

# ISAS Insights

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## **Digital Technologies Powering the Challenge of Financial Inclusion in India**

*India's challenge of financial inclusion – giving every household in the country access to the formal financial sector – has been magically transformed by digital technologies which have exploded over the last five years. Millions of households not only have an active bank account but can hope to get cheap, efficient and user friendly access to a host of financial services – savings, remittance, credit and micro insurance. Even as the way India harnessed digital technologies to deepen financial inclusion is unique, there are many formidable challenges on the way forward. The ongoing Singapore-India cooperation in financial innovation can be a potential win-win opportunity for both countries to leverage the financial sector for real sector growth.*

Duvvuri Subbarao<sup>1</sup>

### **India's Long Quest for Financial Inclusion**

India has long pursued financial inclusion – giving every household in the country access to the formal financial sector – as a policy goal in the hope and expectation that it will open up opportunities to the poor to improve their livelihoods. In practice, this proved to be an uphill

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task because of a mismatch of incentives. What the poor wanted from banks most of all was credit so that they could escape the clutches of usurious moneylenders and vagaries of the informal sector. But banks were not enthusiastic about lending to the poor, thinking they were too much of a credit risk. Banks, on their part, were eyeing the large and stable low cost deposits these poor peoples' accounts would bring which would improve their cash flow and hence their viability. However, the poor had no interest in saving in a bank account that would impose transaction costs but give no tangible benefits.

## **Explosion of Digital Technologies**

That impasse has now been broken by digital technologies which have exploded over the last five years, fundamentally reshaping the challenge of financial inclusion. Digital technologies have made 'banking on the poor' an attractive prospect for banks and enticed a variety of non-bank entities, particularly financial technology (FinTech) companies, to enter the financial inclusion space even as the competition for the 'fortune at the bottom of the pyramid' has resulted in a host of banking services being offered to the poor at their doorstep, dramatically altering their banking experience. Global internet giant Google, for example, has launched Tez, an app through which money can be sent or received directly into a bank account. Many large Indian banks, both public and private, are tying up with payment wallets for last mile connectivity offering attractive discounts to customers.

## **The JAM Trinity**

The magic of digital technologies is best captured by the acronym 'JAM' with the letters standing for *Jan Dhan Yojna*, *Aadhar* and mobile phone respectively.

Shortly after coming into office in 2014, India's Prime Minister Narendra Modi unveiled *Jan Dhan Yojna*, a scheme which at its core, is a no-frills bank account with a simplified KYC (know your customer) prescription and requiring no minimum balance to be maintained in the account. A no-frills account by itself was not new; it had been on offer for over a decade but there were not many takers. What Modi did was not only repackage the scheme, but also

declare that, henceforth, all government subsidies and entitlement payments would be credited directly into the poor peoples' bank accounts. The impact was dramatic. Millions of people who were apathetic to having a bank account suddenly rushed to the banks to open one.

The direct benefit transfer itself would not have been possible but for *Aadhar*, the second element of the JAM trinity. *Aadhar* is a mammoth initiative to give a unique 12-digit identification for every resident of the country based on biometrics (finger prints and iris scan). The *Aadhar* project, possibly the largest ever enumeration project in the world, was conceived and launched by the previous United Progressive Alliance government but was eagerly embraced by the Modi government. In a country where nearly half the people do not even have a birth certificate, establishing their identity and entitlement for government benefits was a perennial challenge for the poor which left them open to exploitation by touts and middlemen. At the same time, benefit rolls have been filled with fake beneficiaries palming off undeserved government benefits.

