Disrupting cash
Accelerating electronic payments in India
The story of financial inclusion in India can be traced back to bank nationalisation and told through its milestones, including loan waivers, schemes to lend to priority sectors with or without interest subventions, no-frills accounts, micro insurance, rural branches and, most recently, large-scale enrolment under the Pradhan Mantri Jan-Dhan Yojana (PMJDY) and Pradhan Mantri Suraksha Bima Yojana (PMSBY). Post-liberalisation bankers in India dealt with the bipolarity of large opportunities offered by a growth economy and meeting targets and sub targets under the ever-changing norms of financial inclusion. Predictably, it has been a mixed success. Much ‘carrot and stick’ has gone into policy thinking, marked by erratic measures every time a CRB, Sahara, Saradha or similar scams made headlines and led to furious parliament debates. Interestingly, in parallel, there has been robust growth driven by non-bank organisations regulated by the RBI, including Prepaid Issuers for digital payments, Non-Banking Finance Companies (NBFCs) and Microfinance companies with wide access to large middleclass underbanked and unbanked, that have taken on informal financing channels and money lenders on their turf.

As the size of the economy and population have grown at a healthy rate, so has the number of financial transactions between people, institutions, service providers and governments at all levels. Add to that the nature of growth, which is marked by tiny and micro enterprises, local semi-skilled service providers and large-scale migration of white and blue collar workers, students and job seekers across the country between areas of varying growth and labour availability, and the sheer magnitude of cash being handled every minute in India makes for giddying volumes.

Hence, a late entrant in the story of financial inclusion is the one of transactions and remittances. Visibility to this issue probably started with the proverbial lines of sweaty workers in bank branches waiting to send money home and the loss of wages at the sender and recipient end to send and collect that much-needed small value remittance. With it came the recognition that many more prefer the convenience of the expensive informal channels to send money home. In addition, this vast population, now used to sachet and pre-paid marketing, also increasingly chose to pay for top-ups and other mobile services as well as recharges for the ubiquitous satellite televisions using local outlets or aggregators. The sparse banking network (0.12 branches per thousand adults) could not be expected to accommodate this ever-growing demand and with the passage of the Payment and Settlement Systems (PSS Act) in 2007, a new class of regulated entities was created to target this niche but growing opportunity.

With the creation of National Payments Corporation of India (NPCI) as a nodal infrastructure agency for small payments and real time payments using Immediate Payment Service (IMPS), there was a fillip to the system and growth of electronic payments started in right earnest. Prepaid Payment Instruments (PPIs) that first began by playing at the periphery of railway ticketing, bill payments, recharges and small remittances have made inroads to claim larger parts of the customer wallet by providing convenient and secure options for small payments and transfers and setting up assisted touchpoints for cash loading and cash out, acting as Banking Correspondents, and creating a layer of service providers that has attempted to accommodate this low margin, high-volume business. Despite the friction faced by lack of cash-out and interoperability, PPIs deserve much credit for spurring an almost eight-fold increase in prepaid transactions. In a span of less than 18 months, PPIs contributed to more than 40% of all IMPS transactions between banks and non-banks connected to IMPS switch.

By 2013–14, when the discussion around differentiated banking picked up steam, the nascent payments industry had already shown its potential in two strong ways. The first was the speed with which it identified and conquered the spaces available for small transactions, primarily e-commerce, peer to peer and bill payments. The second was their ability to access funding and make headlines, alongside their e-commerce peers, who were fast disrupting the traditional retail space and unleashing fierce competition between themselves as well as with their offline counterparts.

The story of electronic payments at this stage began to attract the attention of banks and banking regulators. Some of this came from the global experience of technology companies (christened ‘Fintech’) disrupting transaction banking in other economies. However, some of it was due to the fact that with increasing *ubersation* of user experience and integration in both online and offline spaces, some of these service providers became the instrument of choice for small payments, even for customers of traditional banks. Of course, there were multiple friction points, largely around the inability to cash out and the need to make frequent wallet loads of relatively small, permissible sizes. However, the potential of electronic payments for providing meaningful inclusion as well as to reduce cash in the system was not in doubt anymore and even sceptical banks were aggressively contemplating launching or acquiring wallets.

