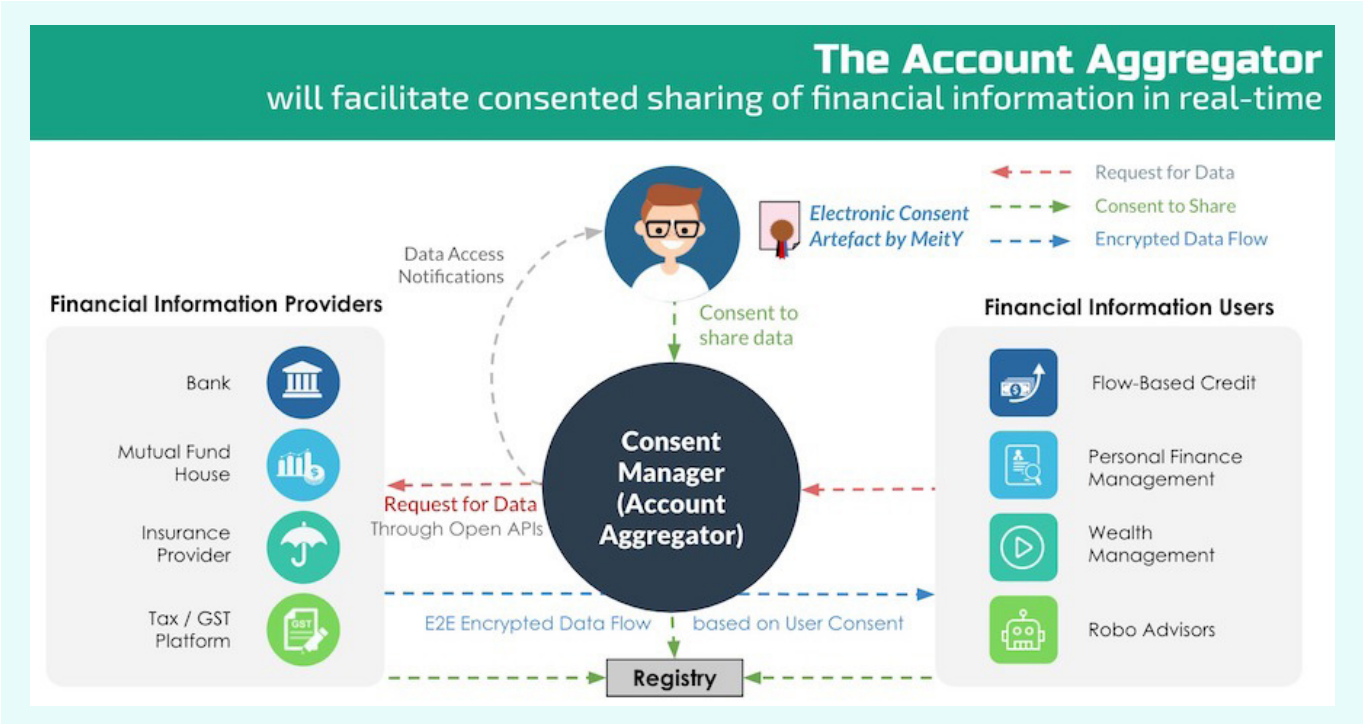


Image Source and credit: https://sahamati.org.in

SUPER APPS

Super-app could be a major disruption in digital payments. A super app is a platform developed by a company offering various services under one umbrella. For e.g. China's WeChat, which started out as a messaging app, expanded into payments, cabs, shopping, food ordering, cab services to become a super app. It has almost two million third-party mini-applications within its app.

Super-app primarily re-arranges for value creation.

Super-apps start with un-bunding to solve a problem and thereby acquire customers but then come back to re-bundle for monetization. Customer behaviour varies from person to person; while some prefer super-app, others will prefer multiple apps.

While some payment super apps have come up in India, we expect them to expand their offerings further. Apart from allowing users to make digital payment, super apps provide other services such as ticket booking, games, online shopping, banking and consumer finance. Tech savvy banks are expected to create their own super apps as there is data, brand recognition and value to be built rather than just being enablers of digital transactions and the interoperable standards of UPI payments makes it a valuable proposition.

SBI YONO is a super app which sells SBI products such as insurance, credit cards, loans and allows e-commerce through a browser version of Amazon within the app. While SBI has 448 million customers, only 30 million are YONO users and therefore, a huge potential to grow user base. Though the app has low downloads, it has high user engagement. SBI YONO has been fairly successful. SBI has disbursed loans over $3.3 billion, mutual funds investments of $219 million, 3.5 lakh credit cards via the app. In the 1QFY21, it made profit of Rs 200 crore on revenues of Rs 212 crore and estimated to clock profit of Rs 1,000 crore for FY21E.

MyJio, of the Reliance group, is a super-app which offers shopping, content streaming, groceries, payments, cloud storage services, ticket bookings, etc. MyJio has over 100 million downloads on Google's Play Store. It includes JioSaavn, the audio streaming service and JioMart, its online grocery store. RIL has expanded its offerings on JioMart to include electronics, apparel, and medicines, taking on Amazon and Flipkart. Reliance has also acquired the assets of Future Group at $3.4 billion with 2,100 supermarkets and 2,500 fashion retail stores. Not to forget Jio's strategic partnership with Facebook and Google will further its reach.

PayTm has also brought together services like payments, ticket bookings, games, online shopping, banking, consumer finance, etc. into one app. Phone Pe has tied up with companies such as Ola Cabs, Swiggy, Grofers, AJio, Decathlon, Delhi Metro, booking.com, etc. to offer these services from within its own app.

The **Tata Group** is planning to launch a super app, including plans for a payments network. Currently all companies under Tata group function independently and are not keen on sharing customer data with each other. Titan, Croma, Tanishq all have separate portals. Tata is now reportedly in talks with investors, including US retail giant Walmart, to raise funds to match Reliance's $25 billion infusion. Tata's super app will co-exist with the e-commerce portals that its retail brands already have. Customers will have the option to buy Tata products both via the super app and the individual websites, as well as off Tata CLiQ, which also sells products from Croma and Tanishq. The super app, like Tata CLiQ, will be open to non-Tata brands, given the retail outlets' lack of scale.

MASS ADOPTION OF BUY NOW PAY LATER (BNPL)

There are only 30-40 million active credit cards in India, which is just 3 per cent of the population. The ease of signing up for an EMI/ Pay Later solution, along with a quick and simple KYC to check eligibility in a matter of minutes, has made the BNPL solution popular.

BNPL, a contextual credit solution, has a huge potential in consumer credit in India, due to its ease of transaction.

Some BNPL players use alternate data sets to judge potential customers' repayment capabilities—including online behaviour, history with merchants that have tied up with the company, user's phone models and more.

While ability of BNPL to assess customers will improve with AA, BNPL is likely to expand credit culture in a similar but limited way as UPI has expanded digital payment.

Globally BNPL giants such as Afterpay (Australia), Affirm and Klarna have been very successful. But most of the volume here comes from customers who don't have a credit card i.e. they were expanding the consumer credit market, not cannibalizing it. Logically, anyone who owns a credit card (and is reasonably sure he will repay on bill date), will never want to use BNPL. BNPL interest rates are almost as much as credit card APR anyway, but with significantly higher credit costs.

Debit cards and Credit cards as well as Bajaj Finance have run a highly successful **EMI program** for years in India. As per a Visa survey, avoiding an annual fee (64 per cent) and attractive rewards (59 per cent) are the two most important factors for consumers deciding which credit card to use. The key change now is the 'digitization' of BNPL to online solutions.

It is estimated that almost 20 per cent of all the digital transactions in India were converted into 'pay later' schemes last year. Razorpay saw a year-on-year spike of over 150 per cent in the number of BNPL transactions it facilitated in November 2020. Local BNPL players include Pine Labs, Ola Postpaid Plus, ZestMoney, Capital Float, Simpl, PayU India, ePayLater etc.

BNPL companies tie up with both merchants and e-commerce companies to serve as a payment option. For merchants, this is a great way to drive up the value of transactions. Most of the BNPL providers are available on the checkout of online shopping platforms like Amazon and Flipkart, food delivery players Zomato and Swiggy, e-ticketing platform BookMyShow as well as all the largest brands- online and offline. BNPL is popular across categories such as electronics (laptops and smart phones), home appliances, fashion, healthcare, furniture, travel etc. Most of the BNPL service providers partner with other lenders to give credit.

BNPL product across companies can vary a lot in lending as well as repayment models (2 weeks to a month/ repayment at one go vs staggered). Average ticket size varies from Rs 2,000 to Rs 10,000 to Rs 1 lakh. A delay in repayment can lead to late payment charges of up to Rs 100 per day. Non-payment doesn't affect the customer's overall credit score—at most, the user profile is blocked until the payment is made. In the US, state laws don't identify BNPL as a loan if the issuer is charging zero per cent interest.

INTERNATIONALIZATION OF AADHAR, UPI AND RUPAY

India is a pioneer of UPI.

NPCI is attempting to take its products UPI and RuPay card global and assist other countries in establishing a 'real time payment system' or a 'domestic card scheme' through its subsidiary NPCI International Payments Limited (NIPL).

