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Logging into digital banking

Creating access, transforming lives

ASSOCHAM INDIA

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Foreword from TRAI

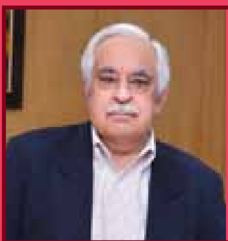
I am happy to learn that ASSOCHAM is organising its 2nd National Summit on IT and Mobile Banking, with the theme 'Digital transformation of Indian banking, enabling financial inclusion' on 29 April 2015 at New Delhi.

Information Technology (IT) today has become an important tool for an efficient banking system, and Indian banks have put in place a fairly strong infrastructure to leverage its benefits. It has made a visible difference in the functioning of banks and conduct of banking operations. IT is one of the most important facilitators for the transformation of the Indian banking industry in terms of its transactions processing as well as for various other internal systems and processes.

ASSOCHAM and PwC present this knowledge paper with the objective of contemplating the issues and challenges being faced by IT and telecom companies in providing a platform for taking banking to the unbanked masses.

I am sure the initiatives taken by ASSOCHAM in bringing together the various stakeholders of digital banking through the summit will provide necessary inputs for further development of this sector.

I wish the programme all the success.



Dr Rahul Khullar

Chairman
Telecom Regulatory Authority of India

Foreword from ASSOCHAM

Technology today is synonymous with banking and Indian banks have put in place a fairly strong infrastructure to leverage its benefits. This has made a visible difference in the functioning of banks as also the conduct of banking operations. Information technology is one of the most important facilitators for the transformation of the Indian banking industry in terms of its transactions processing as well as for various other internal systems and processes. The technological evolution of the Indian banking industry has been largely directed by the various committees set up by the RBI and the government of India to review the implementation of technological change.

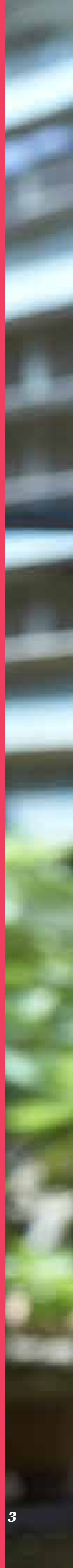
The mass adoption of technology across various customer segments, owing to the emergence of smartphones, the wide availability of 3G and 4G networks, etc, have paved the way for increased customer expectations, complex product structures and alternate channels as emerging trends even in the banking industry.

ASSOCHAM, along with PwC, has authored this knowledge paper with the objective to contemplate the way forward for banks as they invest in developing their digital capabilities to improve services for their existing customers and increase access to the underserved.

We hope this study helps regulators, technology and telecom companies and other stakeholders gain a better understanding of the mobile revolution in banking. I would like to express my sincere appreciation to the ASSOCHAM-PwC team for sharing their thoughts, insights and experiences.

D S Rawat

Secretary General
ASSOCHAM



Foreword from knowledge partner

Modern money is but a piece of security paper containing a promise coded in unique alphanumeric combinations. It is intuitive to visualise its replacement with digital money. Globally, the threat posed by disruptive technologies such as bitcoins to accepted notions of money is a much discussed subject. In India, on the other hand, these innovations are sought to be brought within the regulated landscape via the upcoming payments banks.

Apart from the licensing of differentiated banks, there are many other measures in the policy and regulatory domain that will inevitably move the digital agenda forward. Aadhaar, Digital India, Bharat Bill Payments System, Pradhan Mantri Jan Dhan Yojana, Unified Payments Interface are some of the bold moves that will help the financial system find its feet in the world of inclusive finance. This will work with the managed risks of fraud and money laundering at lower costs that will happen due to paperless client on-boarding and other digital processes.

With the entry of small banks and payments banks that are expected to build new business models based on the advantage of being small, nimble, focussed and innovative, the competitive landscape is set to change. On the other hand, existing banks have also realised the potential of the digital proposition and are trying to get the early mover advantage by introducing digital products and targeting digital natives and adopters.

The PwC Digital Banking Survey released in 2014 includes survey findings from 14 markets across the world and highlights the increasing awareness of banks on aligning their strategies with digital. These banks are at different stages of making the transition to being full-fledged digital banks. However, there are extremely few examples of large banks transforming themselves from conventional to digital banking. Banks are already 'invested' in existing processes and systems and often end up thinking of digital as an addition to existing channels.

In reality, successful transition to digital banking requires much more, almost an entirely new approach to customers, employees, products and processes. Enhanced ability to mine data, create low-cost processes and partner with digital companies whose DNA is customer-centric, flexible and ubiquitous, may be helpful to win in the hitherto challenging market.

We congratulate The Associated Chambers of Commerce and Industry of India (ASSOCHAM) for engaging with the industry on this game-changing subject. We thank Meena Aier, Rahul V Doshi and Radhica Kaushal of the Financial Services team of PricewaterhouseCoopers (PwC) for the research and writing of the report. We would also like to thank PwC's Ravish Vishwanathan, Aarti Vasudevan, Deepika Jain and Ashu Rana for support on the review, design and production of the report.

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Financial inclusion
The story so far

Evolution of financial inclusion

Expanding access to finance has been a key policy objective for successive governments in India. As different regimes have tried to address financial inclusion, policy initiatives and programmes have ranged from priority sector lending (PSL), to driving mass bank account access-enablement drives. Over time, a more nuanced understanding of what enabling access to finance means has also evolved. While traditional financial inclusion outcome indicators were marked by a focus on the number of accounts opened and trickle-down credit, more recent initiatives have been characterised by a more enabling definition of access to comprehensive financial services.

The evolution of financial inclusion in India: A snapshot

Credit
(Priority sector lending (PSL), specific institutions)

- ***Priority sector lending*** specifies percentage of total net demand and time liabilities to be lent to predefined segments.
- ***Institutions*** such as NABARD, SIDBI, Bharatiya Mahila Bank, NSFDC have been set up with a mandate to focus on specific segments of the economy.*
- The recently set up ***MUDRA Bank*** proposes to refinance microfinance institutions that lend to micro and small business entities.

Reach
(Rural branch mandate, BC model)

- While establishing presence in rural areas has been an agenda for the past decade, the mandate to dedicate ***25% of total branch network*** to unbanked rural areas was formalised in 2009.
- To lower costs for banks and make rural banking more feasible, the ***business correspondent (BC)*** model was adopted from Brazil and introduced in 2006.

Payments
(Remittances, Payments and Settlement Systems Act)

- Given high rates of migration, policymakers focused on channelling remittances via formal channels through special programmes such as the ***money transfer service scheme.***
- The Payments and Settlement Systems Act, 2007, and the subsequent prepaid payment instruments guidelines sought to ***enable easy access through alternative channels.***
- Channelling welfare payments directly to bank accounts (***direct benefit transfer***) has also become a key focus area.

Savings
(Swabhiman Campaign, Jan Dhan Yojana)

- The concept of ***no frills accounts*** was introduced in 2005, to customise bank accounts to needs of low income households.
- Government programmes such as the ***Swabhiman Campaign*** and the ongoing ***Pradhan Mantri Jan Dhan Yojana*** focus on providing a bank account to each household, and encourage use of banking services among the bottom of the pyramid.

**NABARD: National Bank for Agriculture and Rural Development*

SIDBI: Small Industries Development Bank of India

NSFDC: National Scheduled Castes Finance and Development Corporation

In response to this ever-expanding definition of financial inclusion, banking models too, have undergone changes. The PSL regime has been constantly tweaked and tested vis-à-vis developments in the marketplace relating to agriculture and small enterprise, and the latest round of revision is underway.

Recommendations of the Internal Working Group Report on Revisiting Existing Priority Sector Guidelines

Agriculture and MSME

Key recommendations

- Extant categories of direct and indirect lending replaced with farm credit, agriculture infrastructure, and ancillary/on-lending activities
- Sub-target of 8% set for lending to small and marginal farmers
- PSL status extended to medium enterprises
- 7.5% target set for lending to micro enterprises

Export, education and housing finance

Key changes

- Export credit to count towards PSL portfolio; capped at 2% of ANBC
- Education loans up to 10 lakh INR to count towards PSL portfolio
- PSL limits modified for housing finance in metropolitan areas (28 lakh INR) and other areas (20 lakh INR)

Major introductions

Key changes

- Renewable energy finance added to PSL portfolio; specific limits defined
- Credit towards creating social infrastructure (healthcare facilities, schools etc.) building in Tier 2 to Tier 6 centres with population less than 1 lakh included within PSL portfolio

Priority sector lending certificates (PSLCs)

- Market instituted for PSLCs, which will specifically count towards various targets and sub-targets
- PSLCs to be issued for specific sectors and sub-sectors by banks, at market determined fee on an electronic platform
- Purchase of PSLC to give buyers the right to undershoot their PSL achievement equivalent to the stated amount of PSLC
- Not necessary for issuers to have underlying assets on their books at the time of issue of PSLC
- Not necessary for the buyers to have a shortfall in obligation of that amount during the time of purchase

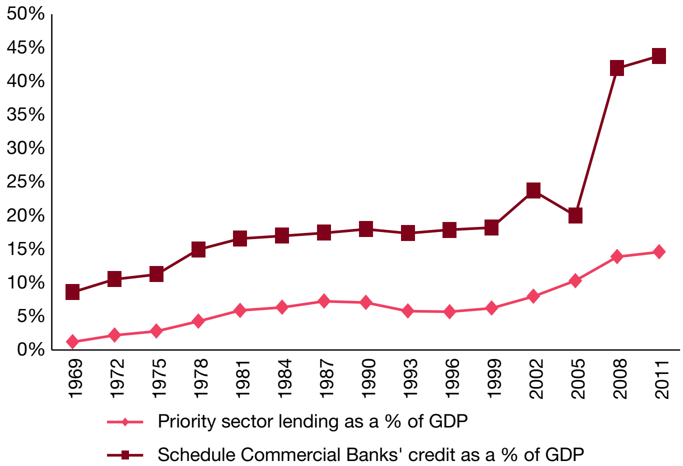
The mandate to set up 25% of total branches in unbanked rural areas meant that banks were pushed to redefine branch formats, and look for partnerships to widen reach at affordable costs. More recently, the growing focus on getting cash and monetary savings away from informal channels to traceable, electronic banking channels has translated to large-scale drives to equip every household in the country with a bank account. Overall, the mandate to service a client segment with ‘small value, high volume’ characteristics, has put pressure on banks to collaborate, innovate and use technology to drive volumes and control risks and costs.

These initiatives have not been without impact. Banking reach has expanded through banking correspondent (BC) models, along with a gradual increase in credit flow to various sections of the economy. Deposits too have been on a rise, and the number of people formally equipped with a bank account has improved substantially.