In January 2014, the Mor Committee Report on Comprehensive Financial Services for Small Businesses and Low Income Households firmly supported the idea of payments banks and other differentiated banks. The eloquent preamble to the chapter described global trends in payments institutions, concluding that ‘…any financial inclusion strategy would not be credible if it did not envisage a clear role for independent non-bank participation’.

As the new licensees roll out plans to go to market, there are equally interesting developments in the wider payments, transactions and small finance ecosystem. It is important to recognise at this stage that while the differentiated licensing agenda emerged primarily out of concerns to address inclusion by the increasing supply of niche players that have a better ability to target specific market segments and innovate solutions, the outcome—i.e. a vibrant payments industry—is hardly likely to be limited to financial inclusion. Moving from cash to cashless is going to be an open playing field, including the hitherto excluded as well as included. This brings into the fray traditional players, i.e. banks, NBFCs, cooperative banks as well as the new players like payments and small banks, PPIs, payment intermediaries and aggregators of transactions and merchants in the online and offline space. Individually and together, these players will attempt to ‘disrupt cash’, which is where the major opportunity lies. And this opportunity not only involves substituting billions of transactions currently taking place using cash, but also connecting with the new consumer in novel ways, understanding their tastes, preferences and lifestyles, and using that data to improve the overall delivery of small loans, insurance and financial solutions at affordable costs anytime, anywhere and using any channel.


**Mapping the Payments Ecosystem**

- **Cash Withdrawal**
  - White label ATM
  - ATM
  - Merchant Aggregators
  - ATM Operators
  - POS
  - BC
  - Merchant Aggregators
  - POS manufacturers

- **Merchant Payments**
  - Credit / Debit
  - PPI
  - Online
  - Payment gateway
  - Digital wallet
  - Offline
  - POS

- **Utility bill payments**
  - Online
  - Payment gateways
  - POS
  - PPI
  - Cross border
  - Money transfer agents
  - Domestic
  - Mobile Wallet
  - Casual Transfers
  - Other Fintech

- **P2P transfers**
  - Online
  - PPI
  - Other Fintech

- **Travel and ticketing**
  - Offline
  - Other Fintech
  - Online
The new collaboration-competition paradigm

The payments landscape in India is at a point of inflexion. With intense competition and strategic collaboration among market participants lowering the costs of banking and underserved and unbanked consumers beginning to find utility in formal financial services, the opportunity will be immense. The new payments ecosystem will supplement as well as ride the wave of smartphones, internet penetration and recent policy initiatives like Jan Dhan, Aadhaar, Digital India and Digilocker to find creative ways to deal with each other in the new marketplace to settle their positions on where they will play and how they will win.

The new payments ecosystem will cater to a set of customers that have either had no access to formal finance or have found it low on utility and convenience and high on cost and complexity. Earning, spending and saving in cash are well-entrenched habits. New business models and fresh thought to product design and delivery must be deployed to change habits and disrupt cash. The most powerful tool in the hands of market participants is nimble, affordable technology and the mobile handset as a channel of delivery of services. With more than 900 million telecom connections, the use of mobile as a platform to create access and incentivise usage of electronic payments can create a meaningful dent in the all-pervasive kingdom of cash.

By licensing telecom companies, NBFCs, Business Correspondents (BCs), PPIs and microfinance companies to become banks and the passage of the Payment and Settlement Systems Act (2007) and its amendments, India has joined the short list of countries that have tried to put in place a proactive framework to encourage innovation in payments and banking. This is an important development in a country that has historically treated bank licensing as a ‘once in a decade’ event and viewed innovation in finance with some scepticism. However, it is important to remember that even though the number of bank and non-bank players, especially the 21 new banks, may appear large, the market in India is incredibly diverse and fast growing. Given a fostering environment and the right infrastructure, there will be place for all. While it is fair to expect intense competition on client acquisition in the initial phase, in the medium term, models will emerge to suit the needs of the economy through collaboration by way of partnerships, common infrastructure, equity participation as well as consolidation by way of mergers and acquisitions.