RBI has written to other central banks highlighting the features of UPI as an efficient and secure system which can be used to transform retail payment mechanisms globally and at the same time promote financial inclusion. BIS has expressed interest in working with RBI towards building a prototype of the system that could be replicated and scaled up in other countries to realise the potential of UPI as a public good.

A soft launch of UPI was done in Singapore, while its rollout is in advanced stages in South Korea, Malaysia, Myanmar and UAE. FICCI has signed an agreement with the Singapore Fintech Association (SFA) to take UPI global. Google, even vouched for similar technology in the US.

To increase RuPay's acceptance around the world, NPCI has tied up with 30 other payment networks like Union Pay (China), Japan Credit Bureau (JCB), NETS (Singapore), BC Card (South Korea), Elo (Brazil), DinaCard (Serbia), Discover Financial Services and Diner Club and has thus made its presence felt across 195 countries across the globe. While RuPay cards are being accepted the world over, the issuance of RuPay cards in Bhutan has been facilitated.

Modular Open-Source Identity Platform (MOSIP) is India's open-source offering that crystallises the learning from **Aadhar** and offers it to the world. It is currently being implemented in the Philippines and Morocco with 8 more countries in various stages of their national identity projects. ID4D is a digital identification project from the World Bank, is inspired by Aadhar.

PUBLIC CREDIT REGISTRY (PCR)

RBI is in the final stages of identifying entities that will set up the PCR. By bridging the information gap, a PCR will ensure credit flow to the last mile customers, that have been left out of the formal financial fold.

PCR is an information repository where all information about existing as well as new, corporate as well as retail borrowers is stored. The idea is to capture all relevant information in a single large database on both the outstanding loans and repayment history of an entity/corporate/individual.

The registry captures data on loans taken from all kinds of sources including from banks, NBFCs, corporate bonds, ECB, Inter-Corporate Lending etc. It also includes ancillary information like any overdue utility payments or tax payments data from tax authorities, and other primary information sources.

The proposed PCR will include data from entities like SEBI, Corporate Affairs Ministry, GSTN and the Insolvency and Bankruptcy Board of India (IBBI) to enable banks and financial institutions to get a 360-degree profile of the existing as well as prospective borrowers on a real-time basis.

ATMANIRBHAR APP STORE

There are plans for creating an AtmaNirbhar App Store, in order to break the duopoly of Google Play Store (96% share) and Apple App Store.

Various Indian apps have been up in arms against Google, which has set a timeline of April 2022 for the enforcement of the autocratic **30 per cent** commission on in-app purchases of digital goods from its Play Store. The government's existing Mobile Seva App Store is expected to be refurbished to create the Indian App Store.

Notably, Google doesn't allow any other App store to be distributed from Play Store. In 2014, Google removed Amazon App from the Play store as they violated this policy. The Government may ask Google and Apple to pre-install Indian App Store in all phones sold in India in near future. India may also attempt to distribute its App Store on Progressive Web App (PWA) and get users to access it via any browser.

DIGITAL CURRENCY

RBI is exploring a legally safe, secure form of Central Bank Digital Currency (CBDC) with utmost precaution to come out with a digital currency in India.

It is work in progress at RBI. Prior to the launch of such a currency, the RBI will ensure that the necessary technological capability is created.

RBI has flagged some major concerns to the government on **crypto currencies.** The government will come out with a decision on the same.

POTENTIAL OF BLOCKCHAIN TO UNLOCK EFFICIENCY IN CROSS-BORDER DIGITAL PAYMENTS

Blockchain technology was initially used to support the digital currency Bitcoin, but is now being explored for a wide variety of applications. Blockchain is a public distributed ledger with encryption and traceability, which can be managed in a decentralized fashion.

In India, the SWIFT messaging standards are used for all cross-border payment transactions. For instance, FinTech SWIFT global payment transfers currently take 24 to 48 hours, with SWIFT message approval itself taking at least 24 hours. This can be minimized with a blockchain-based digital transfer in which the entire global payment transfer can be completed within minutes.

Digital payments involve various third-party teams (e.g. receiving banks, sending banks, NPCI, card network companies etc.), each of which can cause a delay in payment processing due to validation and workflows. Blockchain can substantially crunch the processing time in the digital payments.

Cross Border transactions- Interbank Information Network (INN)

India is the largest recipient of inbound remittances across the globe accounting for 15 per cent of global share; India received $83 billion in 2019 and $27.4 billion in 1H2020. Further, the daily average turnover of OTC foreign exchange instruments in India is approximately $40 billion. Notably, RBI has opened up the second cohort for Regulatory Sandbox on 'Cross Border Payments', in December 2020.

Several Indian banks (ICICI Bank, Axis Bank, Yes Bank, Union Bank of India, Federal Bank of India, Canara Bank) have joined J.P. Morgan's blockchain platform IIN (Interbank Information Network). IIN is the first live blockchain service and represents the largest number of banks to join a live application of blockchain technology. Globally, over 330 banks including Deutsche Bank, Australia and New Zealand Banking Group have signed up for IIN.

Banks frequently seek information (such as beneficiary name, address, and date of birth) from other banks for proper compliance decisions before executing cross border payments. With IIN, the time taken to resolve these inquiries can be reduced from up to 2-16 days to mere hours. INN is aimed at providing secure exchange information to banks associated with cross-border payments. It reduces costs and mitigates risks involved in those cross-border transactions.

Others

There are prospects of a distinct Indian model for the internet- **an AtmaNirbhar Internet**, in order to keep the data value within India, that can be mined with the help of AI and ML.

Availability of biometric identification (fingerprints) with **face and iris scans** can be leveraged to push digital payments to exponential levels.

While we are yet to see **youth-focused banking apps** in India, teenage banking start-ups are the next hot ticket item for FinTech investors in the USA (e.g. Step, Greenlight Financial Capital, Current). We feel it is a matter of time that this trend shall pick up in India in the near term. Considering consumers engage in decades-long, even lifetime, relationships with their banks, some investors see long-term opportunity in engaging with young consumers by offering them banking solutions (no-fee bank accounts, debit card etc.), while giving parents a window into their children's spending, before they set up accounts with the big banks.

FUTURE TRENDS IN PAYMENTS

01 New Use cases of UPI, Offline retail payments, Contactless digitization of Transit

02 Mass digitization of small businesses

03 Open Banking to drive lending to MSME

04 Super Apps

05 Mass adoption of Buy Now Pay Later (BNPL)

06 Internationalization of Aadhar, UPI and RuPay

07 Public Credit Registry (PCR)

08 AtmaNirbhar App Store

09 Digital Currency

10 Potential of Blockchain to unlock efficiency in cross-border digital payments

7 KEY CONCERNS

OUTAGES IN UPI; BANKS GOING SLOW ON RUPAY DEBIT CARDS

The **exponential growth in UPI** transactions during the Covid-19 pandemic, has put the underlying infrastructure of banks and TPAPs under enormous strain. Recently, banks and digital payment platforms have approached the government to reconsider MDR on online transactions done via UPI and RuPay debit cards which was waived in 2019, to make it a level playing field.

MDR was levied on merchant processing transactions and was shared between the issuer bank, acquiring bank and FinTech partner equally, who paid forward 10 percent switching fee to NPCI. MDR was removed for UPI and RuPay debit card transactions in 2019, to incentivise small merchants to adopt digital payment methods.

The waiver of MDR on UPI, which allowed for monetisation of volumes on these channels for banks and FinTech companies, has disincentivised players- especially the legacy public sector banks- to upgrade systems and adopt new servers.

Consequently, transaction failure rates have jumped from less than 2 banks with transaction decline rates of under 3 per cent before June 2020 to over 10 banks reporting failure rates greater than 3 per cent.

A one-hour tech outage is enough to stall 4 lakh UPI transactions. SBI (61 outages), HDFC and ICICI together saw 85 outages in 2020. SBI, which accounts for 26 per cent of total UPI transactions, had a technical decline rate of about 9 per cent as compared to an acceptable limit of 1 per cent. SBI reported 31 technical declines for every 1 lakh transactions, doing better than only Bank of India, which had 33 failures. Paytm Payments Bank has the lowest UPI failure rate, a transaction decline ratio of 0.8 for every 1 lakh transactions as against the industry average of 17 per 1 lakh.

Recently, RBI has temporarily barred **HDFC Bank** (the largest credit card issuer in India) from selling new credit cards or launching new digital banking initiatives, until it addresses the lapses that led to a series of glitches. HDFC Bank has been facing outages since 2018, inconveniencing customers including a downtime for almost 30 hours in November 2020.

HDFC Bank has provided a remedial plan on its e-banking outages to RBI over a period of 10-12 weeks, following which it will request an inspection by the regulator. The bank is also making long-term upgrades in technology that will take 12-18 months. RBI has ordered a **third-party audit** of HDFC Bank's IT infrastructure and would review its order only after it is satisfied that adequate efforts have been made to prevent system failures.

HDFC Bank was operating out of a data centre owned by Reliance Communication, which had long standing debt issues and went bankrupt in 2019. Reportedly, HDFC has now moved a part of its operations to Sify's data centre in Mumbai and is considering moving a part of its operations to the cloud as well.

Though a little expensive, clouds are convenient, as banks don't have to worry about scaling systems when there's unprecedented demand, or disaster recovery. Notably, no Indian bank has fully migrated to the cloud except for moving some activities such as email and payroll. Given the issue of data privacy, banks are not sure of RBI's reaction of migration to international clouds like AWS or Azure in entirety.