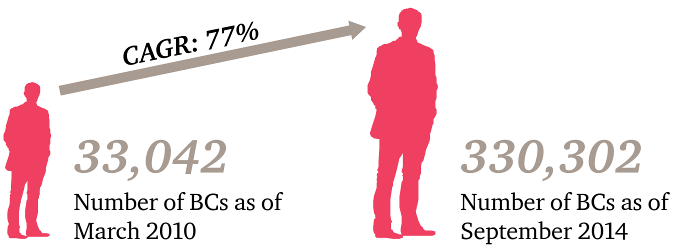
Spread of bank branches for scheduled commercial banks: Decadal growth

	Rural	Semi-urban	Urban	Metro
1980–81 to 1989–90	7.26%	3.55%	4.4%	4.63%
1990–91 to 1999–2000	-0.91%	3.3%	3.7%	6.24%
2000 – 01 to 2009-10	-0.37%	3.78%	5.77%	7.19%
Total	0.93%	2.67%	3.69%	4.55%
Bank branches as of March 2014	44,699	31,298	21,310	19,143

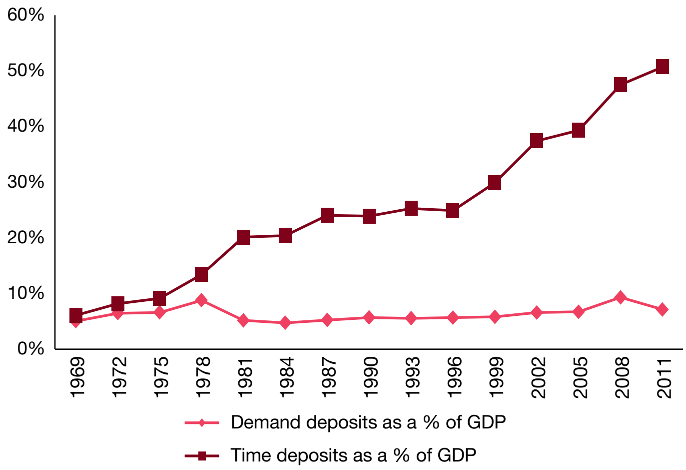
Deployment of aggregate and priority sector credit



Growth in banking outlets via business correspondents



Scheduled commercial banks' deposits as a % of GDP

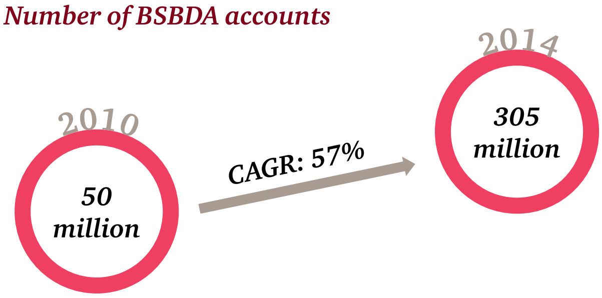


Access to bank accounts

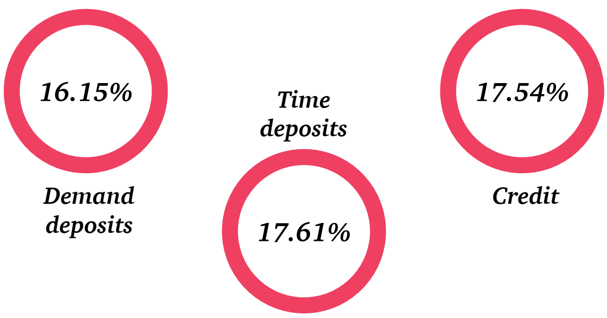
~ 296.1 million adults *had access to bank accounts in 2011*

~ 425 million adults *had access to bank accounts in 2014*

Number of BSBDA accounts



Total growth of deposits and credit of scheduled commercial banks (1980–2010)



Sources: RBI – Statistical tables relating to banks in India; RBI – Trends and progress of banking in India reports; Madras School of Economics research; World Bank Findex; Census 2011; Planning Commission; PwC analysis

Role of non-banks in furthering financial inclusion

Despite the progress made in expanding financial services, the impact has been uneven across the economy. India's banks, both public and private, have been fairly successful in providing financial and credit services to a rapidly urbanising population, especially post licensing of private sector banks and the competitive spirit generated by the entry of new banks. However, attempts at replicating this success for lower income segments of the economy have met with limited impact.

While in the context of India, it can be argued that entry barriers and a steadily growing economy have resulted in the lack of fierce innovation to grow the market to include the low-value consumer; there are other reasons that are more fundamental and apply to large banks across the world. In the competitive bid for capital deployment, high-value transaction and wallet share from client relationships that span across banking products have strategic advantage due to perceived cost efficiency and scalability.

Over time, banks get too 'invested' in technology, risk management and distribution architecture that has, at its core, clients with stable, periodic incomes, lending themselves to EMIs at predictable intervals. Low income households in urban and rural areas on the other hand, live in unpredictable environments, and are often exposed to shocks that are wholly unexpected. The large migrant economy is dominated by low-wage earners with dependents in rural areas that need to make frequent small transactions. Investing in the right technology, partnerships, distribution and risk architecture as well as management capacity, within the governance and compliance framework prescribed by regulators for banks has not yet become attractive for banks.

The financial lives of low-income households in India: A portrait of two casual labourers in Delhi

		Start amount (INR)	End amount (INR)	Share of total balances	Turnover (INR)	Share of portfolio turnover	Notes
Assets (entirely informal)	Remitting cash home	0.00	~2,357	100%	~2,357	100%	Only succeed in sending small sums back to their home village thrice over the year
	Total	0.00	~2,357	100%	~2,357	100%	
Liabilities (entirely informal)	Interest-free loan	~1,537	~1,691	16%	~2,204	8%	Four loans from friends in Delhi for living costs when out of work and to go back to the village
	Interest-bearing loan	0.00	~3,485	33%	~3,485	13%	Two loans taken from moneylenders in the village for family expenses and to meet living expenses in Delhi
	Wage advance	0.00	~1,025	10%	~1,025	4%	Wage advance was difficult to obtain on account of work insecurity
	Rent arrears	0.00	~2,050	19%	~7,278	28%	Difficulties in paying rent during five months of unemployment
	Shop credit	0.00	~2,280	22%	~12,346	47%	
	Total	~1,537	~10,533	100%	26,319	100%	
	Financial net worth	**-1,537**	**-8,175**	**Total flows**	**28,677**		

Source: Portfolios of the Poor, 2010

In response to this demand-supply gap, the RBI evolved various strategies to alter banking mechanisms and make them more suited to the poor. For instance, the BC system was set up in 2006, which allowed third-party agents to contract with a bank and provide basic banking services to local inhabitants. Coupled with the introduction of a basic savings bank deposit account (BSBDA), which had no minimum balance requirement and very low charges, theoretically at least, the banking model was modified enough to meet the demands of the poor.

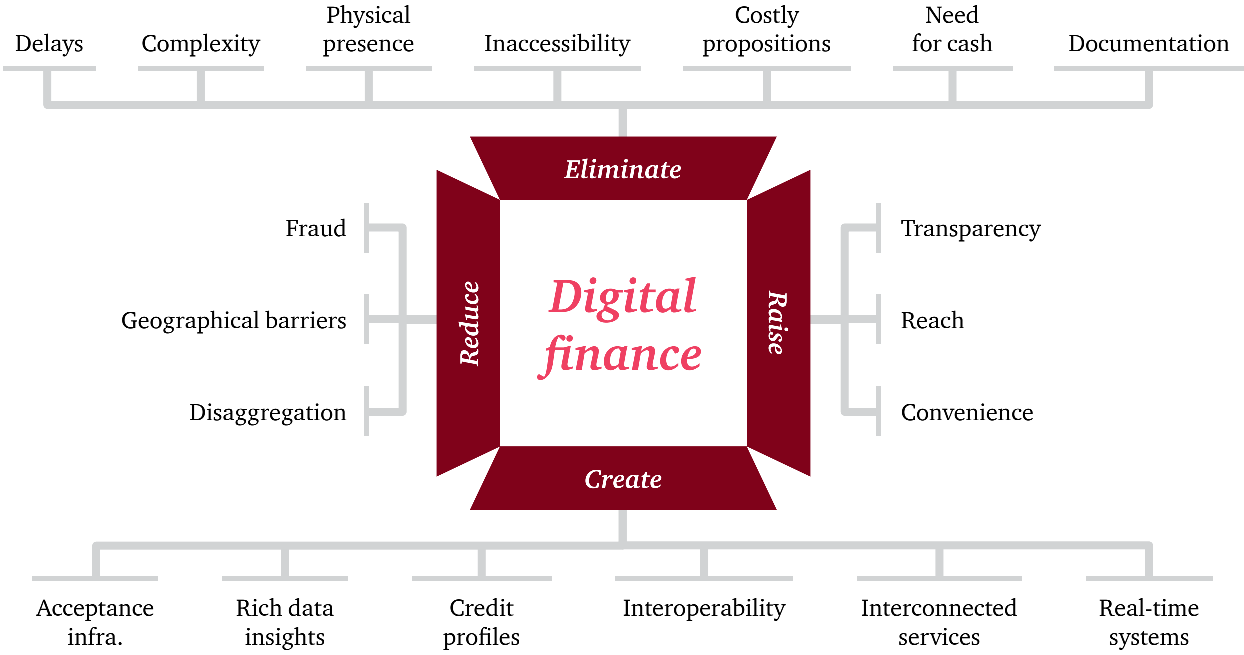
Nearly a decade after the introduction of these measures, banks have been able to deploy 330,302 BCs across the country, and have facilitated the opening of more than 300 million BSBDAs. However, an average of 1.45 transactions per account, per year suggests that a large number of these accounts remain dormant.[1] This lack of account activity has in turn, impacted BC model viability. Given that BCs are paid commissions per transaction, account dormancy has led to lower incomes and a churn rate as high as 40% among the BCs.[2]

Even if these last-mile delivery problems were addressed, there still remains the fact that banking products in themselves are not designed to meet the demands of the poor. This is reflected in large segments of the population continuing to use informal mechanisms to conclude transactions and avail savings and loan facilities. For instance, close to 57% of the domestic migrants in the country use informal payment channels, such as the *hawala* courier system, to remit monies back to their families in rural areas. This is despite the fact that using a banking channel would have reduced costs by nearly 50%.[3] Furthermore, several studies have pointed out that large sections of the poor often resort to informal mechanisms for savings, on account of the rigid nature of banking products which does not accommodate small value savings, sometimes as low as 5 INR.[4]

This continued preference for highly risky and often expensive channels serves to highlight the fact that banks, although safe, do not offer the flexibility or the efficiency embodied by informal service providers. On their part, low-income households by choosing to opt for informal financial services, expose themselves to considerable risks (as evidenced by recent savings and lending club scams), but are assured of access to required funds at any time, any day of the year.