Given the nature of digital technology and the power of social media, innovation and disruption will continue to happen outside the banking system, even as banks focus on building credibility and trust to shift savers and borrowers away from informal systems. Acceptance of this reality as well as the compulsion to operate within the confines of differentiation (caps on deposit and loan amounts as well as type of forex transactions permitted, etc.) will lead market participants to look to each other to service their clients better and increase revenue share. Through niche focus and strategic alliances, the new banks will attempt to build lean, cost-efficient intuitions that integrate digital into their core. Co-existence with a wide array of other digital as well as assisted service providers in the payments, lending and commerce ecosystem will mean that the rules of competition and collaboration will be re-written.

Five pivots to collaboration are easy to identify in the initial stage:

1. **The customer is not a unit but a slice:** The payments ecosystem will have to address an emerging class of customers with specific needs and gaps in delivery by the existing system. In order to cater to these customers effectively, there is a need to revisit customer strategies—i.e., to look at customers not as units to be acquired but as a set of needs which can be catered to by multiple niche providers in the payments, lending and commerce ecosystem.

The opportunity: New customers expected to enter the banking and payments landscape

Sources: VISA – IAMAI, Phoenix Marketing International, Vserv, World Bank, UN, Avendus, TRAI, PM Jan Dhan Yojna Website
service providers (wallet share). This derives from a fundamental shift in consumer behaviour as well as stakeholder expectation of value that the new digital paradigm has created, and differentiated banking may just be on the forefront of recognising this and adapting their strategies.

2. **Continuing need to allow for cash-in and cash-out seamlessly:** Until the ubiquity of electronic payments and fungibility between cash and electronic money is established, it is hard to visualise consumers changing their behaviour relating to small savings and electronic payments. Also, new banks will be required to fulfil the expectation of payment access points within 15 minutes of walking distance. This will necessitate better ATM infrastructure. Common infrastructure such as White Label ATMs, micro ATMs and cash recyclers may be desirable to achieve this goal, driving the creation of common infrastructure and collaboration.

3. **Shift from physical to electronic commerce and role of aggregators:** Despite the headline grabbing e-commerce story, much small commerce in India remains physical and operates at a level of scale that makes dealing with them individually quite unviable from an operational and cost perspective. Common platforms provided by aggregators and acquirers, who bring these establishments under an electronic umbrella, will be an integral part of the growth story to create a critical mass.

4. **Continuity of the Business Correspondent model for assisted delivery:** In order to reach their target customer segments, banks (old and new) will find it profitable to consider partnerships with business correspondents that have over the years built a rural and urban footprint. While catering to ‘small value, high volume’ transactions, the new banks will have to manage liquidity for their agent network, and may choose to rely on banks and BCs to leverage their presence. At the same time, manufacturers of hardware and software for accepting and processing payments will see a surge in demand for their products, as the need to deploy these solutions increases manifold. Much of the channel management for the new licensees is done by agent networks and that network is likely to be leveraged further. To compete, universal banks will also need to come up with partnerships that support their inclusion initiatives in the more heated marketplace of tomorrow. While some banks have already hedged their bets through equity participation with the new payments banks, others may look to do so, or continue to build upon the PPIs and other channel owners that can deliver with speed, reliability and safety under margin conditions that will be even more constrained than before.

5. **Synergy between transaction data and credit:** Payments are a natural starting point for inclusion acting as a gateway into more complex services such as cash management, micro credit, insurance or pension. The data expected to be generated in the new payments ecosystem relating to an individual or an entrepreneur’s transactions, habits, relationships and cash flows will help profile previously untouched customer segments, increasing manifold the system’s ability to deliver to them small credit, insurance and investment products. Interesting variants to this that have been successful in other countries (and in parts of India) are bundled offerings of assets, credit and recovery of instalments as well as bundled insurance, such as those already being tried with the PMJDY and the insurance plan on RuPay card. With booming e-commerce and delivery capacity in the remotest corners of the country, these collaborations are also likely to flourish and improve credit penetration through the formal financial system.