While the Government has planned a Payments Infrastructure Development Fund (PIDF), the same is aimed at merchants providing essential services in tier 3-6 cities and would not help banks upgrade their technology for UPI.

The abolition of MDR on RuPay debit cards has made it an unprofitable proposition for banks, which earn nothing for processing transactions. The cost of issuing cards, card swiping machines and network charges are all borne through MDR and interchange fees. Every transaction at an ATM costs the bank about Rs 20. The same transaction on a card swiping machine means revenue to the bank. Now, RuPay cards are either dead or used for ATM transactions and very less for online transactions.

The MDR waiver has put NPCI under competitive disadvantage against international rivals like Visa and Mastercard, as banks have no incentive to issue RuPay cards instead of ones where they can accrue charges from merchants.

Banks have gone slow in replacing the old chip and pin cards and issuing new cards as they don't want to add to the financial hit which was earlier estimated to be nearly Rs 3,000 crore when MDR was withdrawn.

Recently, NPCI has decided to block gaming transactions of less than Rs 50 on the UPI network. In April 2021, with the IPL season kicking in, gaming volumes have increased sharply during matches, that too in bursts with a huge number of very low-ticket transactions, sometimes as low as Re 1 to Rs 10, in turn, burdening the UPI network and bank systems.

While blocking transactions for a set of merchants within a category or a particular merchant is technically possible for NPCI, it does not set the right precedence and it seems as if the NPCI is penalising businesses for its own lack of infrastructure.

CYBER SECURITY

Cyber-crime is a big deterrent to the adoption of digital payments. Cyber frauds can make people lose data/ money.

Cybercrime such as **'phishing'** can be committed by hackers which can just be a bunch of college kids. It is not heavily punished, only up to 3 years imprisonment. Slow judiciary and law enforcement adds to the woes of cyber-crime.

Digital payment increases security risks such as authentication and non-repudiation. Legal issues could arise regarding liability in the event of fraud, counterfeiting, accident or the default of one or more of the participants.

Chinese are known to have one of the largest cyber groups in the world working for geo-political agenda. USA, Australia and Hong Kong have been at the receiving end. The Indian Computer Emergency Response Team (CERT-In) has warned that India also faces a similar threat due to the Ladakh standoff. China can launch cyber-attacks to deface government websites, increase phishing campaigns as well as perform Distributed Denial of Service (DDoS) attacks, to paralyse critical infrastructure. Recently there were reports of cyber criminals in North Korea claiming to have 2 million individual/ citizen's email IDs of Indians.

Recently, it was reported that data of nearly 10 crore credit and debit card holders in the country is being sold for an undisclosed amount via cryptocurrency Bitcoin, on the Dark Web. The massive data dump on the Dark Web was leaked from a compromised server of Bengaluru-based digital payments gateway Juspay. However, Juspay, downplayed the incident and said that only a few phone numbers and email addresses have been leaked which have dummy values.

Security Measures taken by RBI

Encryption is widely acknowledged as the strongest feature of data protection. Digital banking and financial transactions have increased manifold with the RBI prescribing the encryption standards. RBI has been taking several measures to enhance the security of card and online transactions which has helped in containing card related frauds in India.

- Mandating the issue and use of only EMV chip and PIN based cards has helped build public confidence as it provides more security than the 'Magstripe only' cards

- Additional Factor of Authentication (AFA) i.e. **OTP** for all domestic online or Card Not Present (CNP) transactions above Rs 2,000. This mandate for AFA is relaxed for contactless

transactions for values up to Rs 5,000/- performed using NFC-enabled EMV Chip cards

- RBI has also mandated **PIN** based authentication for all card transactions at PoS terminals
- **Alerts** to the cardholder for all card transactions, irrespective of the amount and channel
- **IFSC code** is mandatory for fund transfers through various payment systems (RTGS, NEFT, IMPS), as it helps to identify the destination of the beneficiary bank and branch
- RBI has mandated additional safety measures for cards which have come into effect from October 1, 2020. That all new debit and credit cards issued after September 2020 must have contactless, online payments and overseas transactions disabled "by default". They should be enabled for use only at ATMs and PoS devices within India. The issuers shall provide to all cardholders a 24x7 facility to switch on/ off and set/ modify transaction limits for all types of transactions.

RESTRICTION ON SAVING CUSTOMER CARD DATA- EXTENSION ON CARD ON FILE ISSUE TILL DECEMBER 31, 2021

Recently, RBI has released guidelines prescribing that any data or credentials relating to payment cards utilised by customers for making payments must not be saved on the merchant sites, on the payment aggregators' database or even on the server accessed by the merchant. This is done for fraud prevention so no one can hold user data, only transaction level data can be held w.e.f. June 2021.

The restriction on saving customer card data by the merchants as well as payment aggregators may create friction points for customers as they may not be in a position to pre-fill card details on online platforms, and might have to re-enter the card number and related details for each transaction. This may prompt users to switch to UPI for the ease of transacting.

Recently, RBI has extended the card on file issue till December 31, 2021 to enable the payment system providers and participants to put in place workable solutions such as 'Tokenization'.

RBI EXTENDS TIMELINE FOR PROCESSING OF E-RECURRING TRANSACTIONS TILL SEPTEMBER 30 2021

RBI had issued a framework for processing of e-mandates on recurring online transactions on cards, wallets and UPI. This framework included elaborate security and transparency requirements under the RBI's directive on the 'processing of e-mandates for recurring transactions' including the additional factor validation for one-time, customer notification, setting transaction limits, etc.

To prevent any inconvenience to the customers, RBI has extended the timeline for the stakeholders to migrate to the framework by six months, from March 31 2021 till September 30 2021.

DIGITAL PAYMENT SECURITY CONTROL DIRECTIONS

RBI plans to introduce Digital Payment Security Control directions for regulated entities in order to improve the security of digital payment channels and also convenience for users. These directions will contain requirements for robust governance, implementation and monitoring of certain minimum standards on common security controls for channels like internet and mobile banking, card payments, etc. It remains to be seen how these rules enforce security without making the payment systems cumbersome to use.

ONLINE DISPUTE RESOLUTION (ODR)

The merchant's website shall clearly indicate the terms and conditions of the service and time-line for processing returns and refunds. PAs shall be responsible to check Payment Card Industry-Data Security Standard (PCI-DSS) and Payment Application-Data Security Standard (PA-DSS) compliance of the infrastructure of the merchants on-boarded.

The ODR system should be a transparent, rule-based, system-driven, user-friendly and unbiased mechanism for resolving customer disputes and grievances, with zero or minimal manual intervention. Each PSO shall make available an ODR system for resolving disputes and grievances arising out of failed transactions and provide the participating Payment System Participant an access to the system.

ODR arrangement would later be extended to cover disputes and grievances other than those related to failed transactions. If the grievance remains unresolved up to one month, the customer may approach the respective ombudsman.

PROLIFERATION OF PREDATORY INSTANT LOAN APPS

There has been a spurt of online lending apps, that flout various lending norms and are duping unsuspecting users through misinformation and inadequate disclosures. Reportedly, Google's India Play Store, which is used by **96 per cent** smart phone users, has over 4,000 instant loan apps such as SuperRupee, CoolRupee, KreditBear, SweetCash, Cashtime, Cashvibe, MyBank, Snapit, Udhaar loan, Inneed, LazyPay, Cashguru, 10MinuteLoan, RupeeClick, Finance Buddha etc.

Key risks include the obscene interest rates, abusive collection methods, fraud and misuse of data.

The apps have made the most of the policy loopholes. While FinTech can't lend without an NBFC licence, RBI allows them to partner with NBFCs to facilitate lending. There are over 10,000 registered NBFCs in the country, of which only a few hundred are rated as systemically important (asset size of Rs 500 crore or more).

While some lending apps are outright illegal as they do not even partner with an NBFC, there are many apps that partner with an NBFC, but lend on their own whims and fancies.

Technology has enabled them to get a greater reach very quickly across the country.

There are reports that most of these apps have origins in **China**, from where they are handled but run locally on the ground. Users' data is stored on Chinese clouds such as Alibaba or Baidu. The structure tends to have multiple shell entities, multiple lending companies/ apps with dummy directors, which makes it difficult to track the complex money trail. Reportedly 90 per cent of these apps have **fake physical addresses**. The customers' data is shared between different apps.

Uninformed and misinformed borrowers are lured by the easy availability of **bite-sized loans** (between Rs 3,000 to Rs 10,000) especially in the pandemic, when they are struggling with personal finances. Though lending through apps started in 2019, it was only in April 2020, that it really took off after many people who lost their jobs in the lockdown were forced to borrow.

These apps require only basic information, there are no documents to submit, no KYC, no income proof, no loan agreement. Money is instantly deposited into the borrower's account.

These apps typically gain access to a customer's social media profiles and phone contact lists, as part of the credit underwriting process. There are inadequate disclosures about the usurious interest rates (in the range of 800 to 1,500 per cent annualised), additional hidden charges, upfront deduction of high processing fees, repayment in one go, early repayments schedules (as early as 7 days) and severe penalty for late repayment. Loans are for a very short duration, which helps camouflage the interest rates. The collection methods are abusive and high-handed, including blackmail and calling up other contacts and harassing them. Unfortunately, some humiliated borrowers have ended up committing suicides as they are unable to get out of the debt trap.