Non-banking technology and financial services companies on the other hand, have been able to not just understand core customer segments, but also anticipate needs and respond swiftly with products and services that improved ease, widened access, and managed risks, to build a sustainable and profitable business proposition. For instance, non-banking telecom and technology prepaid payment instrument (PPI) issuers have been extremely agile in evolving their operational models around average Indian customers' preference for 'assisted channel' modes of transacting. Similarly, microfinance institutions have been able to successfully tailor small-value, frequent loan products and couple credit with small-value savings to encourage retention, and loyalty among their customer base. Non-banking financial companies too, have differentiated to varying degrees and have focussed on servicing specific business segments of the economy, ranging from truck loans, to vehicle finance for agriculture, to small and micro businesses.

Technology companies are able to find new market spaces within the financial services landscape and lower costs of delivery



Simultaneously, while developing these business propositions, non-banking companies have been able to adopt and leverage technology for various purposes, including the collection of loan repayments via mobile wallets, analyse data generated from transactions, and build holistic credit profiles of their customers. In doing so, these companies have demonstrated that building digital into financial products and everyday service activities entails benefits for the entire ecosystem, right from customers (who are technologically agile and are able to see a clear time-saving, cost-efficient proposition) to the companies themselves (who build engaging relationships, and are able to design future strategies based on data, and feedback generated by customers).

Clearly, the financial services digital revolution is already taking roots in some of the remotest and underserved parts of the country, albeit in a small and fragmented way. It remains to be seen how full-scale, universal banks will leverage the digital opportunity for driving financial inclusion on a larger scale, across the country.

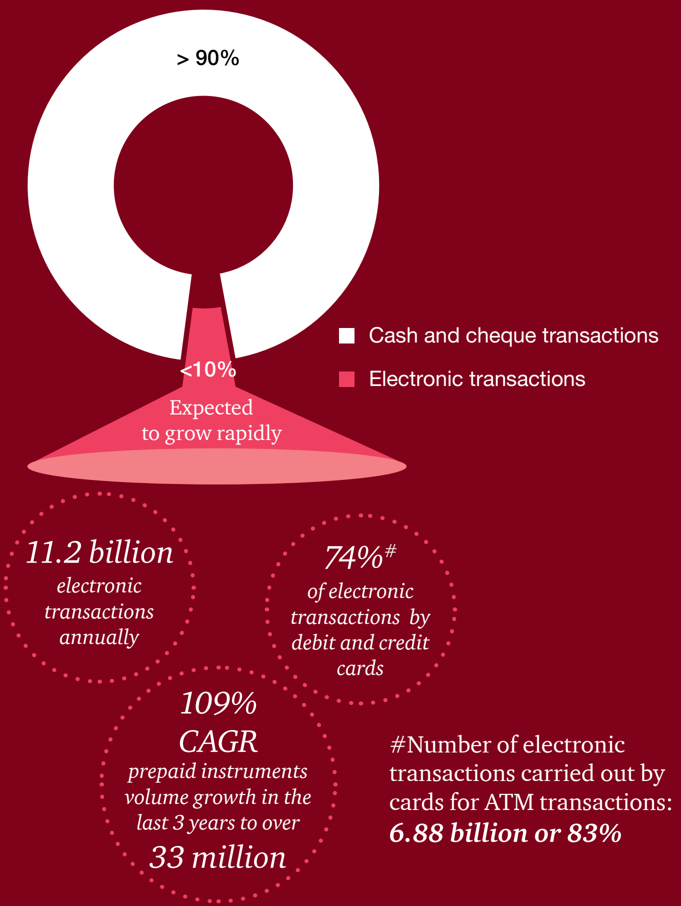
The promise of digital

Digital as the equaliser

India has traditionally been a cash-dominated economy, with cash accounting for more than 90%[5] of the volume of payments, and 68% of the value of consumer payments,[6] lagging behind its emerging market counterparts for a variety of reasons. Avoidance of taxes, low access to formal financial services and patchy digital infrastructure and connectivity, have ensured an ecosystem in which cash has thrived.

However, after the introduction of the Payments and Settlement Systems Act in 2007, the focus on reducing cash in the system has led to many market and regulatory developments that have actively sought to change consumer behaviour with respect to payments, creating the promise of less-cash ecosystem, powered by the digital proposition. Indeed, digital has equalised access and shifted the conversation away from the traditional rich/poor, urban/rural, educated/uneducated dichotomies, towards factors such as improving internet speeds, providing local-language content and making back-end infrastructure available.

Composition of transactions in the Indian economy



#Number of electronic transactions carried out by cards for ATM transactions: ***6.88 billion or 83%***

Sources: RBI, Ministry of Finance, Government of India, Planning Commission, PwC analysis

Net neutrality: The debate around the internet as a utility

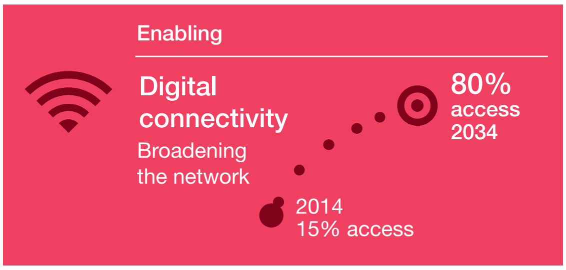
Network neutrality is the principle that all internet traffic should be treated equally. Recent policy debates globally and in India have invariably centred on whether internet should be treated as a utility or a luxury service with entry barriers. Net neutrality champions enjoyed a recent win when the US government ruled that internet ought to be treated as a utility and be freely accessible by all. In India specifically, TRAI along with the government, is currently deliberating on how the internet ought to be regulated in the country.

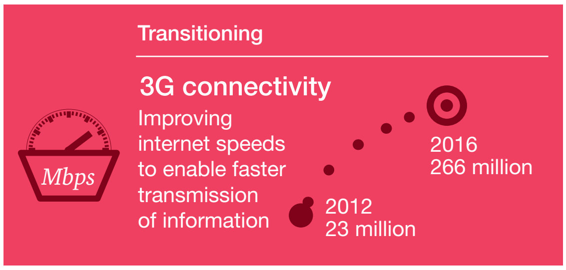
These trends are just another indication of how important and pervasive digital has become in our day to day lives, be it communication, information or use of financial services. Banks will have to be open proponents of net neutrality as a non – open internet may lead to malpractices in the industry and not result in an open playing field.

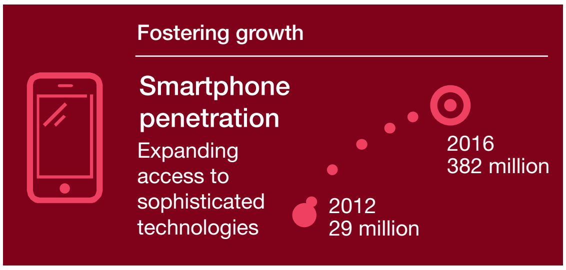
Indian citizens are increasingly becoming technologically agile. As per PwC's report *Future of India: The Winning Leap*, rural internet access is growing by 58% annually.[7] But what is truly remarkable is that being well-educated is no longer a prerequisite for being an active digital user. The report cited that while about 200 million Indians have studied beyond Standard VIII in schools, over 250 million Indians accessed the internet for various purposes.

These trends and developments bode well for India's future digital connectivity. The country is already the third largest market by internet users in the world, after the US and China, and is likely to overtake the US by 2015. India's demographics, with two-third of its population being under the age of 35, and changing consumer lifestyles seeking convenience, choice, better price and greater flexibility are growth drivers for internet-based businesses. The growth of such businesses is closely linked with the development of the digital payment infrastructure required to access their goods and services.

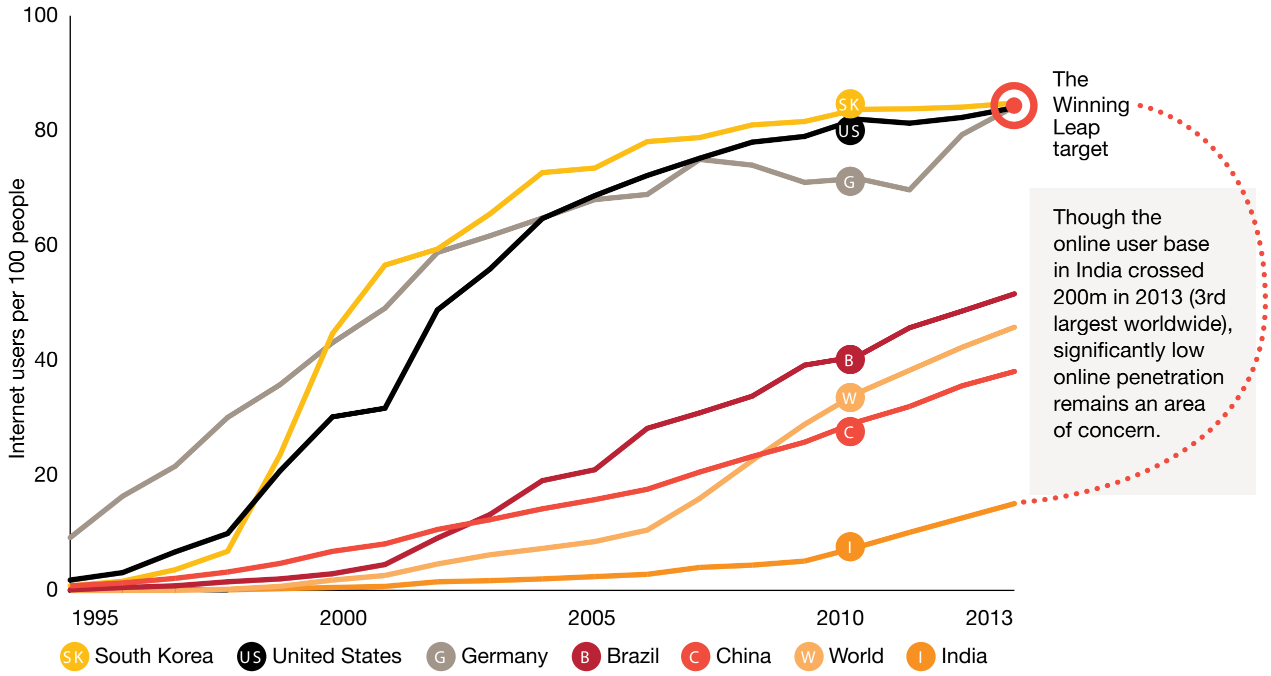
Leapfrogging through digital connectivity: Taking the winning leap to expand access and promote inclusive growth