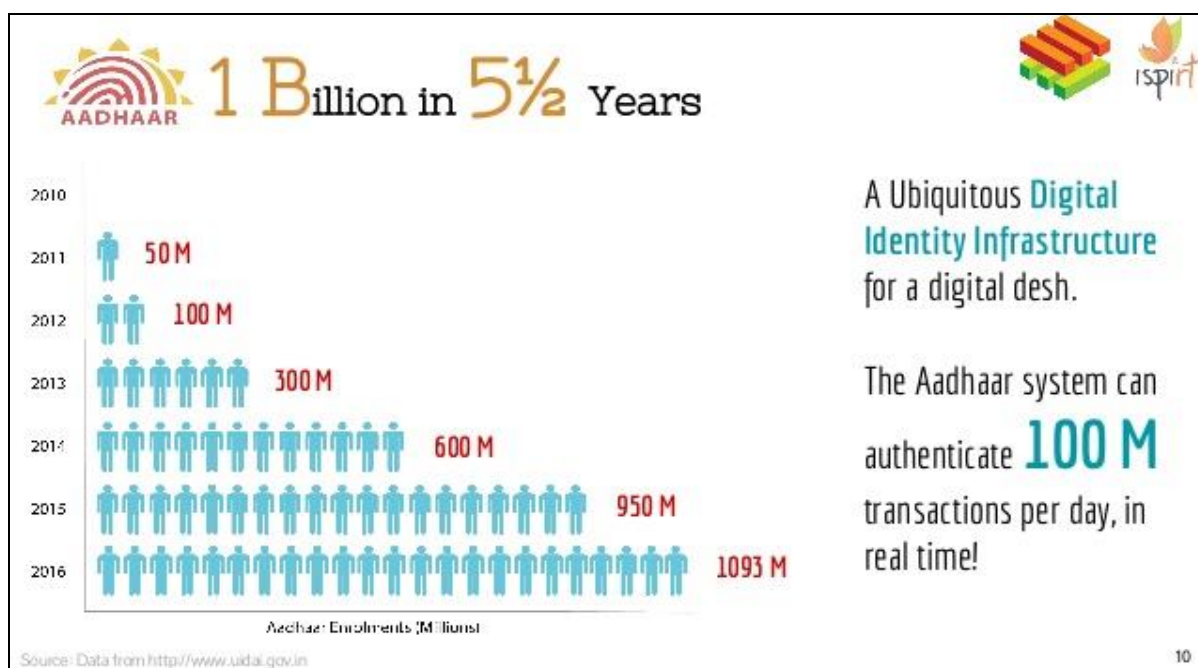
*Aadhar* is a quintessential digital technology product, unprecedented in its concept and design. As many as 1.2 billion of the country's 1.3 billion people now have an *Aadhar* number.<sup>2</sup> Anecdotal evidence suggests that the government has already saved over US\$15 billion (S\$25.6 billion) by eliminating ghost cards and middlemen, more than recouping the nearly US\$9 billion (S\$12.4 billion) it spent on the *Aadhar* project.

Apart from reducing corruption and leakage in government transfers, *Aadhar* has empowered poor people in a dramatic way. They can now establish their identity anywhere and anytime with unimaginable ease and efficiency, making it possible for them to meet the KYC norms for opening bank accounts and operating them.

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<sup>2</sup> <https://www.gemalto.com/govt/customer-cases/aadhaar>.

