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Indian Banks' Association

#FIBAC2017

"Finance in Digital Era: Navigating the Knowns and Unknowns"

6th - 7th November, 2017 | Mumbai

The Experts' Voice

A Compendium of Articles

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Banking at the Bottom of the Pyramid

Chandra Shekhar Ghosh
MD and CEO
Bandhan Bank Ltd

Former RBI governor Dr. Y. V. Reddy coined the term financial inclusion, while finalizing the draft of the annual monerary policy statement for fiscal year 2006-07. A decade later, the banks are fiercely competing with each other to bring in more and more people who are financially excluded in the fold of financial services – a few at own will, and most, under pressure from the banking regulator and the government.

Banking in India has traditionally been a top down service. How often the bankers (I am one of them – after heading a microfinance institution for about 13 years, I graduated to banking in August 2015, thanks to the Reserve Bank of India) ask themselves what does a customer need? Armed with digital innovations, these days we bombard the customers with a variety of products without even evaluating their suitability for the target group.

The policies are framed mostly to address the requirement of urban India because the customers here are more visible and vocal in demanding their rights. So, the rural India continues to remain as the "missing piece" in the banking landscape in India. Financial inclusion often is synonymous with opening of a savings bank account and putting some money into it. Why cannot we think in terms of credit?

There is a vast scope for the policymakers to change the approach of financial inclusion and build a credit-first model. The banks can first find ways to extend credit to the customers before opening savings accounts. I am sure that if the credit given is rightly utilized for productive purposes, revenue will be generated and people will have money to save. We will see an increase in the number of savings account transactions. When the focus is primarily on opening deposit accounts, we are bound to face the issue of zero-balance and dormant accounts.

Also, the regulator may have to take a relook at some of the norms that are being followed to expand the banking services in the hinterland. For instance, there is no restriction of usage of ATM by a customer in rural areas. The rural customers can transact as many times as they want.

Now, if one person keeping Rs. 2,000 in her bank account goes eight times a month (twice a week) to an ATM and withdraws Rs. 200 each time, the bank will incur a minimum Rs. 120 transaction cost (Rs.15 per transaction) per month. On top of that, it has to pay interest to a depositor. How will a bank make profit?

Lakhs of customers in rural India indulge in multiple transactions to withdraw small amount

of money and this makes the business difficult for a bank. The so-called no-frill accounts are opened essentially for direct benefit transfers or transferring various subsidies from the government's coffer to the beneficiaries directly through their bank accounts. Typically, the beneficiaries (customers) are prompt in withdrawing the money. From the banks' point of view, this is not a lucrative business as the money flows out fast and the banks cannot use them for giving loans.

At the moment, all of us are pushing hard for a less-cash society. The merchants are being goaded to entertain cards and the customers are using the Point-of-Sale or PoS machines for swiping cards. How should one encourage more and more usage of such transactions? The best way to do this is incentivizing both the banks and the merchants else it will not be a smooth ride without this.

One of the high points of our drive for "financial inclusion" is the birth of small finance banks or SFBs. In first of its kind differentiated licencing policy, the Reserve Bank has given licences to 11 payments banks and 10 SFBs. Nine SFBs have already started operations and one more is likely to join the pack in next few months. If we look at the SFB licencing norms, it is clear that the objective is to serve the people at the bottom of the pyramid. These banks are required to extend 75% of their loans that can qualify for the so-called priority loans. The maximum loan size and investment limit exposure to a single and group borrower of such bank is capped at 10% and 15% of capital, respectively, and at least 50% of their loan portfolios should constitute loans and advances of upto Rs. 25 lakh. They will definitely carry the banking services to the masses.

However, I will not be surprised if a few of the SFBs try to climb the ladder and vacate the space where they are supposed to be. If actually that happens, then the policy makers and the banking regulator would need to take a fresh look at the differentiated bank licensing model. Indeed, to become successful the SFBs need to be innovative and at the same time they should also enjoy certain flexibilities. Innovation, laced with flexibility, is the key to success in banking with the masses. Even after a decade, the banking correspondent model has not become financially successful. For any entity which works for the masses in the finance space, they must approach this as a business and not a charity. The movement will be successful only when the intermediaries make profits. And, of course, there is a distinction between making profits and profiteering. We need to maintain a fine balance.