Growth in internet usage and potential



Source: World Bank

Sources: Future of India – The Winning Leap, PwC India

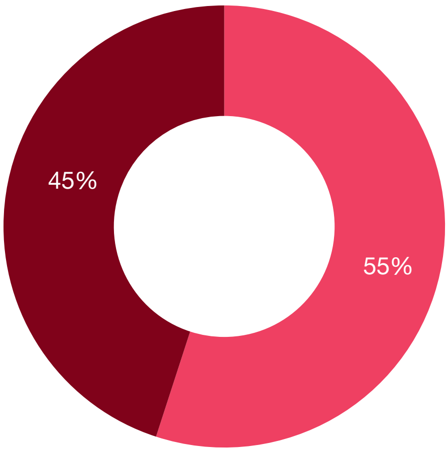
An important observation regarding the use of internet in India is that desktop based internet has largely been bypassed, with the preferred mode now being mobile. The telecom revolution has made mobiles commonplace. Currently, 74% of the population has mobile phones. Spurred by these developments, mobile payment volumes have also registered a steady rise. A recent study on e-commerce in India by Accel Partners estimated that shopping through mobile phones grew 800% in 2013, and is expected to clock a compound annual growth rate (CAGR) of 150% by 2016.[8]

The shift towards digital has not just been confined to social networking and browsing for information (albeit these functions continue to dominate), but has also slowly trickled into accessing basic payment and financial services. A recent PwC report *Bridging the gap with digital*, tracked digital trends prevalent across financial services in India, and found that 'advancements in the field of mobile technology and increased internet penetration have led to an evolution in the retail financial management space. These trends have resulted in the mushrooming of new online platforms and services, including those that provide aggregated views of financial products available as well as 360-degree perspectives of personal finances.'[9] Consumers are increasingly accessing internet and mobile banking channels too, to perform basic funds transfer, bill payment and balance check transactions. With the projected proliferation of low-cost smartphones and 3G access, the usage of alternate channels is expected to grow further, as consumers increasingly make the transition to digital.

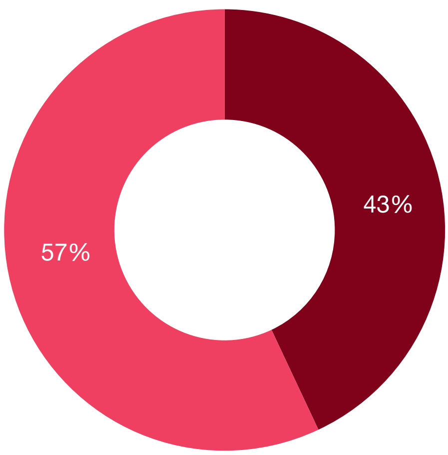
In their turn, banks are growing increasingly aware of the importance of aligning their strategies with the conversation around digital, and are at different stages of thinking about making the transition to digital, themselves. The PwC global survey on digital banking conducted in 2013,[10] found that a little less than half of the banks surveyed routinely discuss issues and strategies related to digital channels during their board meetings. Furthermore, bank CEOs anticipated that the number of customers accessing banking services via traditional branch channels will decline by over 25% by 2016, and the number of customers, using mobile channels to conduct transactions will jump by 64%, during the same time period.

PwC Retail Banking 2020 and Global Digital Banking Survey Insights

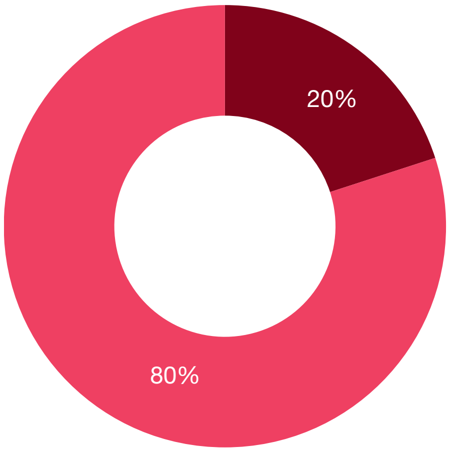
Globally, 55% of bank executives view non-traditional players as threats to traditional banks



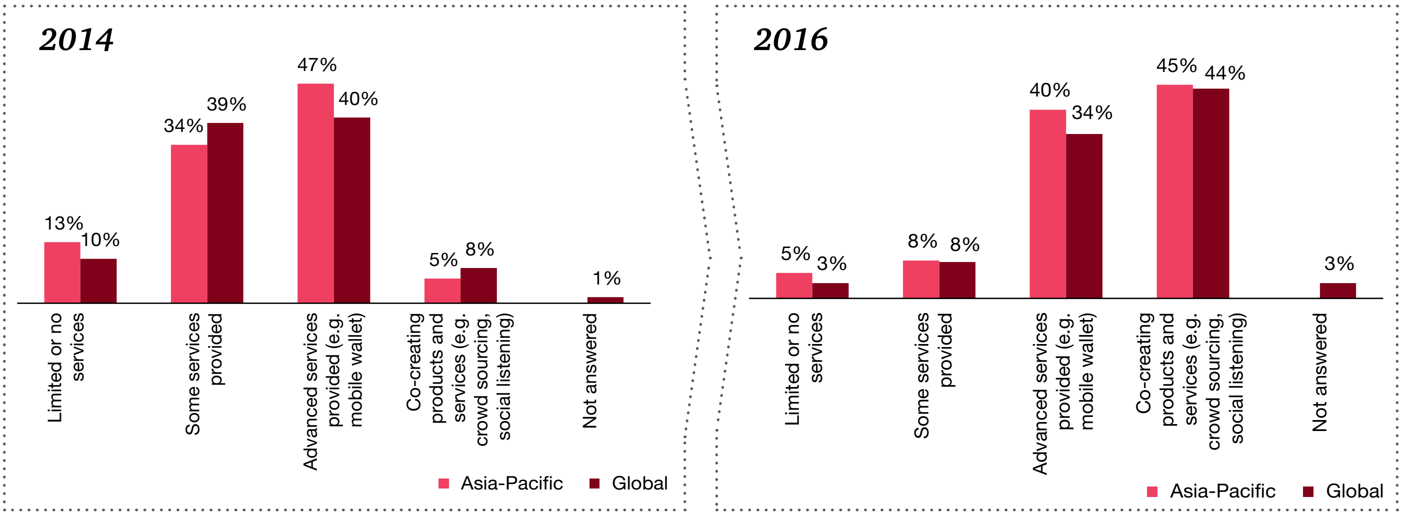
In Asia-Pacific however, >40% of bank executives view non-traditional players as an opportunity



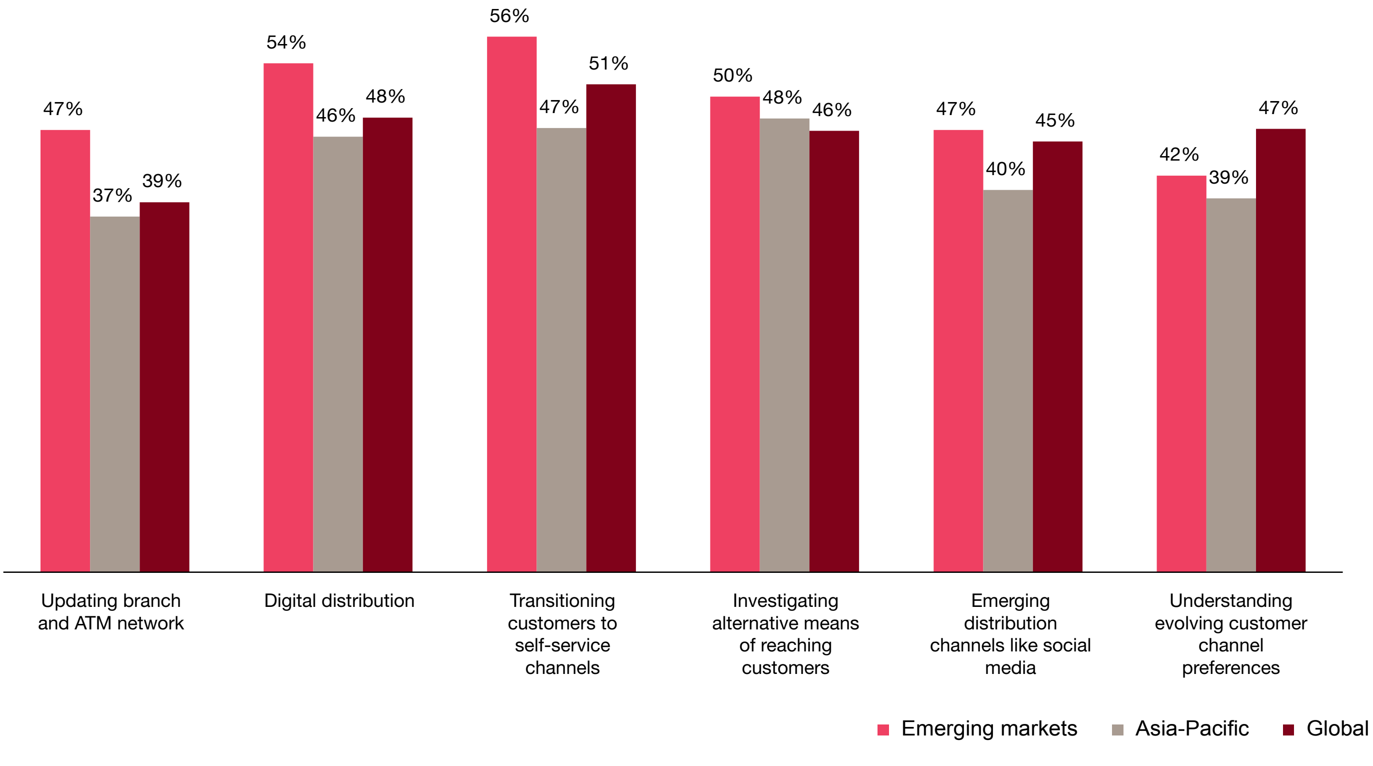
Globally, only 20% of bank executives feel well-prepared for the future



How would you describe your organisation's overall approach to digital channel strategy around mobile banking and social media?