**Figure 1: Progress in Aadhar Enrolment**

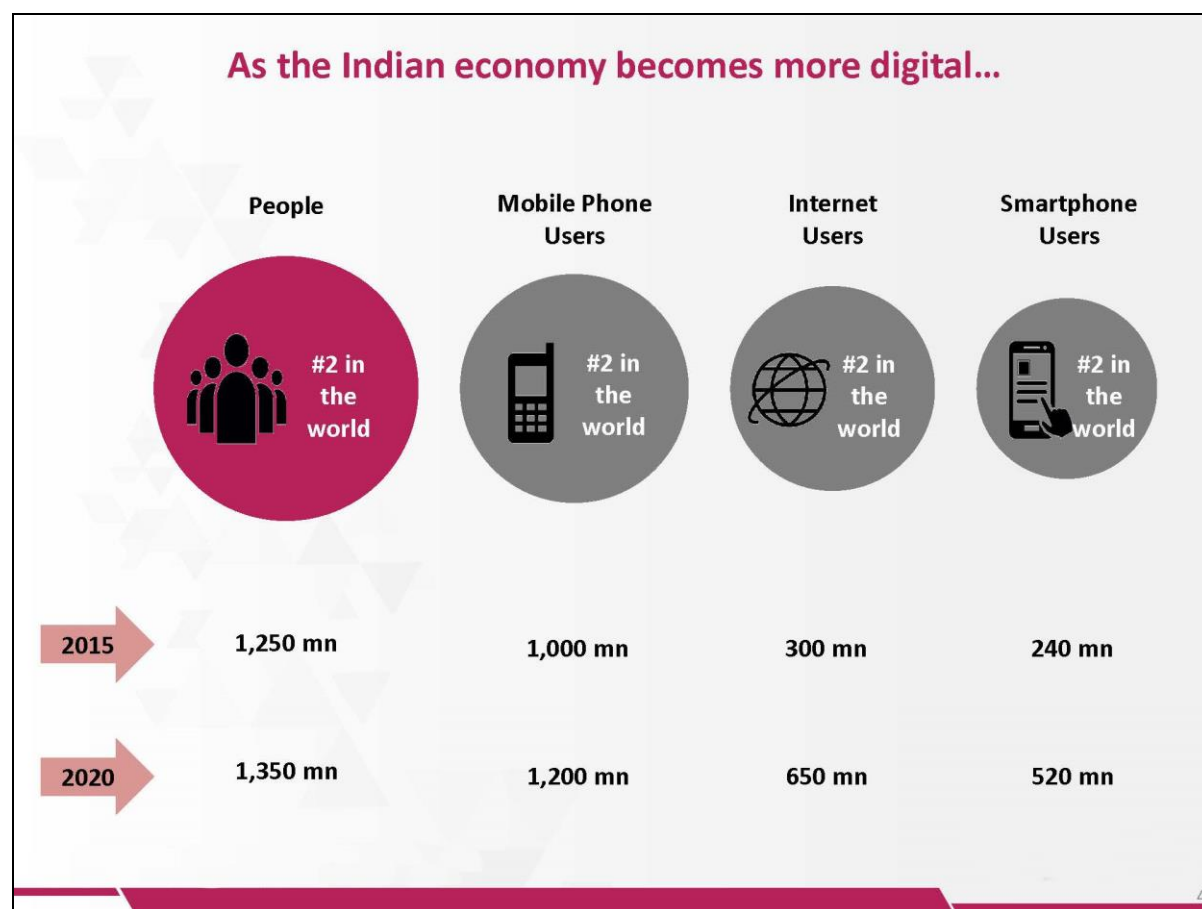


Source: Data from <http://www.uidai.gov.in>

If *Aadhar* was transformative, then the penetration of mobile phones allowed India to make a quantum leap in financial inclusion. Even five years ago, conventional wisdom had it that smart phone penetration would be a big bottleneck in digital inclusion. Today, it does not seem like such a deal stopper. Smart phone prices have crashed, thanks to Chinese brands and China-made Indian brands. India is currently second in the world, only behind China, in the number of mobile subscriptions which top a billion. Of this, as much as a quarter use smart phones and this base is projected to double to over a half billion by 2020.<sup>3</sup> Paradoxically, more people in India have access to a smart phone than to a toilet!