Banking at the bottom of the pyramid has to be looked at as a business. It cannot be a compulsion dictated by either the regulator or the government. Once this is accepted, the banks will find out the right business models. One-size-fits-all kind of a solution will not help us achieve financial inclusion; flexibility is the key. The point to note is that both the government and the banking regulator acknowledge this. Had this not been the case, they would never have allowed the microfinance institutions to charge higher rate of interest for providing the credit service at the doorsteps of the customers.

The problem that most banks face is: who will serve at the bottom of the pyramid? Digital

innovations are welcome but none can deny that fact that the financially-excluded people need human touch to get into the habit of financial transactions. They need handholding. Given a choice, very few bankers would love to be working in rural pockets where the quality of education and health facilities are not good and urban amenities are absent. Even if a few of them agree to serve the rural folks, their salary would not justify the business that they will do there.

Therefore, there is a need for developing a separate cadre for serving the rural folks. Local people, sharing the background of the target customers, would be most suitable to do this job. There is also an urgent need to revisit the labour laws. The banks must have the freedom to offer differentiated wages and salary to employees working in different geographies and their emoluments must be linked to their productivity. Incidentally, the public sector banks are bound by an industry wide wage agreement.

We also need to spend aggressively on the financial literacy drive. It has to be driven in a mission mode, just like the Jan Dhan Yojana and the digital India initiative. The funds spent in taking forward the financial literacy drive could come from corporate India if this comes under the umbrella of the corporate social responsibility or CSR activities.

For years, financial inclusion has been interpreted as something which starts and ends with opening a bank account. It's time to take it forward. Going beyond mere account opening, we need to offer credit and other financial services including remittance, insurance and mutual funds, to the rural masses. We will achieve our goal if we are innovative and flexible and have freedom to look at the HR policies and labour laws in a new light. And, above all, treat this as a business opportunity instead of a compulsion of savings account. It is time of financial deepening. After all each citizen of the country have all right to be aware and have access to available financial products and services. ■

A.R.T of navigating through the era of Digital Disruption

Rana Kapoor
MD & CEO Yes Bank and Chairman
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"Everything changes and nothing stands still"- Heraclitus

The Banking and Financial Services Industry is at an inflection point today owing to the growth of technology and consequently, the rise of the Global Digital Economy, at a pace that has no historical precedent. With the advent of the fourth industrial revolution, widespread adoption of technology in all walks of life and a sea-change in consumer behavior, the impact is being felt strongly by all sectors, more so by the banking and financial services providers. In India, the 4Ds (Development initiatives by Government, De-Regulation, Demographics, and Disruptive Technology) have started prompting banks to either innovate or face obsolescence risk in the future. These circumstances present the BFSI industry with a brilliant opportunity to turn the tide, by opening gates to collaboration with new-age technology players and building stronger relationships, thereby potentially launching the entire industry on a higher orbit.

A.R.T – Alliances, Relationships and Technology

Banks need to insure themselves against 'obsolescence risk' and there's no turning away from the fact that this requires collaborations. Disruptions presented both by new entrants as well as incumbents need complete re-platforming of the banking bedrock, strengthened by robust technology, people and processes.

The A.R.T – Alliances, Relationships and Technology - approach to banking can help a bank leapfrog technological disruption across different verticals. A critical aspect while implementing this approach successfully is to monitor the vigor with which new alliances and resulting innovations are driven across the organization and initiate mass change in the organizational psyche to adopt the 'A.R.T approach to Banking'.

Companies around the globe have realized the merits of adopting business models based on 'collaboration over ownership' in a dynamic socio-economic environment. For instance, one of Procter & Gamble's most successful partnership has been with InnoCentive which has helped them leverage InnoCentive's global network of Solvers to co-build creative solutions for their most daunting product development challenges. Similarly, Capital One, one of the youngest but fastest growing top ten banks in the US has since inception adopted collaboration and an 'information-based' strategy as a fundamental tenet. Continuing with this strategy of wisely choosing alliances, the company

launched the Capital One Labs to accelerate innovation by inviting young designers and internal executives to work together on innovative products & services built across a network of labs in the US, to enable innovations without hindering on-going projects. Another fascinating case is that of a six decade old company Lego that began its transformation journey in 2004 to avert bankruptcy. Lego in its pursuit to 'transform into a digital company', built Future Lab to kick-start digital projects by honing in-house talent and spinning an entire open collaboration platform - Lego Ideas, that allows fans (customers) and partners to experiment together and introduce new ideas to make Lego better. This digital transformation exercise pulled Lego out of bankruptcy and skyrocketed their growth to a 20% CAGR from 2009 to 2014. Who would have imagined a world where an inter-locking plastic bricks toy company would go digital and find new revenue channels to become the "Apple of Toys World". These anecdotes epitomize industry agnostic collaborations and a more democratic set-up where customers' voice is loud and clear in the digital economy, setting the tone for a new normal.