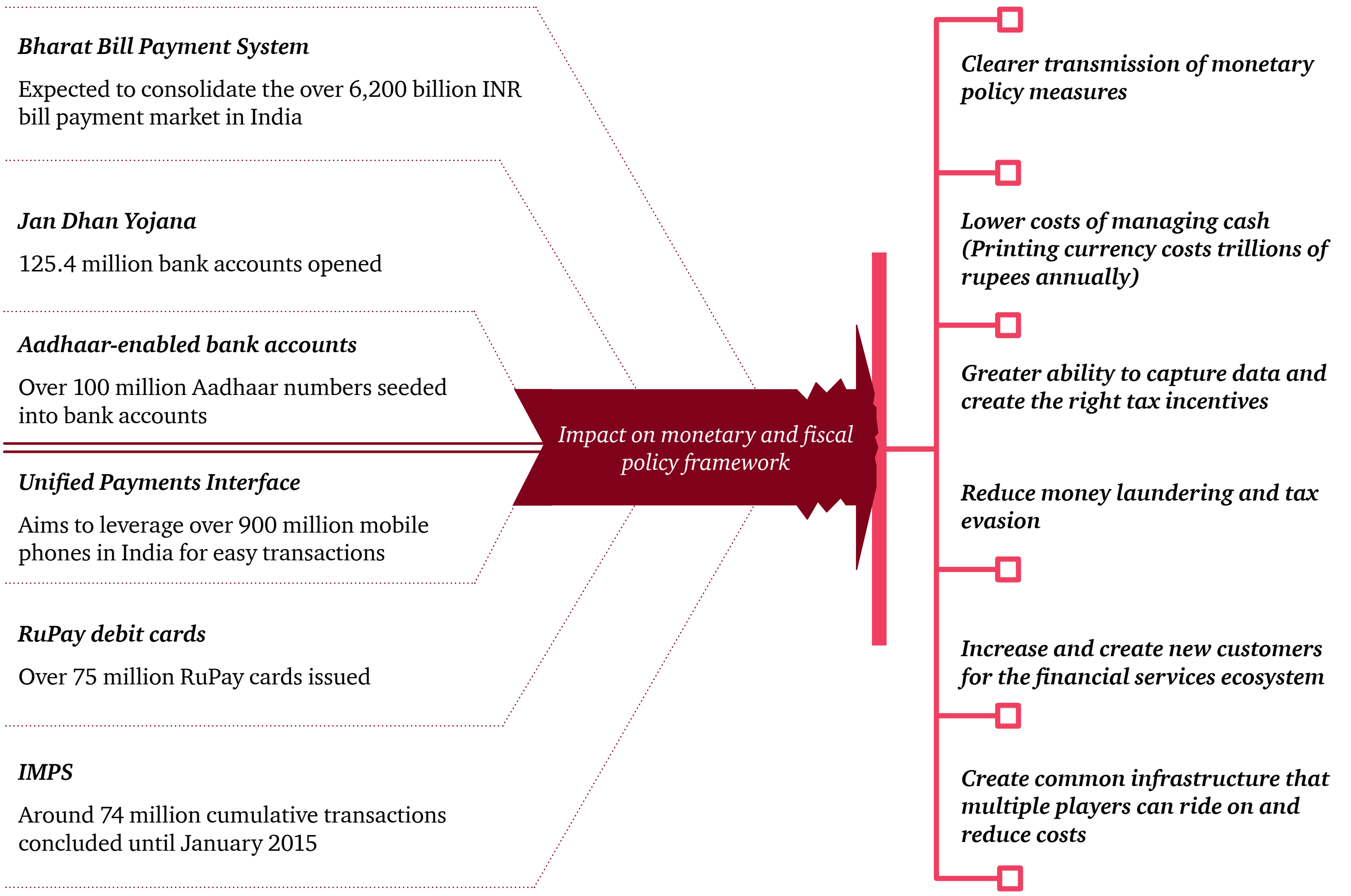


What does your organisation plan to do within the next five years to be better prepared for the redesign of your distribution model?



Policy developments

Over the last decade, policymakers and regulators in India have invested heavily in setting up the requisite infrastructure to grow digital payments. Investments in basic infrastructure such as centralised payment systems (RTGS, NEFT, IMPS), as well as more recent initiatives such as unique identification using Aadhaar, ubiquitous access to banking and insurance delivered via the Jan Dhan Yojana, universal access to internet via the National Optic Fibre Network plan (NOFN) and the Digital India campaign are expected to form the basis of a digitally-enabled India.



Sources: NPCI, RBI, UIDAI, Ministry of Finance, media reports

Recent policy initiatives

Aadhaar: Unique Identification Authority of India

The Unique Identification Authority of India (UIDAI) was established in January 2009, as an attached office of the Planning Commission, Government of India, to primarily issue a unique identity number to all Indian residents which would be backed by robust processes to eliminate fakes and duplicate identities from the system, and provide cost-effective and efficient means of authentication. The fundamental purpose of UID is to offer a unique identity to a resident of India, which can be utilised throughout the individual's lifetime, to avail of various financial, public utility and other services. It however, does not serve as a proof of citizenship.

The policy regime around the UIDAI however, has been shaky to say the least. The official National Identification Authority of India Bill, which would have provided legal backing to the UIDAI, is yet to be passed by Parliament and enacted into law. The Supreme Court order of 2013, which stated that Aadhaar linkage to bank accounts was not mandatory to receive welfare benefits, has also impacted adoption to some degree. Given the possibilities offered by the UIDAI's authentication platform to ease existing bottlenecks in accessing financial services (such as e-KYC), it is imperative that the UIDAI receive some legal stature to provide for future certainty of the project.

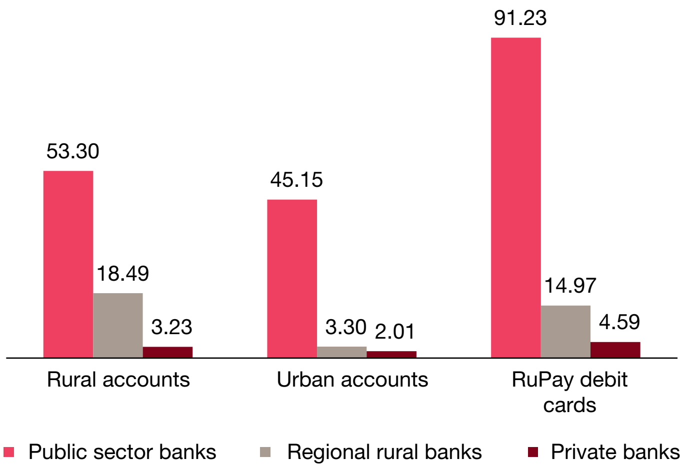
Pradhan Mantri Jan Dhan Yojana

The Prime Minister's Jan Dhan Yojana (JDY) is the most recent effort in a spate of financial inclusion programmes introduced over the past decade. The JDY aims to provide at least one basic banking account equipped with a RuPay debit card to all households. Further, these accounts will have an inbuilt accident insurance cover up to 100,000 INR and a life insurance cover of up to 30,000 INR. Households that exhibit 'satisfactory' usage of these accounts for a minimum period of six months will be eligible for availing an overdraft facility worth 5,000 INR.

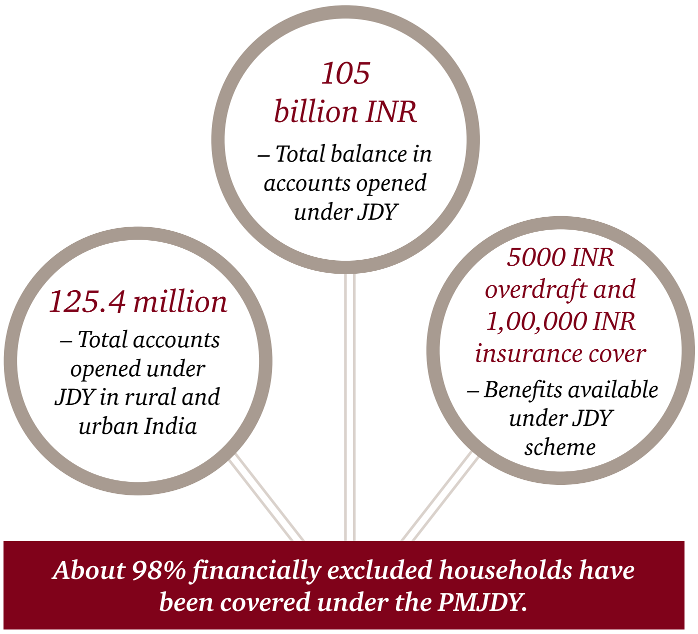
By consolidating the basic financial services within one framework, the JDY programme presents a worthier case than any of the previous financial inclusion schemes pursued by various governments. Although 125.4 million households have been equipped with an account under the JDY programme, more than 84 million accounts lie with zero balances, highlighting the need to institute incentive mechanisms to encourage the usage of formal banking services. The recent move by the government to channel welfare benefits directly to recipients' bank accounts should generate some account activity. Furthermore, the committee appointed by the Finance Ministry to recommend measures to encourage electronic payments usage, and discourage cash transactions, may also result in an incentive structure being set up, which may directly impact the usage of RuPay debit cards issued under the JDY scheme.

Jan Dhan Yojana

Accounts opened and RuPay cards issued under PMJDY (In millions; As of 31 January 2015)



Source: Pradhan Mantri Jan Dhan Yojana website



Digital India Campaign and Digital Lockers

The government, in August 2014, announced a planned investment of 1,330 billion INR in the Digital India project, which aims to provide universal mobile phone access, rural broadband in 250,000 villages, wi-fi hotspots in every city with a population of 1 million plus, and a smartphone in the hands of every citizen by 2020. The government plans to use the NOFN project to deliver e-services in areas such as health, education in every nook and corner of the country. The network, which is positioned to form the backbone of the Digital India programme, will be deployed only at the gram panchayat level. Reaching the end consumer, homes, schools, hospitals and other institutions, may require wireless technology, especially in hard-to-reach areas.

Amongst an array of customer-centric initiatives launched by the government under the Digital India scheme, two key initiatives are Digital Lockers and e-signatures. *DigiLockers* will allow citizens to store all their certificates and official documents, including birth certificates, university degrees and income tax documents, in a digital format online and access them using their Aadhaar numbers. Users can log into their *DigiLocker* by providing their Aadhaar number, enabling them to share the link of a cloud folder having digital copies of verified certificates, instead of physical copies of documents. Additionally, the Aadhaar linked e-signatures project will provide greater security to online documents, by allowing an individual to digitally sign electronic versions of documents which would otherwise require dongles for authentication.

The scheme has generated interest among leading internet technology and e-commerce giants, including Google, Facebook, Amazon and eBay, who have all shown interest to expand their operations in the e-commerce space and participate in the government's Digital India programme.