Of course, it will be naïve to ignore that the market will witness fierce competition. Hopefully, this will lead to service providers working on improving delivery and creating better user experiences to bring down barriers to adoption. The downside of the fierce competition may be an unhealthy disruption in the cost and revenue mechanics in this nascent market, but it may be a price worth paying if it leads to a sustained change in habits. The market will do well to understand that throwing money to acquire customers can go so far but no further. Sustained benefits to all will come from systemic improvements in terms of availability of infrastructure, paperless processes and eliciting the right policy response to provide tailwinds to a mass shift in behaviour. Much of this will require collaboration, while competition will rightly drive innovation and customer segment appropriate strategies.
It is estimated that the Reserve Bank and commercial banks in India spend a total of 21,000 crore INR in currency operations costs annually\(^4\). However, it is not just the costs but also the externalities brought about by cash dominance that pose significant concerns, such as the presence of large unorganised sectors, black money, persistent exclusion of millions from formal financial services, loss of revenue on account of evasion of taxes and poor transmission of monetary policy measures taken by the central bank. If the direct and indirect costs to government, people and businesses were to be understood and added up, they would be staggering and put in perspective, the desperation evident in policy discussions on promoting electronic currency, universal bank accounts, electronic transfers of benefits and creation of new bank and non-bank institutional infrastructure.

Even for a developing economy, India’s preference for cash is high and persistent. Indian consumers may implicitly recognise the cost and risks associated with the use of cash, yet prefer it for a variety of reasons. Easy avoidance of taxes, low access to financial services and patchy digital infrastructure and connectivity have put in motion and sustained a vicious circle in which cash thrives. Even as electronic payments have sneaked into the transacting behaviour of customers in the recent past, there are interesting variants like cash on delivery that reinforce the stubbornness of cash. To achieve actual disruption of cash, the ecosystem requires seamlessness that will drive complete fungibility between cash and electronic payments.

As discussed in the previous sections, the new dynamics between policymakers, supply-side participants (digital new banks and PPIs, aggregators, acquirers, card schemes, technology providers, fintech companies and universal banks) and demand-side participants (digitally savvy or enabled consumer, social databases, improved connectivity, e-commerce platforms and younger consumers) is bound to lead to major shifts and resolution of many of the traditional pain points.

However, there will be other inhibitors to growth that will be beyond the capacity of the market participants to address. Preferences for cash for large transactions in order to evade taxes, efficiencies in government payments to vendors and beneficiaries, primary use of cash in procurement and sales of agricultural produce and real or perceived complexity of taxation by micro and small businesses are major issues to be dealt. These may be beyond the control of the market and require active consideration and intervention from the government and policymakers.

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To summarise, market participants will need to focus on the following core issues and build the capacity to deal with them individually and/or collectively:

1. **Cost and revenue sharing**
   Cash is virtually free for consumers today, being heavily subsidised by the government as the sovereign issuer. The direct costs associated with cash are borne by the government (costs of printing and maintenance of currency, pilferage in subsidy transfer being some examples), and banks (maintenance of adequate cash balances at ATMs, logistics of cash management, ATM security, etc.). These costs are almost never passed onto the customer, with the exception of counterfeit notes. On the other hand, indirect costs of cash, including time and opportunity costs are not calculated or perceived as disincetives, given the larger convenience of usage and acceptance that cash provides. While consumers remain virtually untouched and unaware of the costs of cash, banks, payments aggregators, acquirers and merchants have traditionally shared the cost of infrastructure setup as well as the onus of recovery of investment, creating various asymmetries in incentives to use electronic payments instead of cash. For example, as recovery of charges from customers for cash outs becomes a remote possibility, proliferation of Point of Sale (POS) acceptance infrastructure in rural areas will be constrained further as merchants will not perceive significant value addition by accepting electronic payments. On the other hand, common infrastructure will want to create such touchpoints, but will need to recover costs through a mutually agreed interchange. While the market players in the collaborate-compete paradigm may eventually figure out the optimal revenue and cost sharing structure, regulation of interchange, free transactions and lack of incentives to common infrastructure may act as inhibitors in the interim.