Having sensed the opportunity right, several companies in India have also begun adopting the A.R.T approach to running a successful business instead of working in silos and reinventing the wheel. Banks should adopt the mantra of 'collaboration and co-creation' rather than competition with emerging Fintech companies.

Case in point is the concept of 'Banking-as-a-Service' - API banking-led solutions that redefine the bank's role as a platform to connect various players in the digital ecosystem, embrace a quick plug-&-play model and reinforce value proposition in a fiercely competitive environment. At YES BANK, since inception, we have leveraged technology and innovation as key pillars in our vision of offering a superior banking experience. YES BANK was the first bank in India to successfully implement innovation in Supply Chain Finance using blockchain and API Banking. The bank's interest in Blockchain was owing to the technology's potential of ushering an era of efficient processes thorough transparency, speed, security & seamless connections in order to maintain records & make quicker transactions. We wanted to create a blockchain banking solution for our customers which would have immediate, measurable impact and provide a quantum leap compared to the current process. We evaluated multiple use-cases involving use of Blockchain for banking and consequently, we were the first in the industry to implement a multi-nodal Blockchain transaction to fully digitize vendor financing for one of our corporate customers. The carefully curated exercise of the bank by collaborating with external stakeholders not only resulted in demonstrable real-time increase in productivity in customers supply chain financing process but is also helping us boldly experiment with new-age technology and find leverage through collaborations.

Bracing for an advanced consumer society - Being agile and thinking ahead of times

The digital transformation and 'connectedness' of consumers and devices alike is creating sinks akin to the primordial soup for digital life to go through myriad evolutionary peaks. Digital disruptions are not as much a product of

consumers adapting fast to technology as are of incumbents not responding quickly and lacking the 'sense of urgency' to match the pace of change.

Timely and effective response to challenges thrown by the digital environment affects not only the bottom line but also to a large extent the very survival of the business itself. The primary difference between organizations that run with a robust technology foundation versus non-technology-oriented organizations, is the ability of the former to operate in a lean & agile manner making changes to processes, systems and products quickly and embrace the idea that technology is at the core of strategy implementation.

In light of the make over that economies globally are witnessing, Indian economy is growing by leaps and bounds; a strong growth trajectory that hasn't seen major troughs including the 2008 global meltdown. India is bracing herself to be a global super power on the backing of a favorable demography. Digital technology is adding God speed to the entire economic growth and transformation process.

The launch of 'Digital India' initiative, especially Aadhar platform benefitting more than a billion citizens with unique identity, Jan Dhan for financial inclusion and National Payments Corporation of India (NPCI) introducing India Stack to build APIs for collaborative development and market introduction of banking services, beguiles a metamorphosis of the country's digital landscape for better service delivery and governance. It also opens umpteen opportunities for incumbents and new entrants to make their mark; given the environment, a model that fits perfectly is that of collaboration between fintech start-ups and banks. While banks bring on board vintage with rich industry knowledge, experience and regulatory know-how, fintechs are primarily a mix of innovation, agility and lean structures for quick go-to-markets.

With the currently forward-looking regulatory environment, a pro-innovation administration at the helm and quick adoption of technology by customers, alliances and relationships built between the start-up ecosystems and banks would go a long way in benefitting the banking industry, more so customers in the long-term. ■

Finance in Digital Era: Navigating the knowns and unknowns

Chanda Kochhar
MD & CEO
ICICI Bank

The environment for businesses is witnessing continuous transformation, and the banking sector is no exception to this reality. Digitisation, changing consumer preferences, growing competition, emergence of new players and evolving regulations are bringing structural changes in the sector. Moreover, access to information and new ways of using data are giving rise to new business models across the spectrum. Indian consumers are embracing technology rapidly, and with the requisite enablers in place a vibrant digital ecosystem is being created. Today, India is not just a young and growing market, but has a population that is digitally connected.

India is witnessing a wave of innovation from the banking and financial services industry and from a growing number of fintech firms. In an environment driven by increased competition and evolving customer preferences, financial institutions are focusing on providing an integrated experience through a portfolio of products and services to customers instead of providing a single product/service. This has enhanced the customer experience and convenience, while managing costs effectively through migration of transactions from physical to digital channels.