Most digital lending apps typically draw up a First Loan Default Guarantee (FLDG), where the app bears the brunt of the hit in case of default. The apps maintain the relationship with the borrowers, and even collect on behalf of the NBFCs. The FLDG agreement serves as proof of the relationship between the app and the NBFC, especially to other regulated entities like payment gateways, who have no way of knowing if and when the ownership/ management changes later.

Some FinTech firms provide checkout financing of a BNPL option while shopping. Although this service is technically a loan, these are not registered lenders and they position themselves as payment services. This is a grey area and the consumers must read their terms and conditions before availing the facility.

REMEDIAL ACTION

Police have raided call centres and have been making arrests in major cities such as Hyderabad, Bangalore, Chennai, and Pune. While Hyderabad Police have found transactions worth Rs 210 billion under these apps, Telangana Police have found disbursement of Rs 10 billion as loans. Enforcement Directorate (ED) is probing money laundering angle and has frozen Rs 110 crore in different cases.

These apps have remained unsupervised so far.

In a recent notification, RBI has acknowledged the menace of illegal loan apps. RBI cautioned the public not to fall prey to such unscrupulous activities and verify the antecedents of the company offering loans online or through mobile apps adding that the lending platforms should disclose upfront the name of the bank or NBFC they partner with. RBI has set up a working group to regulate online digital lending apps. It has also published the names of NBFCs registered with it, against which borrowers can lodge complaints.

The Police is co-ordinating with Google to remove all the apps in the Play Store that do not have tie-ups with NBFCs. However, even if the apps are pulled down, the companies can reach out to customers, urging them to download their next offering.

The **Google Play Developer Policy** requires loans apps to disclose key information such as the minimum and maximum periods of repayment, the maximum Annual Percentage Rate, and a representative example of the total loan cost and the name of licensed NBFC partnership. It also mandates that loan apps should have at least a 60-day tenure.

Recently Google has removed over 100 illegal loan apps from its Play Store. Google has been taking down apps based on transgressions noticed in the description of the app and on customer complaints. Apps that were found to violate user safety policies were removed. Google has asked developers of the remaining identified apps to demonstrate that they comply with applicable local laws and regulations. The failure to provide these disclosures within the five-day stipulated period will lead to the removal of the apps.

Google also clarified that to protect user privacy, developers must only request permissions that are necessary to implement current features or services. They should not use permissions that give access to user or device data for undisclosed, unimplemented or disallowed features or purposes.

Razorpay, for its part, has banned over 400 apps in its system. Meanwhile, FinTech members have formed the FinTech Association for Consumer Empowerment (FACE), a lobby group to fight unregulated lending and accelerate financial inclusion.

P2P Lending

P2P is a risky lending model, which is being allowed in India. P2P platforms, such as Faircent, Lendbox, LiquiLoans, i2iFunding, LenDenClub etc. want to be an alternative to mutual funds in India. They pair willing lenders, usually high-income individuals, with borrowers that banks and other financial institutions do not want to touch. In exchange for taking on risky borrowers, lenders get to charge higher rates of interest, as high as 25 per cent. Individual exposure to any one borrower is capped at **Rs 50,000,** and a single lender's exposure across P2P platforms is capped at **Rs 50 lakh.**

Lending apps are just a platform and do not bear any loss of defaults; lenders are liable for losses. While RBI mandates reporting defaulters to the credit rating agencies, some platforms avoid that because that would hurt the platform's reputation.

Globally, P2P platforms have not done well. US-based Lending Club, which pioneered the model, closed its P2P lending platform in December 2020. China went from 3,500 P2P lending platforms in 2015 to just 343 in 2019, due to mismanagement, widespread defaults and subsequent regulation.

It is difficult to evaluate the risk of another person because the level of transparency is very different as compared to an enterprise listed on public stock exchanges. There are other systemic shortcomings such as furnishing incorrect personal details by borrowers, borrower payments not recorded by the platforms etc.

IMPENDING DELINQUENCY

While the Data Protection Bill is in the final stages of discussion, there is a looming risk of monetization of data by BigTech, FinTech and other players in the digital payments space.

The whole idea of attaining scale is to monetize the data at a later stage for cross-selling of financial services especially lending. There are many start-ups in lending and most of the digital payments FinTech are diversifying into online lending as it is seen as lucrative. Credit is an idiosyncratic business. Lending to thin-credit individuals and small businesses is fraught with risk. A stronger collection machinery is required in a country such as India, which has a higher share of self-employed, marginal customers with less financial literacy and discipline.

China is a cautionary tale of what happens when borrowers have access to easy money, without sufficient risk assessment. Chinese households now face a $9 trillion debt, a quarter of which were loans given to small businesses.

If we study the past credit negative events, such as the Andhra microfinance crisis of 2010 and the current Assam microfinance imbroglio, we note that such thin-credit lending is vulnerable to over-leverage for consumption, local-level factors, macro-event and political instability (election).

As the consumers tend to be precarious, any macro events such as demonetization, natural disasters such as floods/ tsunami or Covid-19 pandemic can spike the delinquency levels. If the lenders use aggressive lending and marketing strategies to acquire scale, there is a tendency to lower standards of risk assessment, increase risk appetite and lend above the average levels, which thereby leads to higher delinquencies.

Recent NPA numbers of FinTech NBFCs are alarming. FinTech portfolios have **8x** more delinquent accounts compared to private banks (43 per cent vs. 5 per cent for August 2020). The rise in delinquent accounts calls for a closer look at portfolios and emphasises the need for better collection strategies.

Nearly **43 per cent** of personal loan accounts were in the overdue buckets for FinTech NBFCs compared to 22 per cent such accounts in August 2019, according to 'Fintech Collections, Trends and Strategies' report. While this could be due to moratorium, the report, however, attributed the increase in overdue loans for FinTech firms to a riskier consumer base.

Banks have generally been lending to consumers in prime and above risk tiers, and those with a relatively stable flow of income and leveraging their liability base to acquire personal loans. At the same time, FinTechs have onboarded consumers with low credit scores and leveraged more alternative data. More than half of the personal loans originated by FinTech firms in August 2020 were from below prime-risk tier customers (with credit scores of 730 or below), compared to 38 per cent of such customers for NBFCs, 25 per cent for public sector banks and 19 per cent for private sector banks.

A COMPARATIVE ANALYSIS

We attempt to do a threadbare analysis of small-ticket lending in India. Since the ticket size of the loans in FinTech is small, we can draw a comparison with the existing credit card, micro-finance (MFI) and Self-Help Group (SHG) model in India.

A COMPARISON

	Rs trillion	No of Borrowers	Average Loan per Borrower	NPA %	~Interest Rate
MSMEs o/s	15.0	38 million	Rs 4 lakh	13%	13.5-33.5
Credit Card spend	7.3	35 million	Rs 2 lakh	4%	40%
Micro Finance o/s	2.3	76 million	Rs 30,000-35,000	2%	18-25%
SHG disbursal	0.8	68 million	Rs 2.5 lakh per group or Rs 20,000 per borrower	<5%	7% to women SHG

Source: Various reports

Many banks in India have focussed so far on high creditworthy segments primarily due to lack of credit history of others. The traditional ways of banking approves only 25-40 per cent of the loan applications. Banks consider MSMEs risky and the loan tickets are too small (average Rs 4 lakh) to be worth spending time on. For the same cost, banks can disburse a larger loan to a larger business. NPA % in MSME as at June 2020 was 12.8 per cent. Interest rate varies widely between 13.5%-33.5% depending on the credit profile.

CREDIT CARD

The credit card business (average ticket size Rs 3,350) is a highly profitable segment for the banks. It is expected to grow from Rs 7.3 trillion in FY20 to Rs 10 trillion in FY25E, recording a CAGR of about 40 per cent (as per India Payments Hand Book, Pwc). Credit cards are largely issued to a higher income groups. Interest rate charged is as high as **40 per cent** per annum. NPA % is about **4 per cent.**

While we expect mass adoption of Buy Now Pay Later solutions (BNPL), it shall not cannibalize credit card. While BNPL (ticket size ranging from Rs 2,000 to Rs 10,000 to Rs 1 lakh) might gain share for some big-ticket purchases, most consumers are likely to prefer to pay 1 or 2 credit card bills per month than multiple BNPL bills. Also, there is a lack of reward points in BNPL.

BNPL is expected to provide access to customer segments below the income thresholds for credit cards, with a stronger focus on self-employed segments - thereby help create/ extend the credit culture (purchasing/ consuming on credit) instead of competing with credit card.

40 per cent of the BNPL customers in India have a credit card. These customers have low credit card limit (30-35 per cent of credit cards have a credit limit of less than Rs 11,000). The share of self-employed under BNPL is much higher at 60 per cent as compared to 30 per cent share within Credit Card. This partly reflects the Bank's hesitation in issuing a card to NTB, Self Employed or Near Prime or Thin File (Not Bureau Tested). It also partly reflects that Credit Card issuance has been primarily concentrated in the **top 10** cities, which has been a function of merchant acceptance infrastructure within these cities.

MICROFINANCE

Microfinance has been a rather robust business model with low levels of delinquency of less than 2 per cent.