2. **Convenience and accessibility**
   It would be intuitive to believe that constantly withdrawing and securely maintaining cash balances in one’s physical wallet would be cumbersome and risky to a consumer. However, restricted access to electronic payments methods (less than 200 million unique debit and 15 million credit card users6), limited acceptance infrastructure, lack of financial literacy, and limited trust arising from high transaction failure rates and fear of fraudulent transactions have ensured the survival of cash. Incentives to acquiring and viability of the revenue model will be common success factors for all forms of credit, debit or PPI cards. However, each will have a different risk and reward structure and therefore the end state will need to accommodate a diversity of revenue and charges structures. For example, in the credit card mechanism, the merchant is willing to bear the cost as it increases his sales through acceptance of credit

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cards, the participating banks are willing as they make money on credit and cross sell and the consumer is also willing to use a credit card as she can make a purchase based on future income. For debit cards, this incentive structure does not work as the consumer is using her own money, the bank is actually parting with float on real time and the merchant is unlikely to witness incremental sales. There is implicit saving for everyone by way of not having to handle cash, but this is not as obvious. Therefore, proliferation becomes harder. For PPIs, in addition to the structural issues of debit cards above, there is the added inconvenience of cash loading in advance and interest loss for the customer.

3. **Security and consumer awareness**

Various studies have found that consumers often find it risky to carry, hold or transact in cash. In fact, specific consumer segments like business owners and employers with direct experience of handling large cash balances especially recognise these inherent risks. However, they tend to find jugaad solutions to such issues rather than move to electronic payments. For example, in rural areas that are unsafe, farmers selling in the mandi are averse to carrying cash with them, but do not have the option to deposit it outside of banking hours. They depend on local service providers who provide safe pickup and doorstep delivery of the cash. Electronic payments service providers will need to become particularly aware of these solutions and substitute them. In addition, they will need to create best in class solutions for handling data and information and creating security as well as awareness among consumers to build trust and confidence. Notably, loss of money by individuals in disasters like flood, fire or robberies is an unsung loss, whereas loss of electronic money on the server of a bank or financial institutions creates front-page news and has severe regulatory repercussions. All ecosystem participants will need to become sensitive to this reality and continue to invest in the security of their channel as well as financial literacy of their customers.

4. **Customisation**

Use of cash does not need education or customisation. Currency enjoys the advantage of being universally recognised and accepted from time immemorial. It is an advantage that will always remain. The challenge, therefore, for electronic payments providers is to design products in a manner that creates the same sense of familiarity, trust and longevity. This will require a constantly innovative mindset and yet simplicity and ease at the end of the consumer so that friction is minimised. To take into account the diversity of this country on the parameters of language, culture and habits, customisation may have to be accompanied with some degree of localisation, such as availability of customer service options in local languages and customer-friendly options like the innovative ‘missed call’ service that many NBFCs offer. This will create opportunities for multiple types of service providers as well as an ecosystem where standard services will get commoditised and provided by common infrastructure providers, whereas the license holders, such as PPIs and banks, will focus on customising the user experience.

On their part, policymakers and governments will continue to engage with these new market players through the shift to a bigger and more inclusive marketplace. They will also need to provide directional clarity to the market to encourage the new paradigm as well as to actively bring new users for newer and innovative ideas and practices. The following steps may be good to start with:

1. **Clarity on ‘on tap’ banking license for differentiated banks:**

This will be important for various categories of market participants to plan ahead as they engage and collaborate with each other. It will also help keep the competitive spirit alive to the benefit of consumers.

2. **Goalposts for PPIs:**

In the new paradigm, PPIs will reinvent themselves. Being new and nimble, they should find it possible to adapt to the new reality and discover their niche. As discussed, the market size is significant and innovations need to continue within and outside banks. However, inherent product deficiencies in the PPI product may need to be addressed and the options of interoperability and cash out to PPIs to incentivise usage and create a level playing field may be considered. This will also help reduce friction in the existing integration of mobile wallets with the banking system.