By putting in place the policy and digital infrastructure roadmap, the government has taken a step forward in the direction of enabling digital access to financial and other services. The private sector, including banks, non-banks and other financial services players have responded by opening a large number of accounts, connecting to networks such as the UIDAI and coming up with unorthodox solutions to lower costs and increase penetration. However, much remains to be done. A lot of the roadmap is uncertain due to legal or regulatory uncertainties. There have been pushbacks on Aadhaar being the mandatory requirement for the delivery of government services. E-commerce is periodically discussed in the context of potential regulation and investment in any kind of stored value business by an offshore company and is subject to unreasonably high minimum capitalisation. Availability of good quality data remains a challenge, despite efforts made by the central and state governments as well as the central bank on collecting and publishing data. While digital holds the promise of solving traditionally impossible puzzles of low-cost service delivery and risk mitigation, it also poses new challenges for authorities dealing with cross-border controls, licensing, state and central taxes, by blurring the lines of jurisdiction. A more collaborative approach between service providers, policymakers and financial services companies will be required to put in place the right digital infrastructure for tomorrow's financial services for all.

The Digital India dream

- The Digital India programme is a transformed version of the already running National e-Governance Plan.
- The project aims to provide thrust to nine pillars identified as growth areas.
- These pillars include broadband highways, everywhere mobile connectivity, Public Internet Access Programme, e-Governance, e-Kranti (which aims to give electronic delivery of services), information for all, electronics manufacturing, IT for jobs and early harvest programmes.

Source: Official policy documents

7.9 billion INR
Wi-Fi in 400 universities and public places in 25 cities by June 2015

42,300
Villages to be provided universal mobile access by 2018

320 billion INR
Cost of establishing rural broadband in 2.5 lakh villages by March 2017

10 million
persons in towns and villages provided with IT services or business training

1,130 billion INR ***Total investment in Digital India programme***

Digital banking
The new paradigm

Digital banking offers ubiquity, ease, low cost and innovation

Digital in India holds the potential to transform the financial inclusion landscape the same way mobile phones changed the face of telecom connectivity in the last decade, sidestepping five decades of slow progress using traditional media. ***With its unique attributes such as low cost, ease of use, scalability and ubiquity, digital banking, when aligned with the right business model in an enabling ecosystem, can truly accelerate the integration of the unbanked segments into the mainstream.***

Historically, the only avenue banks have looked upon to increase their reach to the rural and the underbanked is by opening more branches. However, this model was fraught with high capital expenditure as well as ongoing cost to serve, making it highly uneconomical to build scale rapidly. Digital, in tandem with the recent BC model, allows banks to significantly drive down the cost of acquisition and cost to serve, and widen its reach far and wide, making the bank ubiquitous.

At the other end, digital has also substantially reduced entry barriers in the financial services industry, making it easier for players from other industries to enter specific segments of the banking value chain. Digital wallet is a prime example of non-financial services players entering the fray and challenging the status quo through differentiated offerings. Traditional banks are therefore being forced to alter their strategy and focus on innovation in the digital space to remain relevant and competitive.

The intuitive nature and ease of use of digital is another reason why we should look to digital for revolutionising the inclusion story as the adoption of digital has seen an unprecedented pace in many parts of the world.

The key takeaway is that digital is conducive to re-orienting the banking operating model and exponentially condensing the time required for financial inclusion, making the road for truly anytime, anywhere banking for all.

Additionally, there are a few more ways in which digital creates value.

- ***Digital technology integrates the entire ecosystem:*** Stakeholders include customers, service providers and employees. This ranges from interacting online, payment solutions to providing functionality on the mobile and bank's presence on social media.
- ***Digital can transform the decision-making framework of banks by leveraging big data and advanced analytics:*** Analytics are being utilised by most banks in many functionalities viz. product pricing, new product design, risk assessment, sales and, in particular, giving the customer a great experience.
- ***Digital allows the opportunity for ceaseless innovation at low investment:*** From products to process to delivery, digital offers a low-cost framework to build, test and roll out new innovations, sometimes adding incrementally new value, while occasionally bringing disruptive new models to the fore.

Globally, digital has been part of the solution

During the last decade, digital technology has rapidly evolved–big data, cloud computing, smartphones and high bandwidth are all now commonplace. Analogies with other industries such as entertainment and print media, suggest that digital will drive huge shifts in industry value–compressing revenues, enabling new attackers, redefining service and crippling the laggards.

Globally, banks and financial institutions that foster a culture of innovation have rapidly incorporated digital starting with large investments in transaction migration. Subsequently, web and mobile based technologies have been upgraded with R&D investments in innovation centres, focussed around digital. Additionally, banks have realised that for success in the digital world, they must try and mirror the culture of a digitally native company to nurture sustainable digital innovation.

Some of the digital trends observed among global banks to cater to ever-changing business dynamics and customer preferences are:

- Big data technology capability is being nurtured and boosted to successfully tap large customer data.
- Investments in analytics is a focus area for most banks as it allows a deep understanding of customer behaviour, improves fraud and risk management capabilities, ensures greater compliance and enhances productivity.
- Banks have increased capital expenditure on social, mobile, analytics and cloud (SMAC) technologies.
- Banks are looking at phasing out legacy systems that are not agile but ensuring that core banking systems are not impacted.

Global players have adopted varied e-payment models to respond to growing customer affinity towards online transactions

	Bank of America	*Commonwealth Bank*	*Fidor Bank*
Case overview	Bank of America offers a combination of website hosting and merchant solution.	The bank assists with full software development kit and technical support to design and build payment hub for merchant's website.	Fidor Bank has entered into partnerships with a host of digital players and platforms.
Product overview	**Small business merchant solution** • Tools to create, customise and add products to online store • Online automated application process, for a Bank of America Merchant Services account, to accept payments online • Secure online credit card processing, customisable shopping cart and checkout • Store design solutions with database for product catalogue development and inventory management system • Site analytics solution **Small business web hosting** • Domain name, business email and site design with 24/7 phone, email and online support	**BPOINT** • Enables merchants to integrate payment solutions (online, phone, debit/credit cards) and reconcile process with the business account • Available as a virtual terminal for single and batch processing as well as for mobile platform **CommWeb** • Payment gateway solution for payments acceptance service for online stores	**Real-time payments settlement** • Integrated with Ripple real-time global settlement protocol • Enabled real-time settlement in any currency for inter-bank payments between German Banks and other countries • Partnership with Hyperwallet for global payments capabilities **Banking with friends** • Launched innovative social media interaction based products • FidorPay offers interest rate based on savings account determined by number of likes on users' Facebook page **Crowdfunding** • Capabilities from P2P lending through crowdfunding

Global players have adopted varied direct banking channels to better serve clients and gain competitive edge

	ING Direct	*First Direct*	*RaboDirect*
Case overview	ING Direct is a branchless direct bank with operations in over 40 countries. It offers services over web, phone, ATM and by mall.	First Direct is a telephone and internet based retail bank part of HSBC Bank. Direct bank has operations in UK and Scotland.	RaboDirect digital bank offering by Rabobank in Europe and Australia
Product overview	**Orange Everyday Banking** • Free ATM usage, cash back, zero monthly fee and higher saving rates on vanilla saving bank account **payWave** • Enables cards provide a quick and convenient way to pay for payments less then 100 dollars by just waving card in front of payWave reader and transaction is done **Living Super** • Allows customers to choose from a variety of insurance and investment products like cash or term deposits, shares mutual funds to invest money • Investment products offer high interest rates and no-fee saving account	**Text message based banking** • Enables customers to receive transaction alerts, mini statements by SMS **First Directory** • Additional services that can be added to current account holders service for annual travel insurance, mobile phone insurance, motor breakdown insurance, flexible mortgage loans and stock broking	**Savings product** • Range of products to suit different saving needs, offering better saving rates compared to market rates **Financial Health Barometer** • Targetted at Gen Y, promoting investment products through social media, encouraging them to save for retirement and other events in life

Need to embrace digital for sustainability

Although banks and financial services companies were at the forefront of using technology to improve productivity, service quality and reduce costs, for most existing banks, legacy platforms have become the most significant barriers to innovation and keeping up with rapid pace of technology evolution.

Often, there are a small number of companies and professionals proficient enough to understand and figure out how to embrace new technologies. The gap lies in the fact that the people driving technological innovations at banks have grown up on technology that is different from what is prevalent in today's times.

Banks will have to make changes to the way they operate, including making the operating model agile so as to easily adapt to changing business dynamics. Some of the key measures banks may need to take are as follows:

Every bank should be a direct bank. Branch banking needs to undergo significant transformation. As technology enables every aspect of banking to go online, and as cash usage falls, traditional branches will no longer be necessary. Given their high fixed cost, branches will need to become dramatically more productive, or significantly less costly. Banks have already reduced staff levels, closed the most uneconomic branches and have started experimenting with new branch concepts. These trends need to be accelerated, as customer expectations and behaviours evolve. Branches may remain, but need to take many forms, from flagship information, advisory and engagement hubs (offering education, financial advice, full service capabilities and community offerings) to smart kiosks (offering service, sales, cash and video contact with a range of specialists).

Leaders need to rapidly improve their footprints, reducing branch size and costs, introducing new models and migrating transactions to low-touch digital channels. Digital capabilities need to improve, so that branch service officers and bank customers use the same platforms, with the same look and feel. The human touch must be available, just much more through digital channels. Banks that will lag behind this trend will start to struggle, due to structurally uncompetitive economics.

Competitive reach will no longer be determined by branch networks, rather by technology and advertising budgets. When every aspect of banking can be done online, a bank's target market and competitive arena will no longer be defined by its physical footprint, but by its technology, regulatory boundaries and marketing budget. New entrants will no longer have their pace of expansion constrained by the availability of acquisition targets and prime retail locations. New entrants can grow rapidly, potentially creating dozens of new competitors and re-fragmenting the landscape. Further, there will be more competition from nonbank players. Branding and marketing will thus become more important than ever before.

Surviving banks will be low-cost producers, with nearly every product profitable on a stand-alone basis. Conventional wisdom suggests banks that engage certain customer segments holistically with targeted offerings, advice and solutions will maintain high margins. However, leveraging digital, new entrants will able to offer similar high-value services, unencumbered by the massive legacy cost bases of traditional banks. So, existing banks will need to restructure their cost base, while at the same time investing in innovation around areas such as analytics and delivery. As the pain of switching providers continues to decrease, customers will become even more mobile, thus intensifying competition across all segments.

Every traditional bank needs to become the lowest cost producer, and (nearly) every product needs to have acceptable returns. Moreover, the cost may drop by up to 50% on a per transaction basis in the next few years, as banks redesign their processes and systems for the digital age, structurally changing their cost base and instituting more aggressive ongoing cost management processes.