Micro-finance (MF) is currently 1.17 per cent of GDP of India. The gross MF loan portfolio is Rs 2.3 trillion across 76 million borrowers (average ticket size Rs 30,000-35,000) as at March 2020, with an 86 per cent coverage in terms of district level operations. IN FY20, MFIs disbursed about Rs 1.1 trillion.

More than 80 per cent of MF portfolio comprises of the top 10 states (Tamil Nadu, West Bengal, Bihar, Karnataka, Maharashtra, Uttar Pradesh, Madhya Pradesh, Odisha, Assam, Kerala) in March 2019 and March 2020. The rural share is more than 75 per cent. 85 per cent of the loans are for income generation in agriculture, trading/ small business. Banks and SFBs account for 53 cent, while NBFCs 47 per cent of the portfolio.

Rate of interest charged by various micro-lenders ranges from 18 per cent to 25 per cent. Cashless collection is the next logical step forward for the industry, at present, collections through digital modes are in the 7–10 per cent range.

The total industry exposure to **Assam** is around Rs 125 billion, out of which about one-third of the portfolio, across all categories of lenders, appears to be at risk. Reports indicate that MFIs have done rampant over-lending and that too for consumption purposes in a highly saturated market (more than 40 per cent potential low-income households covered) in Assam. Allegations of high interest rates, over-leveraging of clients, aggressive market practices and coercive recovery practices are being levelled against MFI in Assam.

In the fall of 2010, 57 microcredit debtors committed suicide in **Andhra Pradesh** due to harsh collection methods. This was attributed to a blend of over-leverage of the clients, a lack of control in the lending process of the MFIs themselves and proliferation of SHG in the state.

SHG is a fairly robust model with NPA% of less than 5 per cent. There was a loan disbursal of Rs 777 billion across 3.1 million groups covering 68 million individuals in FY20.

Andhra Pradesh accounts for 30 per cent, Telangana 15 per cent and West Bengal 13 per cent of the disbursal. Women groups comprised more than 85 per cent of the groups. Interest rates are quite low. Women SHGs are given loan at an interest rate of 7 per cent. Projects such as eShakti and MicroLekha WISE are helping in digitizing SHG.

KEY CONCERNS

01 Outages in UPI; banks going slow on RuPay debit cards

02 Cyber Security

03 Proliferation of predatory instant loan apps

04 Impending Delinquency

8 SMAHI VIEW AND RECOMMENDATION

Increased digitisation in payments will help in better assessment of the country's GDP and increase government revenue by way of higher tax collection, since every transaction gets into the realm of being noticed. As more and more enterprises and individuals across the country adopt digital payments, it will slowly eradicate the informal sector, weaken the parallel economy and increase economic development in India.

India has done a remarkable job of creating open digital platforms from scratch and tailored them to the Indian context as public goods.

India as a digital pioneer and global leader is well positioned to help other countries emulate our efficient digital platforms such as Aadhar, UPI, RuPay and other such innovations.

Better public telecom infrastructure in rural areas will give confidence to consumers to consistently adopt digital payments. While we have witnessed the adoption of digital payments in metro and tier I cities, the real opportunity and economic benefit lies in its **uptake in semi-urban and rural areas** of the country. Only about **100 million active users** use digital payments and therefore, concerted efforts will need to be made to increase adoption of digital payments.

The system needs to demonstrate to the informal sector the benefits of using digital payments – mere 'ease of transaction' will not be sufficient.

The value creation that the small enterprises and self-employed, thin-credit individuals would appreciate is if they can get quick, simple, low-cost credit from FinTech based on cash-flows as compared to the high-cost loans that they currently avail from informal money lenders. That shall propel them to adopt digital payments at a mass scale.

As NITI Aayog CEO Amitabh Kant pointed out, India's credit-to-GDP ratio (about 51 per cent) is lowest among its global peers and we need to increase private debt.

Countries such as China, South Korea and even Vietnam, have had tremendous growth on the back of high leverage. Similarly, the tax to GDP ratio in India is also amongst the lowest and the two are co-related.

FinTech can drive financial inclusion by increasing the penetration and access of financial services such as lending, insurance, mutual funds etc to the low-income and weaker sections, which traditionally the banks have stayed away from, due to high cost of servicing. India is data-rich but not economically rich. Data may help solve the puzzle of self-employed, informal segment and sachet lending. Sum of parts of data is greater than individual data i.e. AA data + Alternate data. We expect **'sachetization'** of lending, insurance and mutual fund investments for making them accessible to the unserved/underserved market spaces.

Transaction data is quite commonly used for loyalty and rewards systems. Going forward, utilizing Open Banking data for loan applications through cash flow analysis is likely to a big trend in India. Open Banking shall drive lending in MSME with the OCEN and AA framework and democratize lending. Some of the popular digital lending models that are working towards financial inclusion include mobile lending, supply chain financing, crowdfunding, PoS lending and invoice financing.

The emergence of **NUE** will lead to competition in the retail payments space for the development of newer, innovative and efficient payment solutions and alternative payment infrastructure, to include hitherto excluded geographies and societal cross-sections.

New and innovative use cases of UPI, contactless payments, offline retail payment solutions and greater acceptance infrastructure will open the door for mass adoption of digital payments by small services and businesses across the country. Credit on UPI could be a significant factor. We are likely to see some regulatory intervention in MDR of UPI/ RuPay/ credit card/ debit card or interest rates/ fees charged in credit cards.

We expect increased convergence of commerce, payments and financial services and more FinTech partnerships being forged to monetize data by cross-selling.

Banks and big corporate houses are expected to focus on brand building and consolidate their offerings under Super Apps, to leverage their existing user base across segments.

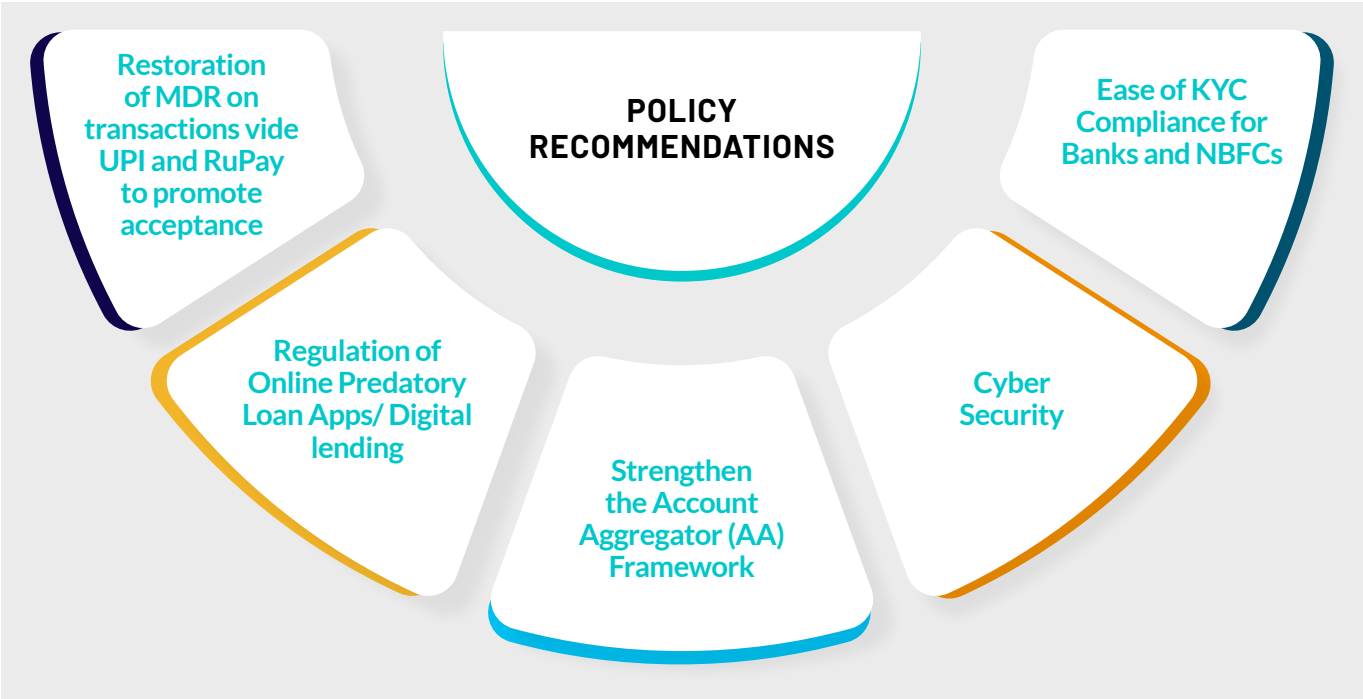
The finalization of Personal Data Protection Bill shall strengthen data security, privacy and governance framework in India and help tackle the issues of data theft, data misuse and fraud. It would be prudent for India to adopt a balanced approach on issues of data localisation and non-personal data.

FinTech should adopt a cautious approach and not go over-board or over-aggressive in lending to New-To-Bank (NTB), thin-credit customer. Mass lending to thin-credit individuals and small businesses is fraught with risk.

A stronger collection machinery is required in a country such as India, which has a higher share of self-employed, marginal customers with less financial literacy and discipline.

At the same time, the public needs to be aware of terms and conditions of any type of loans and be wary of the lure of easy money and falling into the debt trap of loan sharks.