The dramatic transformation towards a more digitised economy encompasses five key themes:

- **Consumer payments:** these are being rapidly digitised through initiatives from the banking system, the regulator, the government and the evolution of fintech. Initiatives such as the Unified Payments Interface are simplifying payments and lowering transaction costs.
- **Digital lending:** An increase in digital transaction records is creating huge potential to expand the availability of credit. Banks and financial institutions are leveraging this data using business intelligence, analytics and machine learning to target potential customers. This will not only expand the borrower base substantially, but banks will be able to provide credit more efficiently at a lower operating cost and with less documentation. The vast pool of information on online transaction data, provides an immense opportunity to utilise it for the improvement of interaction of banks with their customers. This data leads to more accurate credit assessment of customers and in turn build credit models suitable for their specific needs, thus enabling customer retention.

- **Internal transformation:** Process automation, robotics, machine learning and other such tools are transforming the internal structures and activities of banks. The upside of incorporating these tools in the day-to-day workings of the organisations will be seen in quantitative terms (reduced costs, increased speed and greater accuracy) as well as qualitative terms (improved employee motivation as they focus on value added activities).

- **Evolution of financial inclusion into greater economic inclusion:** Over the past few years, banks have made a concerted effort towards financial inclusion. The government and policy makers are creating enablers for the financial development of rural and semi-urban India. Moreover, the growing trends of digitisation and mobility are helping banks to expand their services to under-banked populations in a more efficient manner. Since the start of the Pradhan Mantri Jan Dhan Yojana, around 300 million bank accounts have been opened across India with around 60% accounts in rural/semi-urban areas. The outstanding balance in these accounts was around Rs. 660 billion (USD 10 billion)at the end of FY2017. This scheme was followed by life insurance, accident insurance and pension schemes for the lower income groups. ICICI Bank takes a holistic approach in its Digital Villages where opening a bank account is just one part. Each Digital Village is supported by a skilling programme and other initiatives that along with the bank account contribute to a greater economic and digital inclusion of the village.

- **Collaboration between banks and fintech:** Technology-led innovation in financial services is being brought about not just by banks but also by fintech companies. Banks are seeking to expand the ways in which they reach customers, enable transactions and use data for business growth as well as risk management. Fintech companies are developing new tools for various parts of the banking value chain – from payments to lending. This is leading to collaboration between banks – with their extensive physical reach, large customer base and comprehensive product & service portfolio – and fintech players that are developing new solutions. Fintech companies are providing transaction history and assisting banks to bridge information gaps, thus enabling banks to provide suitable products to customers. Banks can gain an edge on the technology front and fintech companies can become solution providers to banks, dissolving traditional boundaries and creating non-traditional synergies.

As we move ahead on this path, there are two important aspects that we have to keep in mind.

- With the growing scale of financial transactions in the digital era with higher volumes, higher value and an increasingly diverse set of constituents participating in digital transactions there is an even greater need to focus on the associated risks and build in mitigants in the process. With the change of the world economy to a digital form, more and more data is being generated by individuals as well as firms. This data is a

gold mine in the digital world and all companies are trying to leverage the data for better products and services. While corporates use this data with consent to make life better for their customers, the same data is also at risk of being accessed by other individuals or entities. The risk of inadequate cybersecurity has always been a serious argument against information sharing since the inception of the internet. But the latest trend, and the fact that without a digital footprint it is difficult to live in society, raises questions about the vulnerability of data. Data theft and fraud impact not only individuals but corporates too. Although there has been an increase in the quality of security measures being adopted, but in the ever dynamic tech environment, cyber security will need to remain a continuing area of focus.

- Internalising technology in the business model also requires engaging the employees and adapting the entire organisation and its culture to the dynamic nature of technology. Technology not only brings in efficiencies, but also creates new opportunities for bank employees by freeing them from repetitive mundane tasks, thus enabling them to focus on more value-added and creative work. The technology-led transformation of banking is creating a wide range of new job positions in banks, from innovation to design to building partnerships with other players to developing new analytics-driven business models.