The smart device will grow in importance, and take its place alongside cards as the primary medium for consumer payment. The customer should be able to select between account providers (e.g. credit providers, deposit accounts) or locally stored value. Acceptance needs to be universal (with common cross-network payment protocols) and value-transfer instant. Customers need to be able to make contact payments or send funds to any other unique identifier (e.g. Aadhaar number, phone number, bank account, credit card number, etc.). Transfers of locally stored value need to be traceable, removing the last powerful incentives to use cash–tax avoidance. Cards will continue remain popular, as they are quick and effective, allowing easy compartmentalisation of spend and don't run out of power.

Biometrics (e.g. fingerprints, voice recognition) need to become commonplace in transaction authorisation, but also remain tied to a replaceable physical device (e.g. smartphone). Biometrics are unique and unchanging, yet can be captured and replicated, so the two-factor authentication (e.g. my fingerprint and my phone) should always be part of the process.

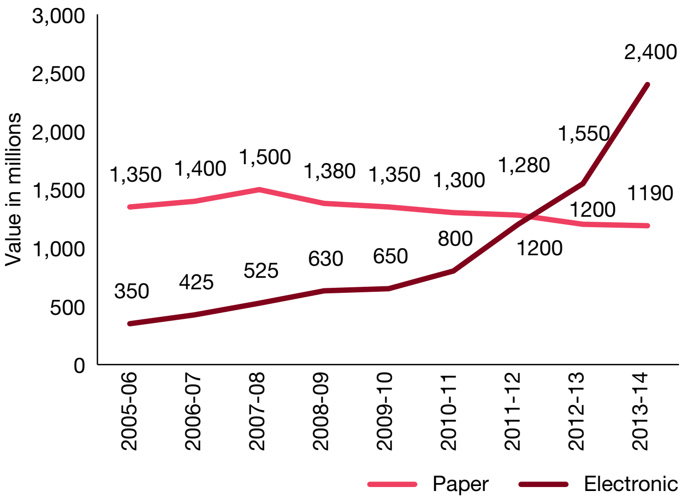
Industry utilities will arise in nearly every area of infrastructure (similar to the US 'bank in a box' vendors such as Fiserv), as cost pressures and technological advances force banks to focus on customer service and risk management, rather than the development of undifferentiated and expensive processing and payments infrastructures. A number of large banks with processing scale and efficiency will commercialise all or part of their operations and technology departments and offer services to other banks. Existing technology service providers can significantly expand their offering and enter complementary services for the banks. Likely examples of processes provided by utilities could include customer authentication, fraud checking, payments' processing, basic account infrastructure and KYC processing.

The experience so far…

When it comes to financial inclusion via digital technologies, so far India punches well below its weight. While a large number of everyday banking services are facilitated by banks today, including payment transactions, information such as balances and statements, invoicing and remittances, banks still need to figure out an end-to-end digital account process that allows customers to open accounts and conduct service transactions for all products–deposit, credit and payments. The digital journey is at its first junction, and the path ahead will be led by those willing to embrace innovation to create new operating models.

Internet banking has definitely been the flag bearer for banks with a significantly large number of transactions now taking place online. The share of paper-based instruments in the volume of total non-cash transactions declined to 34.5% during FY14. RTGS transactions continue to grow, with FY14 clocking a growth rate of 18.4% in volume and 8.5% in value. The retail electronic segment registered a growth of ~60% in volume and 50% in value. NEFT volume and value transactions grew at 68% and 51% respectively.

Trends in usage of paper and electronic instruments



Source: RBI, DBIE

Non-cash instruments also showed a significant growth rate in usage with the number of transactions growing by 28.5% and 25.3% for debit and credit cards, respectively. With the high level of penetration of mobile phones, the potential to use this device is significant. As of FY14, there are only 40 million mobile banking customers, which underscores the need for banks to tap this digital mode.

Year	Users (mn)	Volume (mn)	Value (bn INR)
2011-12	12.96	25.56	18.21
2012-13	22.51	53.31	59.9
2013-14	35.53	94.71	224.38

Source: RBI

Banks have invested in self-service machines for daily, small-ticket transactions. The penetration currently is low but with the high adoption rate of technology among the new demography, it is expected to rise significantly faster than the time taken for ATM adoption.

ATMs, kiosks and banking to internet enabled customers have been correlated to the penetration of digital banking services in India. Banks have enabled ATM kiosks to complete a number of transactions that previously required customers to visit branches. From the customer's perspective, it's a win-win. There is now access to banking facilities without having to go to a branch as well as the benefit of undertaking the transactions whenever one wants to without being bound by the bank's timings.

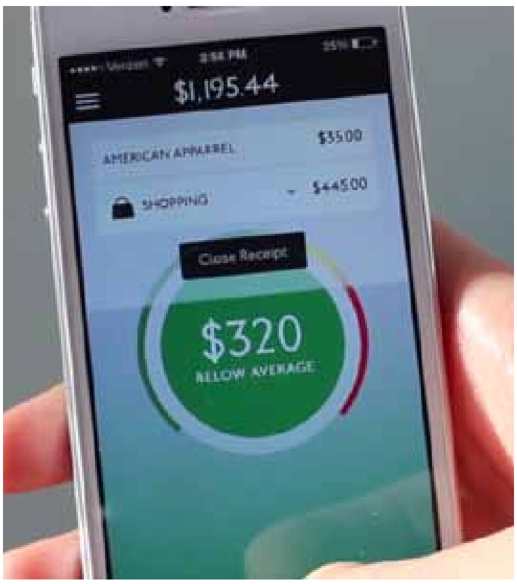
A recent innovation around the digital space for banks has been the introduction of tablets for field agents that allow them to open customer accounts instantly. Last year, a leading nationalised bank opened a 'digital branch' i.e. a branch that relies only on technology and mobile devices to engage customers. All activities including bank account opening, product understanding, banking transactions are done using technology without the intervention of staff.

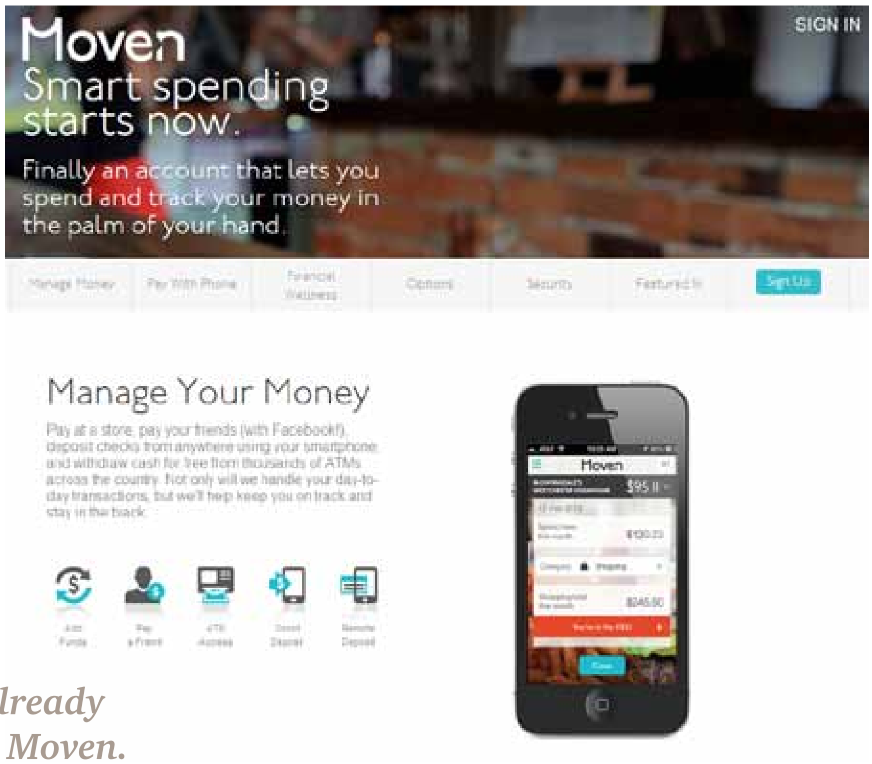
Emerging customer needs have resulted in the development of many online services. Yet, the experience continues to be fragmented. Customers have to manage multiple log-ins, various on-boarding procedures and allied infrastructure if they are to use all the online products and tools available to them. Banks will have to put in a significant effort to change this quickly and integrate their systems across all platforms, and give customers anytime, anywhere, single-point access for all services.

Moven's mobile-centric banking app provides real time spending insights that motivate customers to make smarter decisions and save more

Moven's Personal Financial Management (PFM) technology includes a debit card and an app that tracks spending in real time

- Notifications and alerts are sent when spending nears or reaches pre-set levels.
- Monthly spending is also tracked by category.
- This PFM tool is also available on selected smartwatches, as the company believes that wearable technology holds the key to delivering 'real time financial feedback' for making financially savvy behavioural changes.





Banks like Westpac in Australia and TD Bank in Canada have already signed up for partnerships with Moven.

Moven's mobile money management tool will be integrated into the bank's internet banking platform and will help the bank's customers manage their money day-to-day on their smartphone, tablet or desktop.

Future trends expected to accelerate financial inclusion

- ***Cyber security:*** Cyber security is more than an IT challenge. It's a business imperative. There has been an increase in cyber-attacks on financial services organisations - a result of advancement in technologies, increasing the flow of money for such activities and a well-connected world. Critical digital assets are being targeted at an unprecedented rate and the potential impact on business has never been greater. Banks need to develop a pro-active strategy to counter such threats and invest heavily in next stage cyber security assets.
- ***AML monitoring:*** While creating innovative digital solutions for customers, banks will have to give equal importance to robust client identification and transaction monitoring measures in order to prevent money laundering and terrorist financing risks. The upside of the digital proposition is that it becomes possible to mine and analyse data, which will not only help with regulatory obligations of verification of client identities, and monitoring of transaction volume and value, risk rating, etc., it will will also help mitigate risk in real time in an efficient and cost-effective manner.
- ***Increased use of customer analytics:*** Banks can no longer wait to embrace the power of advanced analytics to gain insights and evaluate opportunities that will improve cross-selling, increase up-selling and enhance customer value.
- ***Quick deployment of digital:*** Digital banking is getting more consumers to use online or mobile banking and is simultaneously changing the surrounding landscape. The banking ecosystem, right from sales to branch operations to product development to back-end processing needs to be digitised.
- ***Emphasis on mobile:*** The digital consumer wants his or her app to be simple, contextual and time-saving rather than just a mobile version of the website. Banks will have to have a focussed delivery model for the mobile banking solution.
- ***More online sales:*** Customers will use multiple channels, research and open new accounts. Hence, the relationship between the customer and bank will change. Banks will have to understand these changing needs and behaviour patterns of consumers.
- ***Increase usage of mobile payments:*** Despite the slow start to mobile payments, changing demographics (who are the primary users) will be the trend in the future and banks will need to invest in this category in order to remain competitive against new start–ups.
- ***Security and authentication:*** Cyber security will be extremely critical in the digital age with the increasing threat of malware and hackers. Consequently, initiatives that incorporate biometrics such as fingerprints, iris scans, voice and other more secure authentication options will replace passwords as a means to verify a user, simplifying enhancing the user's experience.
- ***Incentivising the customer:*** In a 24/7 connected and mobile ecosystem, all information is at the customer's fingertips and hence expectations of fast and easy access of services will be the norm. Banks will be challenged towards finding newer ideas to engage customers. Incentivising the customer to transact and stay with the bank in the age of easy switching will be observed.
- ***Spend on innovation:*** Non-finance companies such as Google, Facebook and Alibaba are looking to enter the financial services domain and these are organisations that have a huge advantage in the digital world. Banks will have to invest heavily in innovation in order to even stay on par with them.