As more young Indians turn entrepreneurial, technology adoption and innovative trends would strengthen. AI, ML, algorithms and blockchain technologies are expected to revolutionize financial services by analysing, monitoring and monetizing Big Data. This shall help in speedy and cost-effective processing. This has the potential to enhance credit scoring, follow-up of repayments, predictive analytics, so as to enable reduction of NPAs in the lending space.



1

Policy Recommendation:

RESTORATION OF MDR ON TRANSACTIONS VIDE UPI AND RUPAY TO PROMOTE ACCEPTANCE

- **Restore MDR (completely or partially) on transactions vide UPI and RuPay**
- **Alternatively, Government could look at some tax sops for such companies in absence of MDR**

RATIONALE:

RBI must restore MDR on transactions vide UPI and RuPay debit card to level the playing field across digital payments. While there could be a small correction in UPI transactions, it would result in a more sustainable digital infrastructure development, more technological upgrades and lesser transaction failures.

The transition from a cash to cashless economy, has to factor in the real costs involved and cannot sustain on artificial freebies at the cost of banks and other players. Alternatively, the government needs to find a way to compensate players (banks and TPSPs) for their investments as this may not be sustainable over a long period of time for all participants.

Abolition of MDR on RuPay has defeated the purpose of financial inclusion and made RuPay an inferior option for banks. Restoration of MDR on RuPay shall bring NPCI at par with international card networks like Mastercard, Visa and revive the issuance of RuPay card by banks.

2

Policy Recommendation:

REGULATION OF ONLINE PREDATORY LOAN APPS/ DIGITAL LENDING

A national-level regulatory umbrella body, say 'National Digital Lending Institution (NDLI)' focussed on digital lending (like NPCI for digital payments) needs to be created, under the RBI.

- All online lending apps needs to be **registered** with NDLI. For digital lending, any partnership with Bank/ NBFC must be **pre-notified** to NDLI.

- Before onboarding any new digital lending app in India, **Google/Apple** should mandate this registration and partnership notification to NDLI. Google/Apple can also mandate that a genuine address should exist in Google/Apple Maps as a pre-condition for uploading loan apps

- All existing apps must immediately apply for registration and partnership notification to NDLI. Google/Apple must remove the apps if they do not submit the NDLI registration and partnership notification in a reasonable period of time or do not have a **genuine address that exists in Google/Apple Maps.**

- NDLI should formulate a **'fair practice code'** for all online lending apps mandating upfront disclosure to the borrower of interest rate on an annualized basis, detailed repayment schedule, any other processing or sundry charges, penalty for delay in repayment etc. The code should also formulate an upper cap on interest rate, minimum loan tenure and equitable collection procedure, institutionalise a technology driven central redressal mechanism, mandate a genuine location address etc.

- NDLI should supervise and conduct surprise **audits** on a regular basis of all digital lending apps especially on App/Play Store against the fair practice code. NDLI to mandate to App/Play Store to submit a list of all digital lending apps.

- Any app found in violation of the fair practice code, by engaging in unethical/ unfair practices and/ or app having fake physical address must be immediately removed from the Play Store. RBI should suspend/cancel the license of its partner bank/NBFC. Police should freeze the bank account of the app, immediately notify the payment service provider (PSP) to disengage with the app and undertake any other necessary action. This shall be based on audit results or any inquiry following customer complaints, etc.

- Awareness needs to be created among general public about the predatory lending apps. RBI has mandated that the lending platforms should disclose upfront the name of the bank or NBFC they partner with. RBI has published the names of NBFCs registered with it on the RBI website. Public should deal only with verified apps. Consumers should never share copies of KYC documents with unverified apps or unauthorised individuals.

- Consumers should report any unverified apps/ Bank Account information associated with the Apps to concerned law enforcement agencies or use Sachet portal to file an on-line complaint.

- All online loan apps should be covered under Usurious Loans Act, 1918, at a national level. This should apply to all types of digital lending including BNPL.

RATIONALE:

We have seen a proliferation of digital lending in India. Since it does not require investments in physical infrastructure and can be hosted in cloud computing, anyone can potentially start an app overnight, literally. There has been a spurt of online lending apps, that flout various lending norms and are duping unsuspecting users through misinformation and inadequate disclosures. Key risks include the obscene interest rates, abusive collection methods, fraud and misuse of data. Reportedly, Google's India Play Store, which is used by 96 per cent smart phone users, has over 4,000 instant loan apps.

Some predatory loan apps make inadequate disclosures and misrepresentations to the public, which has led to vulnerable sections falling under debt trap, become victims of harassment and committing suicides. These apps require only basic information, there are no documents to submit, no KYC, no income proof, no loan agreement. Money is instantly deposited into the borrower's account.

There are reports that most of these apps have origins in **China**, from where they are handled but run locally on the ground. Users' data is stored on Chinese clouds such as Alibaba or Baidu. The structure tends to have multiple shell entities, multiple lending companies/ apps with dummy directors, which makes it **difficult to track the complex money trail.**

Police have raided call centres and have been making arrests in major cities such as Hyderabad, Bangalore, Chennai, and Pune. While Hyderabad Police have found transactions worth Rs 210 billion under these apps, Telangana Police have found disbursement of Rs 10 billion as loans. Enforcement Directorate (ED) is probing money laundering angle and has frozen Rs 110 crore in different cases.

These apps have remained unsupervised so far. In a recent notification, RBI has acknowledged the menace of illegal loan apps. RBI cautioned the public not to fall prey to such unscrupulous activities and verify the antecedents of the company offering loans online or through mobile apps adding that the lending platforms should disclose upfront the name of the bank or NBFC they partner with. RBI has set up a working group to regulate online digital lending apps. It has also published the names of NBFCs registered with it, against which borrowers can lodge complaints.

RBI issues directives and instructions, but there is no one to actively supervise and monitor the apps. While RBI has cautioned the public not to fall prey to unscrupulous activities of predatory loan apps, we need stricter supervision, monitoring, audit and regulation of digital lending apps.

The onus should also be on NBFC to monitor their partner apps. If the apps flout RBI guidelines or good practices on lending, RBI must adopt a strict approach and penalize the NBFC. That will set an example and deter the NBFCs from encouraging such predatory loan apps.

Currently, the **Usurious Loans Act** is only applicable to private loans or loans made in the unorganised sector. Predatory loan apps and BNPL are a grey area. They should be covered under Usurious Loans Act so that the borrowers have some redressal mechanism.

3

Policy Recommendation:

STRENGTHEN THE ACCOUNT AGGREGATOR (AA) FRAMEWORK

- **Include utility bills such as electricity bill, telephone bill, etc. in the AA framework**
- **Include GST returns and Income Tax returns in the AA framework**
- **Include Credit card bills and loan repayment history.**

- Banks should submit loan repayment history to Credit Bureau on a more **'real time'** basis to make the information relevant for credit assessment under AA framework
- The prospective lender should be provided the information about the **'number of accounts'** the borrower is maintaining within the Banking system

RATIONALE:

AA framework should be expanded to include **more documentary evidence** that would help in credit assessment and evaluation. Consumer behaviour towards utility bills, tax returns are powerful metrics to analyse creditworthiness. Currently the banks submit repayment history to Credit Bureau with a time lag. This impacts real-time monitoring and assessment, as AA would be picking up repayment history directly from the Credit Bureau.

Under AA framework, the borrower has a choice to choose which bank account information he would like to share with the lender, but the prospective lender should be provided the information about the number of accounts the borrower is maintaining within the Banking system to help arrive at the repayment ability of a borrower.

4

Policy Recommendation:

CYBER SECURITY

• Relax the restriction on saving customer card data on the merchant sites, on the payment aggregators' database or on the server accessed by the merchant

- RBI has mandated additional safety measures for cards which have come into effect from October 1, 2020. 'That all new debit and credit cards issued after September 2020 must have contactless, online payments and overseas transactions disabled by default. The issuers shall provide to all cardholders a 24x7 facility to switch on/ off and set/ modify transaction limits for all types of transactions'

The customer should be able to enable these features by calling their banks directly as well

RATIONALE:

RBI needs to strike a balance between security and convenience for higher adoption of digital payments. RBI must not try to over-secure the online card payments, making them cumbersome in the process. We already have Additional Factor of Authentication (AFA) i.e. OTP for all domestic online or Card Not Present (CNP) transactions above Rs 2,000.

So the additional restriction on saving customer card data is not needed.

The restriction on saving customer card data by the merchants as well as payment aggregators may create friction points for customers as they may not be in a position to pre-fill card details on online platforms and might have to re-enter the card number and related details for each transaction. This may prompt users to switch to UPI for the ease of transacting. This could bring down the usage of debit and credit cards.

New norms require customers to expressly seek online and overseas transaction rights for new card users. The banks were asked to provide a toggle-based option on their banking apps for customers to then personalize their preference based on their risk appetite. This would unnecessarily complicate the process and lead to higher transaction failure rate. Complex rules for first-time users entering the digital ecosystem could limit their adoption.

5

Policy Recommendation:

EASE OF KYC COMPLIANCE FOR BANKS AND NBFCS

1. Video KYC to be made simpler

2. Strengthen the central KYC framework.

3. Explore the use of automation, blockchain, AI to carry out the KYC process.

1. Video KYC to be made simpler

EXISTING: The existing regulation requires a bank official to be present on the **video on a real-time basis.** This requirement is proving difficult to scale.