3. **Paperless banking and payments:**

Complex KYC procedures and documentation requirements of financial services players have not only been a hindrance in increasing access in the past, but it has also made the process of enrolling for banking or payments cumbersome and inefficient. The new ecosystem will see this friction being ironed out with market players leveraging various tools including eKYC using Aadhaar and Digital India initiatives, such as digi lockers and e-signatures. Other than that, the time to investment can also be reduced with various tools including eKYC using Aadhaar and Digital India initiatives, such as digi lockers and e-signatures. This will also help reduce friction in the existing integration of mobile wallets with the banking system.

4. **Clear roadmap for moving towards market determined charges:**

This may be the most difficult challenge for all parties concerned, as is evident from the contentious discussions that continue on interchange and free
transactions on common versus own infrastructure. It would be hard to argue that regulators will take their eyes completely off this ball, but there will probably need to be better recognition of the fact that there are no right answers and fixing benchmarks through regulatory interventions may also create distortions in the near or long term. The complexity in the new paradigm, with multiple players, agents and sub-agents that will be integral to growing the system, will be much greater before. The market may be best placed to iron these out between themselves, or industry bodies may be engaged proactively to ensure moving to market-determined charges over a defined timeframe, with identified goalposts relating to consumer protection and competition.

5. **Incentives for infrastructure creation:** As discussed above, cost to cash is huge for the government and in converting cash to electronic money, some of this cost gets passed on to the market. Either the market should be allowed to recover these costs from customers, or a mechanism needs to be created to offset some of these costs by way of incentives like faster depreciation.

6. **Disincentives for tax evasion:** This may be one of the most significant steps to be taken by the authorities. In the absence of disincentives for tax evasion, use of cash for large transactions is the rational choice. To tip that scale, costs of non-compliance have to be greater. On the other hand, small businesses need to be educated about the benefits of being tax compliant and lose the fear of the taxman to be brought within the fold of formal finance.

7. **Greater participation by government agencies at every level in electronic payments:** Starting with agriculture, where most parts of the supply chain run on cash and going all the way to vendor payments at local government levels, the use of electronic payments by governments will create the much needed dynamism and critical mass.

8. **Incentives to consumers for using electronic payments:** Already mooted as an idea, this needs to be put in place to curb the leakage of electronic money back into the cash ecosystem. This needs to be supplemented with efforts to make acceptance of electronic payments mandatory wherever more than a certain number of transactions take place on a daily basis.

To conclude, the opportunity is substantial and exciting, and the challenges are daunting. But one thing is for sure—the rewards of disrupting cash make it worth dealing with these challenges today as we embark upon the new phase of banking and financial inclusion in India.
About IAMAI

The Internet and Mobile Association of India (IAMAI) is a young and vibrant association with ambitions of representing the entire gamut of digital businesses in India. It was established in 2004 by leading online publishers, but in the last 11 years has come to effectively address the challenges facing the digital and online industry, including mobile content and services, online publishing, mobile advertising, online advertising, e-commerce, and mobile and digital payments among others.

Eleven years after its establishment, the association is still the only professional industry body representing the online and mobile Value Added Services (VAS) industry in India. The association is registered under the Societies Act and is a recognised charity in Maharashtra. With a membership of 190 plus Indian and MNC companies, offices in Delhi, Mumbai and Bengaluru, the association is well placed to work towards charting a growth path for the digital industry in India. For more information visit www.iamai.in

About PCI

The Payments Council of India was formed under the aegis of the Internet and Mobile Association of India in the year 2013 to cater to the needs of the digital payment industry. The Council was formed inter alia for the purposes of representing the various regulated non-banking payment industry players and addressing and helping resolve various industry-level issues and barriers which require discussion and action.

The council works with all its members to promote payments industry growth and to support our national goal of ‘Cash to Less Cash Society’ and ‘Growth of Financial Inclusion’ which is also the vision shared by the Reserve Bank of India (RBI) and the Government of India. PCI works closely with the regulators i.e. RBI, Finance Ministry and any similar government departments, bodies or Institution to make ‘India a less cash society’. The key stakeholders are Prepaid Payment Issuers, Merchant Aggregators and Acquirers, Money Transfer facilitators and Physical and Mobile POS facilitators. For more information visit www.paymentscouncil.in
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