<sup>3</sup> BCG – Google Digital Payment 202 Report, July 2016

**Figure 2: India moving up the Payment Systems Value Chain**



Source: BCG – Google Digital Payment 2020 Report, July 2016

## Let a Thousand Flowers Bloom

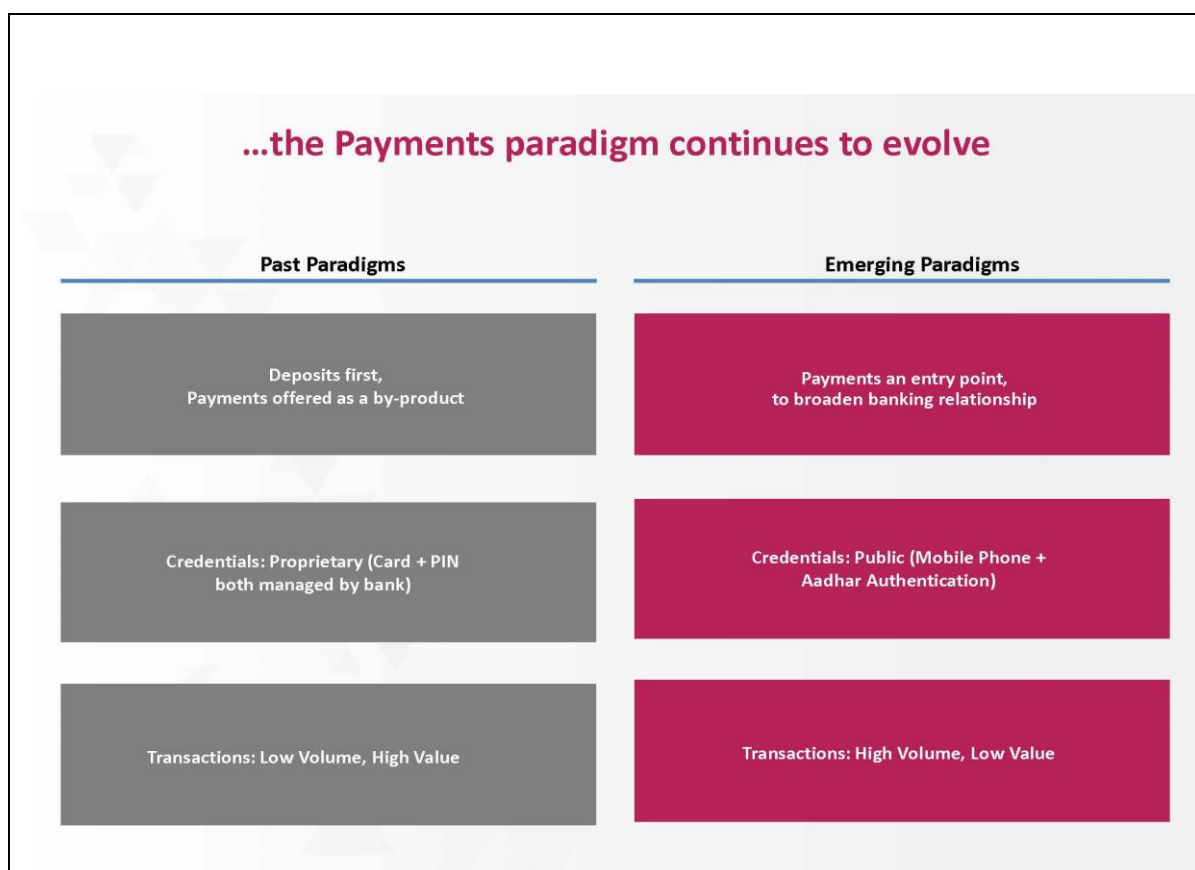
Digital technologies have unleashed a slew of mobile phone apps uniquely tailored to India's low literacy, low awareness environment. Topping the list is United Payment Interface (UPI) that allows online payments from one smart phone to another with just a virtual address which is as simple as one's email address. No other details – bank, branch codes or account numbers – are given out. UPI – simple, efficient and most important, secure – is a pioneering state of the art innovation that would probably surprise even Steve Jobs who invented the smart phone.