PROPOSED

Instead, the customer be required to read out a one-time code flashed on the VKYC screen on a real-time basis, confirming that the VKYC is live, and the bank official can review and approve the video files on a batch basis instead of real-time basis.

RATIONALE

This will also help provide **24x7 VKYC facility** to consumers and significantly increase application throughput.

EXISTING: The VKYC process requires non-banks and non-banking financial institutions to complete high-friction verification of the customer's **Aadhaar** via the offline XML upload method.

PROPOSED

Instead, customers be allowed to, as an alternative choice, upload their masked, e-Aadhaar PDF containing UIDAI's digital signature.

RATIONALE

While both e-Aadhaar PDF and Aadhaar offline XML are equivalent documents, consumers are able to upload their Aadhaar PDF but struggle when dealing with the XML document. In the digital space, convenience is everything. So the removal of a minor friction can scale VKYC transactions exponentially in these tough times.

EXISTING: The current VKYC regulation allows for e-PAN.

PROPOSED	RATIONALE
To allow PAN to be verified from DigiLocker to reduce customer friction and create higher efficiency in the VKYC process.	DigiLocker awareness among consumers is high and digital submission process frictionless, while e-PAN is not familiar or frictionless for consumers. This can also reduce fraud.

2. Strengthen the central KYC framework.

PROPOSED	RATIONALE
Users Pay & Supplier Earns	The entities downloading the records already pay under the extant structure. The price structure should be changed to compensate the supplier of data that reduces the information asymmetry to the ecosystem. The operating agency may retain part of the costs incurred to defray the costs of managing the platform and pass on the rest to the banks/FIs uploading the data. If this design change requires that the CERSAI has the authority to independently determine the pricing in consultation with banks/FIs, those legal reforms may be introduced.

PROPOSED	RATIONALE
Move the CKYC to the Credit Bureau Model	The nature of value-addition that CKYC infrastructure offers is similar in quality to the value-addition credit bureaus offer. A more structural reform, therefore, would be to privatize and regulate KYC services on the same lines as credit information services. That would mean we would have several KYC-services entities with their own membership specializing in several niches. Right now, CKYC has failed to scale beyond the individual to other accounts like small businesses. Having an industry structure on the lines of credit bureaus will unlock incentives to specialize in niches on the same lines as the bureaus currently are.

3. Explore the use of automation, blockchain, AI to carry out the KYC process.

Automated KYC verification leverages advanced AI and machine learning technologies to ensure that regulatory standards are met without a high dependency on internal resources. Intelligent Process Automation (IPA) is the collection of technologies that combine to manage, automate and integrate digital processes.

PROPOSED	RATIONALE
Robotic Process Automation (RPA)	The use of robots that can mimic humans' behaviour to handle high-volume, repetitive tasks.
Intelligent Document Processing (IDP)	A type of IPA that uses technologies such as machine learning, Natural Language Processing (NLP) and Intelligent Character Recognition (ICR) to process and extract data from a large quantity of documents.
Artificial Intelligence (AI)	AI analyses data in a way that humans can't, and recognises patterns in data and learning from past decisions to make increasingly intelligent choices.

RATIONALE:

Currently KYC is inefficient and expensive, making it a bottleneck for onboarding of customers. A lengthy KYC procedure has also historically resulted in longer lending decisions.

A simpler video KYC would help in reaching out to a wider customer base, possibly in rural and remote areas; would save cost, time and manpower.

KYC mandates are an unavoidable incident of financial services industry owing to concerns surrounding money-laundering and terrorist financing. Reorienting the design and process of the **CKYC infrastructure** is critical to financial inclusion and efficient delivery of financial services.

Although end-to-end KYC processing still requires humans to make high-level decisions, a majority of the legwork can be handed off to automation, and more specifically, Intelligent Process Automation (IPA). The above technologies are now being used to automate workflows, extract data from documents and reduce screening, identification and verification times. Using IPA and machine learning to collect and analyse data can provide financial institutions with a more robust and instantaneous picture of any client. This has many short-term and long-term benefits.

6

Policy Recommendation:

OTHERS

1. Focus on digital literacy

2. Common National-level Digital Platforms

3. Trade Receivables Discounting System (TReDS)

Focus on digital literacy

Focus on Digital literacy of the people by new methods of creating awareness

Digital literacy must be embedded with Financial Literacy. Centres for Financial Literacy (CFLs) and Financial Literacy Centres (FLCs) must also incorporate and teach digital literacy

RATIONALE:

RBI must focus on increasing the digital literacy of the people so they can make digital payments, as a way of life. We can, then **leverage the JAM trinity** towards a cashless Economy. The existing infrastructure for financial literacy can be embedded with digital literacy as well.

Common National-level Digital Platforms

All government benefits and schemes in insurance, pension, provident fund should be integrated on a common national-level platform

- All small savings products, which are neither accessible online nor available in demat form, should be brought on a common online platform in demat form
- Insurance premium payments (for national as well as private insurers) should be accepted through mobile and other digital modes to make those speedy and hassle-free

RATIONALE:

Digital platforms can reduce administrative costs, create greater customer traction and make way for significantly higher enrolment levels of government schemes. For instance, only 7.4 per cent of the working age population in India is covered under a pension programme, as compared to 65 per cent for Germany and 31 per cent for Brazil.

Trade Receivables Discounting System (TReDS)

- The Government has made it compulsory for certain segments of companies to mandatorily register as buyers on TReDS platform(s).
- It must be compulsory for these entities to perform transactions in TReDS

RATIONALE:

Trade Receivables Discounting System (TReDS) is a payment system authorised under the PSS Act. It is a platform for uploading, accepting, discounting, trading and settling invoices/ bills of MSMEs and facilitating both receivables as well as payables factoring (reverse factoring).

While the Government has made it compulsory for certain segments of companies to mandatorily register as buyers on TReDs, it is not mandatory to perform transactions in TReDS. The response has been lukewarm. While TReDs has the potential to handle a throughput of Rs 1 trillion; it currently handles only 15 per cent. By making it compulsory to perform transactions in TReDS, will increase the lending to MSMEs.

ANNEXURE 1

THE NEXT FRONTIER; FINANCIAL SERVICES

After digital payments, Third Party Service Providers (TPSPs) are diversifying into financial services such as Lending, Insurance, Wealth Management (mutual fund investments, gold investments, broking and trading) etc. to **monetize the data** collected from the large user base.

Financial inclusion would be incomplete without the last mile inclusion of the weaker sections and low-income groups in not only opening a bank account but getting easy access to credit, insurance and micro-investment products.

Less than 30 per cent of women have access to smartphones and that improving access to smartphones can ensure digital financial inclusion, as per Kalpana Sankar, CEO, Hand in Hand.

FinTech with their technology and innovation can achieve the reach and scale that has so far eluded the traditional banking and NBFC system. Currently there is no national level lender with the risk appetite for thin-credit customers. FinTech players are targeting insurance and wealth management space through sachet-based insurance and SIP products.

FinTechs to drive growth of Financial Services

Financial Technology or 'FinTech' is an emerging, fast-growing industry where companies use technology and innovation to offer a range of financial services. FinTech as an industry is characterised by start-up culture, innovation and aggressive promotion and marketing spends as the companies aspire to attain scale. By overcoming information asymmetry and high transaction costs, FinTechs can help enhance financial inclusion. Big data and machine learning techniques may even help reduce human biases against discriminated groups.

India is emerging as a global FinTech hub, alongside China. While India has an oligopoly in telecom, consumer internet, e-commerce, ride sharing, food delivery; FinTech is highly fragmented. There are currently over 2,000 FinTech start-ups in India, with Mumbai and Bengaluru accounting for 40 per cent of the start-up headquarters.

FINTECH OVERVIEW

PAYMENTS
PayTm Payments Bank, Phone Pe, Bharat Pe, Bill Desk, Pine Labs Mobikwik, PayUmoney, CCAvenue, Cash-free, Citrus, Razorpay, Instamojo, Cashfree, EBS, PayPal India etc.

LENDING
Lendingkart, InCred, Kissht, Zest-Money, Karza, Udhaar, Capital Float, Ofbusiness, NeoGrowth

WEALTH MANAGEMENT
Paisa Bazaar, BankBazaar, Bachat

EQUITIES TRADING
Zerodha, Groww, Upstox

INSURANCE
Policy Bazaar, Acko, CoverFox, Digit Insurance

ACCOUNTING AND TAXATION
Khatabook, ClearTax, Fyle

AGRICULTURE
FarMart, Jai Kisan

*There could be overlap of segments across Fintech

Source: various newspaper articles

Insurance is hugely underpenetrated in India and has a huge potential of growth.

More than 75 per cent of all Indians are not covered by any form of life insurance, and an Indian is assured of only 8 per cent of what may be required to protect a family from financial shock following the death of an earning member. Overall insurance penetration (premiums as per cent of GDP) in India reached 3.7 per cent in FY19 from 2.7 per cent in FY02. The current insurance penetration is quite low 2.76 per cent in life insurance and 0.93 per cent in non-life insurance compared to a global average of 6.5 per cent.