How banks need to think afresh to partner with a Digital Bharat?

Being in a positon to leverage or respond to the digital revolution requires banks to act in ways that may be unfamiliar territory for them. Clear and quick cross-functional collaboration will be key. Much of the critical messaging required for a DNA change in banking organisations will come from the commitment and involvement of senior leadership to the vision of digital as the present and the future.

It is important to bear in mind that customer expectations are primarily shaped by their interactions outside of the banking industry. Consumers are quickly getting used to the quality of service they receive from industries that differentiate themselves largely on the basis of customer experience (e.g. the ease of use of Google, the seamless integration of Apple products across products and channels, or Uber that led to the whole paradigm of the 'uberisation of customer experience').

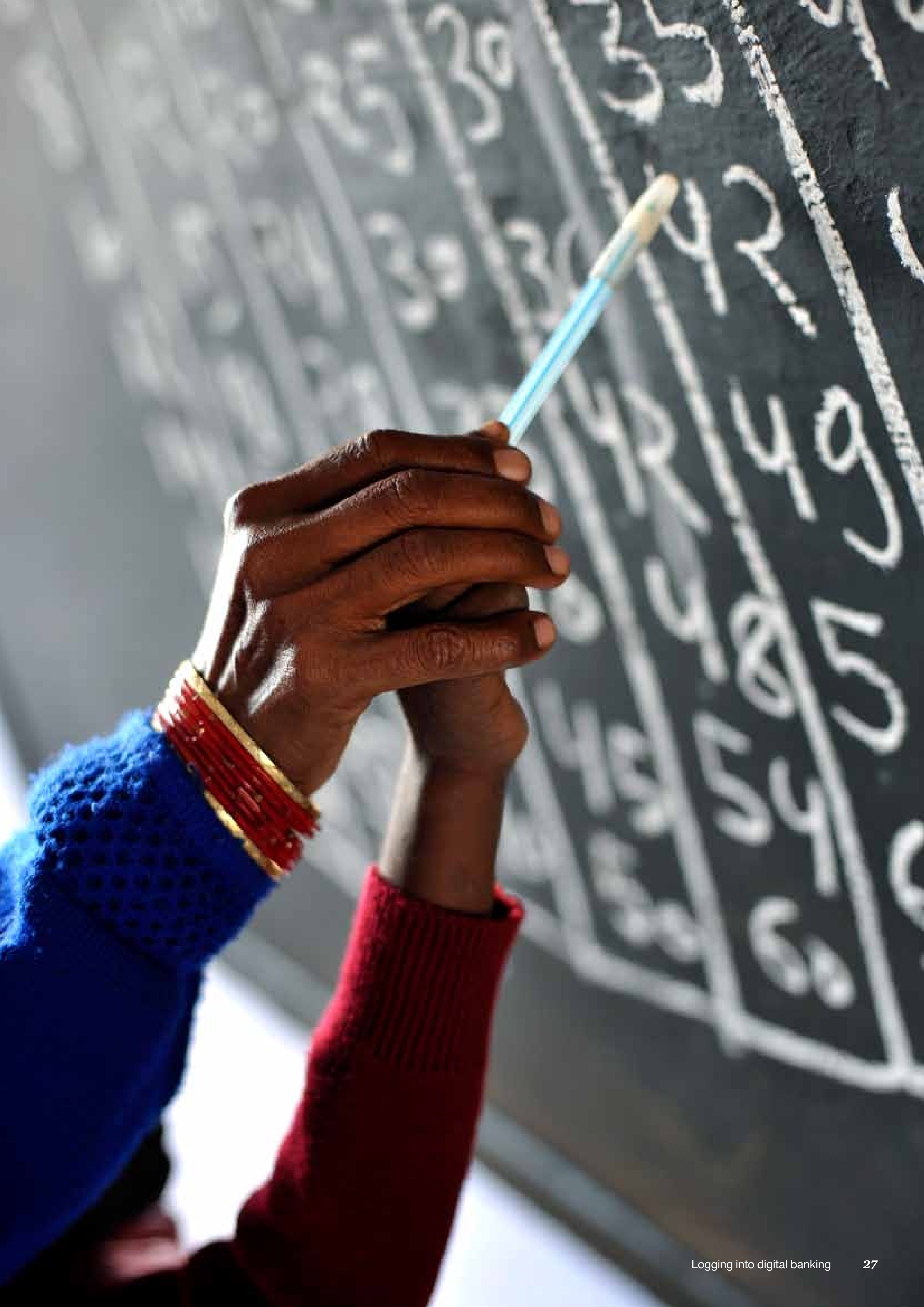
Customers are also increasingly connected to others across social, geographic and demographic boundaries. This 'social world' augments close friends and family as the primary source of information, opinion and recommendation. The faintest sound has the potential to be amplified to the highest intensity at the speediest pace. Everything from reputation to purchasing decisions to sales channels is impacted.

Further, unprecedented numbers of women are heading households, controlling wealth and spending, and becoming primary earners. This is true even in rural India where increasing awareness among women is resulting in them taking financial decisions for their households. Customer trust is another key aspect especially when it comes to digital, and customers want their banks to be more socially responsible. They are also concerned about privacy and security, as more of their personal information and financial life integrate online.

With the entry of the new payments and small banks, the banking sector will see a similar fierce battle for customer acquisition and retention that is typical of other companies built on the digital proposition, consumer choice and free entry. Although banks may have some benefit from continuing entry barriers, they will also see competition from non-banks that will continue to push the boundaries between commerce and finance. Right partners who can help with customer acquisition, retention and building sustainable values will be crucial to building the successful digital bank for new customer categories.

India's payments banks may turn out to be a unique experiment in managing 'orderly innovation' by disruptive technology companies within the regulatory contours of banking. Since these banks are not allowed to offer lending products, they will push the boundaries of innovation on the mobilisation of small savings and the handling of small remittances and other transfers. This will be an interesting trend to watch as deposit regulations in India have traditionally been conservative, giving banks low incentives or the ability to respond to the challenge from the informal financial systems (often unscrupulous) that got a large share of small deposits and transactions in the absence of banking access. In that sense, many of the new banks, both payments and small, will need to find a way to combine the ubiquity, personal interface and flexibility of the informal system with the risk management and governance of the banking system.

To conclude, in the digital world, traditional distinctions of social class, wealth and age are blurred. The valuable consumer for the bank may not be the salaried consumer with a predictable profile that lends itself to cross-selling products defined across a lifecycle any more, but the aspiring 'rurban' youth, young entrepreneurs or netizens who are easy to profile and trust. Banks will continue to push the boundaries of innovation with lending products, once trust is established based on transaction patterns over time. All of this will translate into enhanced capacity for the banking system to engage the hitherto excluded populations and make a meaningful difference to the destiny of the nation.



About ASSOCHAM

The knowledge architect of corporate india

Evolution of value creator

ASSOCHAM initiated its endeavour of value creation for Indian industry in 1920. Having in its fold more than 400 chambers and trade associations, and serving more than 4,50,000 members from all over India, it has witnessed upswings as well as the upheavals in the Indian economy, and has contributed significantly by playing a catalytic role in shaping up the trade, commerce and industrial environment of the country.

Today, ASSOCHAM has emerged as the fountainhead of knowledge for Indian industry, which is all set to redefine the dynamics of growth and development in the technology driven cyber age of a 'knowledge based economy'.

ASSOCHAM is seen as a forceful, proactive, forward-looking institution equipping itself to meet the aspirations of corporate India in the new world of business. ASSOCHAM is working towards creating a conducive environment for Indian business to compete globally.

ASSOCHAM derives its strength from its promoter chambers and other industry, regional chambers and associations spread all over the country.

Vision

Empower Indian enterprise by inculcating knowledge that will be the catalyst of growth in the barrierless technology driven global market and help it upscale, align and emerge as a formidable player in respective business segments.

Mission

As a representative organ of corporate India, ASSOCHAM articulates the genuine, legitimate needs and interests of its members. Its mission is to impact the policy and legislative environment so as to foster balanced economic, industrial and social development. We believe education, IT, BT, health, corporate social responsibility and environment to be critical success factors.

Members: Our strength

ASSOCHAM represents the interests of more than 4,50,000 direct and indirect members across the country. Through its heterogeneous membership, ASSOCHAM combines the entrepreneurial spirit and business acumen of owners with the management skills and expertise of professionals to set itself apart as a chamber with a difference.

Currently, ASSOCHAM has more than 100 national councils covering the entire gamut of economic activities in India. It has been especially acknowledged as a significant voice of Indian industry in the field of corporate social responsibility, environment and safety, HR and labour affairs, corporate governance, information technology, Biotechnology, Telecom, Banking & Finance, Company Law, Corporate Finance, Economic and International Affairs, mergers and acquisitions, tourism, civil aviation, infrastructure, energy and power, education, legal reforms, real estate and rural development, competency building and skill development to mention a few.

Insight into 'new business models'

ASSOCHAM has been a significant contributory factor in the emergence of new-age Indian corporates, characterised by a new mindset and global ambition for dominating international business. The chamber has addressed itself to key areas like India as an investment destination, achieving international competitiveness, promoting international trade, corporate strategies for enhancing stakeholder value, government policies in sustaining India's development, infrastructure development for enhancing India's competitiveness, building Indian MNCs, the financial sector as the catalyst for India's transformation.

ASSOCHAM derives its strengths from the following promoter chambers: Bombay Chamber of Commerce and Industry, Mumbai; Cochin Chambers of Commerce andIndustry, Cochin; Indian Merchant's Chamber, Mumbai; Madras Chamber of Commerce and Industry, Chennai; PHD Chamber of Commerce and Industry, New Delhi.

Together, we can make a significant difference to the burden that our nation carries and bring in a bright, new tomorrow for our nation.

The Associated Chambers of Commerce and Industry of India

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