What if one has no smart phone but only a feature phone? No worries! Banking services are still accessible through a simple messaging service that goes by the name of Unstructured Supplementary Service Data. If one has no phone at all, banking is still accessible via the *Aadhar* number. All one has to do is to go to the banking correspondent in the village –

India's home grown version of a virtual bank – who can provide banking services with the help of a micro Automated Teller Machine which verifies customer identity through the biometric scan matching with the *Aadhar* number.

The digital technologies underlying the JAM trinity have made possible banking in remote villages of India in ways that would have been unimaginable even three years ago. India's huge migrant spread around the world used to spend as much as a tenth of the amount transferred by way of fees to remit money home to their families. Now they can do it more quickly, efficiently and securely at a fraction of that cost. People in far flung villages are able to draw their pensions, buy their rations and make payments using a just a mobile phone together with their biometric *Aadhar*.

**Figure 3: Evolution of Payment Systems**



Source: Source: BCG – Google Digital Payment 202 Report, July 2016

## **Digital Technologies in India – More than just a Payments Revolution**

In many countries, the reach of digital technologies has remained confined to payment systems. What is notable about India's digitally-driven financial inclusion is that it has extended beyond payment systems to provision of credit. Digital technologies, for example, have made it possible for potential borrowers, whether in microfinance or in the small and medium enterprise sector, to build credit histories and demonstrate their creditworthiness and therefore improve their access to credit as well as the terms on which they borrow. Going forward, the use of block chain technology holds the potential to streamline land records and asset registries, eliminate corruption and bring the huge informal sector into the formal economy.

## **India's harnessing of Digital Technologies – Unique in Many Ways**

India's digitally-driven financial inclusion is unique in many ways. In contrast to many countries where digital infrastructure is privately built and operated, digital infrastructure in India has been built as a public good by the National Payments Corporation of India (NPCI), an umbrella organisation established as a 'not for profit' company at the instance of the Reserve Bank of India (RBI). This deliberately democratic access to digital technology has helped establish common standards which, in turn, have made it possible for all payment systems in India to be interoperable, thereby expanding choice for consumers and encouraging completion among providers.

The NPCI has been responsible for most of the innovations inspired by JAM. Also notably, the NPCI developed RuPay as a domestic payments gateway. As much as 90 per cent of all Indian credit cards and virtually all debit card transactions are domestic; yet India pays huge intermediation fees to international gateways like Visa and Master Card. The flexibility of the RuPay platform and its high levels of acceptability have helped deepen financial inclusion.

That digital technologies will provide an easier pass through for money laundering is a widely held fear. Uniquely, India built in several safeguards in its regulations to minimise this threat. Even as the payments ecosystem is now populated by a host of actors, including

banks, non-banks, and FinTech and e-commerce firms, India's regulations require that there be a bank at either end of a transaction so that every transaction can be traced if necessary. For that same reason, non-bank financial companies and technology firms in the payment space are mandated to tie up with banks. There are regulatory ceilings on the amounts that can be transacted through independent wallets. Also, independent wallets are 'cash in but not cash out' which means they can be loaded by cash but cannot be used for the withdrawal of cash.

The safeguards built in for consumer protection also make India's use of digital technologies unique. A major source of revenue for wallet providers in general is the 'float' they enjoy with the money put in by customers in their wallets. Wallet companies typically deploy this float in short term investments which yields them a return but thereby exposes consumers to potentially huge losses in the event the investments go bust. India has eliminated, or at any rate minimised, this risk by mandating that wallet companies hold all their float in an escrow account in a bank.

In other measures towards consumer protection, the RBI has also issued guidelines restricting the liability of consumers on account of unauthorised transactions. Reportedly, the RBI is planning to appoint ombudsmen to deal exclusively with consumer complaints arising from digital technologies.