The number of individual investor accounts rose 20 per cent from January 2020 levels, to 24 million in July 2020, according to CDSL. Players like Zerodha with a digital trading platform accessible on the smartphones contributed substantially to this trend. Brokerages like Upstox reported a large percentage of their growth coming from the below 35 years age segment in Tier 2 and Tier 3 cities. PhonePe has sold over 5 lakh insurance policies on its platform during the period April - August 2020. Innovation continues in the automobile and property insurance space, where besides the digital intermediaries such as Policybazaar and Coverfox, other players like Toffee are offering sachet-based innovative products that are more relevant and affordable for the hitherto uninsured. Other players include Digit, Acko etc.

The low-income households continue to invest in the low return products from the traditional financial institutions and in physical assets such as real estate and gold. There is need for a strong digital awareness programme that gets this section of the population to participate in a wider range of financial instruments.

Paytm Money has become one of the largest distributors of mutual funds in two years, with nearly 1.5 million accounts (70 per cent of whom were first-time investors) and assets under management of Rs 60 billion, it comes third after SBI and NJ India Invest.

Agriculture

The farmer community transacts largely in cash and enjoys a lot of exemptions. India has some 150 million farmers who directly own land and use it for farming. Traders can pay farmers up to Rs 2 lakh in cash against the purchase of their farm produce notwithstanding Income Tax rules. Cash payments above Rs 1 crore via APMC, are exempt from TDS of 2 per cent.

Low internet connectivity and lack of digital literacy is the reason for the prevalence of cash in the rural areas.

The government is working to provide both **internet** (under the Digital Broadband Plan) and **electricity** (under Subhagya scheme) in all villages. Moreover, the first cohort in the regulatory sandbox is testing offline retail e-payment facility for remote locations.

The agricultural and allied sectors contribute about 16 per cent to GDP and provide livelihoods to 55 per cent of the population. Indian agriculture is dominated by fragmented landholdings, with a large proportion of small and marginal farmers. Only about **30 per cent** (44 million) of the farming population has access to institutional credit from formal sources, despite the large allocation under the PSL.

The Kisan Credit Card (KCC) scheme is one of the key schemes designed to meet the credit requirements of farmers, such as crop inputs, the marketing of agricultural products and post-harvest needs, allied farm activities as well as the needs of farmers for consumption. As per 2019 data, there were a total of 66.2 million KCC operating accounts, implying less than 50 per cent of farmers holding a KCC card.

Government digital ecosystem such **AgriStack** and **National Agricuture Market (eNAM)** would foster digitization of agriculture. AgriStack, which uses digitized land records to link farmer ID to farm ID, would help in farmer KYC and onboarding at scale at little transaction cost with banks, NBFC and agritechs. eNAM is a pan-India electronic trading portal, which networks the existing APMC mandis to create a unified national market for agricultural commodities.

There are expected to be various innovative FinTech solutions for agriculture lending. There are about 600 agritech start-ups in the country trying to arrange pre- and post-harvest financing challenges. Some use satellite images to geo-tag farms, assess crop health, estimate output and monitor loans. They use ML, AI as well as blockchain technologies to improve the predictability of crop stress, pest attack, harvest, yield and farmers' incomes as also to verify the credit worthiness and invoices.

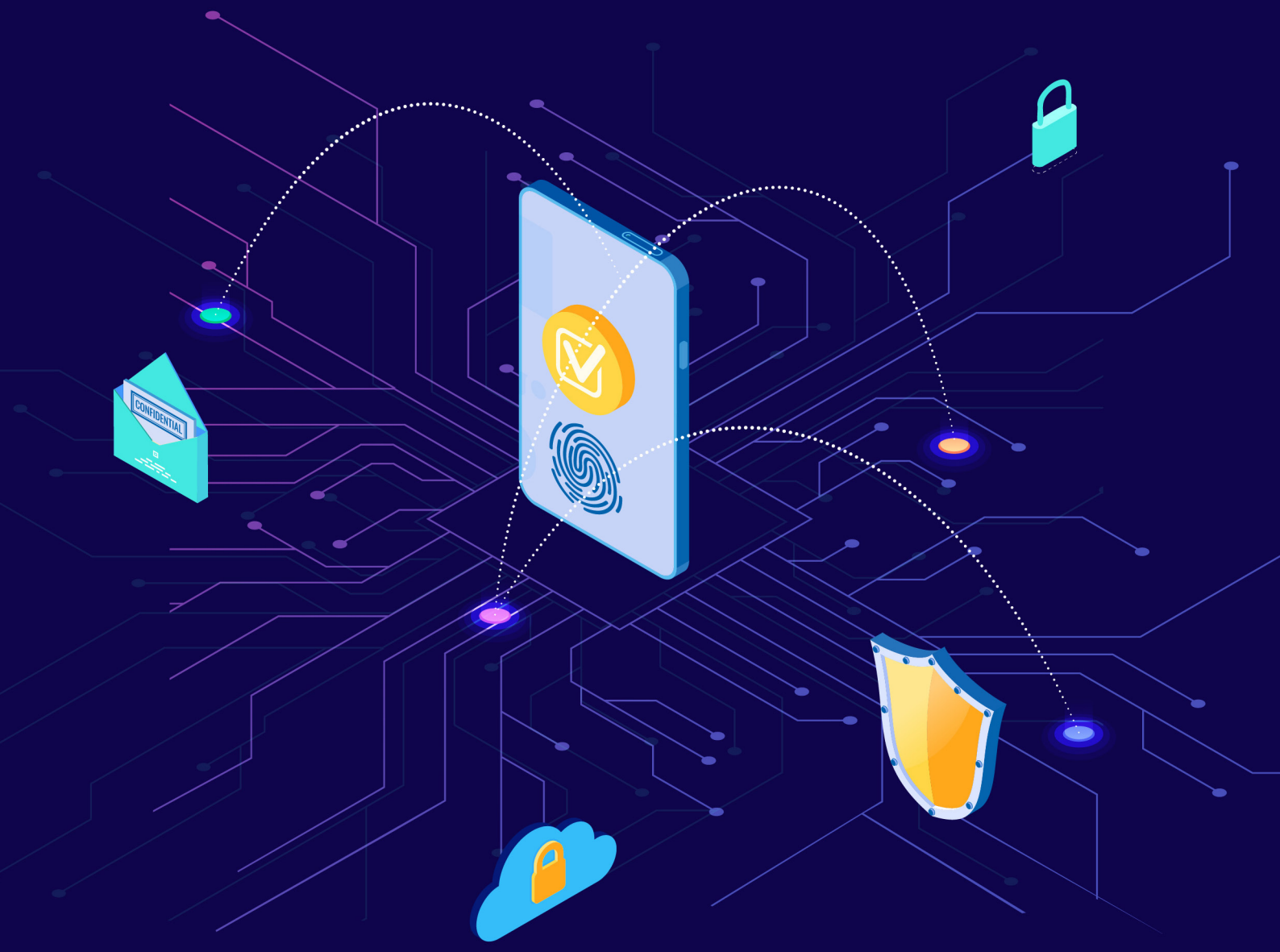
In another innovation, ICICI Bank has started using satellite images of farmlands to help assess farmers' credit worthiness. The bank has been using satellite data in over 500 villages in Maharashtra, Madhya Pradesh and Gujarat, and plans to scale up the initiative to over 63,000 villages shortly across the country.

ANNEXURE 2

REGULATORY SANDBOX UNDER FIRST COHORT OF RETAIL PAYMENTS

Sandbox Entity	Description
Natural Support Consultancy Services P Ltd Jaipur	The product 'eRupaya' is a set of NFC based Prepaid card and NFC enabled PoS device, to facilitate offline P2M transactions and offline digital payments in remote locations. *(Testing started from November 2020)*
Nucleus Software Exports Ltd New Delhi	The offline digital cash product, 'PaySe', will help connect with rural areas for e-payments. The product proposes to help in digitisation of payments in rural areas, starting with Self Help Groups (SHG), through an offline payment solution and a digitised SHG-centered ecosystem. *(Testing started from November 2020)*
Tap Smart Data Information Services P Ltd (CityCash) Mumbai	The product is a set of NFC based Prepaid card and NFC enabled PoS device, to facilitate offline P2M transactions. The card can be used as travel pass and wallet to pay for purchase of bus tickets as well as payment at select merchants. *(Testing started from December 2020)*
ToneTag (Brand of Naffa Innovations P Ltd) Bengaluru	The product is an offline, feature phone-based UPI payment solution for P2M transactions over 'sound medium' by establishing a secure channel for data transfer over Interactive Voice Response (IVR) between devices. The product enables contactless payment even without internet. *(Testing started from December, 2020)*
Ubona Technologies P Ltd Bengaluru	The voice-based UPI payment solution facilitates offline P2P and P2M transactions using mobile phones including feature phones. The product also offers convenience of preferred Indian language to the customer through IVR, making adoption of digital transactions user friendly. *(Testing started from December, 2020)*
Eroute Technologies P Ltd Noida	The product is UPI based offline payment solution using SIM overlay smartcard placed on the SIM to drive SIM Tool Kit (STK) menu-based user interface to facilitate P2P/ P2M transactions. This product offers payment solution to non-internet connected feature phone users. *(Testing started from December, 2020)*

Source: RBI Press Release



SMAHI