## **Challenges on the Way Forward**

There are of course many challenges on the way forward to deploying digital technologies to deepen financial inclusion. Topping the list is cost. The cost of printing and distributing currency is typically borne in every country by the central bank which issues the currency. Shifting from cash to cashless shifts that cost from the central bank to the transacting parties or to the intermediary. Obviously, people will shift from cash to digital only if the convenience exceeds the cost. Anecdotal evidence suggests that cost is an inhibiting factor, particularly at low income levels.



Governments in several countries are subsidising digital transactions to encourage the shift from cash to cashless. India, for example, offers a two-per cent point reduction in the Goods and Services Tax for digital transactions. This is on top of internet charges which are among the lowest in the world. A subsidy may be necessary, even desirable, to increase awareness and drive away the fear of the unknown, but to be sustainable in the long run, digital transactions have to be attractive even without a subsidy. The hope and expectation are that costs will drop steeply as volumes grow and that competition will drive down charges.

Second on the list of challenges is the robustness of technology across India's vast rural hinterland where breakdowns in power and net connectivity are still all too frequent. There are complaints too that the *Aadhar* authentication is slow and erratic, and authentication failures are above tolerance limits. That too should improve when the ongoing project of laying an optical fibre network giving broadband connectivity to all villages across the country is completed.

Consumer protection and grievance redressal has always been a big challenge in deepening financial inclusion, and digital technologies enhance that challenge in many ways. The potential backlash from a scandal or fraud can be large and can set back the 'going digital' campaign. Regulators need to fight this threat on two fronts. First, there should be robust systems to prevent cybercrime and swift action in the event a cybercrime is reported. Second, regulators should also enforce a code of financial conduct on the part of players in the financial inclusion space to inspire the trust and confidence of people. This is especially important in the low literacy and low awareness environment in India.

The challenges for regulators such as the RBI extend beyond consumer protection. The deployment of digital technologies for financial inclusion owes to the innovation and ingenuity of thousands of FinTech firms which have cut costs and enhanced convenience. But where there is business, there is also risk. Financial sector regulators have always had to tread a delicate balance between controlling risk without choking innovation. This balancing task becomes all the sharper because FinTech firms operate at the interface of finance and technology, putting financial sector regulators on a sharp learning curve.

Another big task for regulators is the control and use of data. Big data, as is widely known, is a big business opportunity. The reason large technology companies of the world are attracted

to India is its large consumer base and the promise of its rapid expansion in contrast to advanced economies and even other emerging markets where consumption growth is subdued. Precisely for the same reason, Indian regulators, particularly the RBI, are anxious that data generated in the financial space is not compromised. The RBI has issued some regulations on data localisation and its export for authorised reasons. The right to data and the right to privacy are contentious but are also evolving issues everywhere as they are in India. There is presently a draft data protection bill in the Indian parliament and the debate on the bill can be expected to marshal international experience and adapt that to Indian conditions.

## **India-Singapore Cooperation – a Win-win Opportunity**

During Modi's visit to Singapore in June this year, the two countries signed a memorandum of understanding to strengthen cooperation in financial innovation. This can be a win-win opportunity for both countries.

Both countries have shared objectives. Both want to go in the direction of cashless. Both want to harness digital technologies for improving the efficiency of the financial system in ways it can add value to the real economy. And both countries want to encourage financial innovation while at the same time ensuring that financial stability and consumer interests are not compromised.

There are big differences between the two countries too. Singapore is a prosperous society with high rates of literacy and awareness. India is a poor country and has to deepen financial inclusion in a low income, low awareness environment. The nature of challenge too is different. Singapore's challenge is to engineer a mind-set change in the people to shift to digital payments; India's challenge is to leverage digital technologies to open up income enhancing opportunities to the poor.

These similarities and differences, in fact, define the nature of cooperation. India offers a huge market to Singapore for experimentation whereas India can adapt Singapore's financial innovation to its own environment. Indian banks in Singapore and Singapore banks in India should be the bridges for this cooperation.

Together, India and Singapore have the opportunity to exploit the use of digital technologies to showcase how they can aid growth and development of the real economy.

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