Disruptions in the financial sector are not new and there have always been unknowns that eventually enabled the sector to evolve. The technological evolution is yet another impetus to creating new paradigms and opportunities. Big data and the advent of the digital age have now enabled banks to shift from traditional banking to digital banking from anywhere. It has expanded the scope of financial offerings and is creating new experiences for customers. It is giving rise to new players, including non-banks, to participate and add value to the suite of financial offerings. It will be important to remain vigilant and firewall the unknown risks that technology brings along. Organisations will have to prepare their human resources to fully leverage the opportunities created by technology. ■

Finance in Digital Era: Navigating the Knowns and Unknowns

Rajnish Kumar
Chairman
State Bank of India

The present 'digital era' (interchangeably used with the term digital economy) is a product of the technologies that were initiated during the 1970s. In general terms, they can be described as results of the transformational effects in the fields of Information and Communication Technology (ICT).

The digital era has been built on previous technological innovations such as personal computers and telecommunications via fiber, cable or wireless internet services. On the software side, specific software is used and being developed at various levels for resources, accessibility, applications, gate keeping and finally machine-to-human interface. The integration of activities at various levels (resources, accessibility, applications) generates the value that make specific business models profitable.

Digital era is characterized by three key parameters, namely - mobility, use of data and the network effects. These markedly differentiate it from the old economic systems of the industrial revolution. The digital economy enhances mobility in many different dimensions, notably that of capital. Data, as a source of value, is a key feature of the digital economy. In fact, data has become more valuable than the production process itself. Data is collected from several market players and activities in this set up. The increasing capacity to collect, store and treat massive flows of data has led to the concept of "big data"that could generate value either in private marketing or public government activities. Network effects are all pervasive in the digital economy.

Digital technology has now permeated all levels in the digital era. It has impacted all the sectors of the economy and social activities across the globe, for instance: retail, transports, financial services, manufacturing, education, healthcare, media and so on. This has implications much beyond the ICT sector. Some of the notable technologies that may decide the strength of this digital era include the 3D printing, smart mobiles, storage clouds, block chains, artificial intelligence, industrial internet, advance robotics and internet of things.

Banking and finance sector felt the impact of digital era most notably after 2008. After 2008 financial crisis, a serious erosion of trust in the financial sector globally, innovations in other financial mechanism like peer-to-peer lending, crypto currency etc. began gaining ground. Satoshi Nakamoto the inventor of Bitcoin

describes this as: the inherent weaknesses of the trust based model wherein completely non-reversible transactions are not really possible, since financial institutions cannot avoid mediating disputes. The cost of mediation increases transaction costs, limiting the minimum practical transaction size and cutting off the possibility of small casual transactions, and there is a broader cost in the loss of ability to make non-reversible payments for non-reversible services.

In a similar vein, after the financial crisis of 2008, startup capital was no longer readily available from friends and family; the traditional bank financing for startups has never really been a viable source of capital. This led to experiments in raising capital for profit making startups using crowdfunding which was otherwise used for funding mostly non-profit activities like book printing, motion pictures etc. Thus, financial disintermediation also gathered momentum.

In the financial sector, digitalization underwent many stages. First came the adoption of Core Banking Solutions, then came ATMs and credit cards. The process has now accelerated and become more sophisticated with the wide acceptability of smart phone technology. The digital technology inserts itself at a strategic point in the value chain, in contact with users, and leverages the data collected from the regular and systematic monitoring of their activity to conquer market share resulting in gradual shift of profit margins to itself. Thus, there is a move towards more individual customization of services.

The digital economy has affected banking industry in several ways. Peer-to-peer lending, promoted by companies such as Lending Club, are taking on banks in the consumer credit market. Crowdfunding is taking on banks in the business loan market. More and more payment solutions that bypass the banking system are offering their services, such as PayPal or Square and the future development of payment solutions run by Google or Facebook. The introduction of virtual currencies, such as Bitcoin, represents an even more radical innovation. Retail banking services have been disrupted due to the growth of online banking, as well as by the efforts of rapidly growing companies like Simple, which concentrate on innovation in customer service.

Today, new set of technology trends are disrupting the financial sector, creating a huge opportunity for FinTech start-ups, offering financial services with the help of technology. Financial institutions are continuously being challenged by rising fintech startups and incumbent technology giants who are deploying new business models causing disruption. Winning in this dynamic market will be underpinned by how the financial institutions can derive value from data. Advances in big data and analytics have led to new products, solutions and services making financial institutions smarter, agile and more competitive. In this regard, some key trends shaping the financial services industry are:

a) Usage of cloud for storage and computing of data as well as agile applications development.

b) Real time predictive analytics for driving deep actionable insights.

c) Convergence of historical and real-time data

for taking decisions based on these data stores.

Another significant change is being witnessed in the Wealth Management Industry. With new generation of investors equipped with modern technologies, new standards have been introduced in the industry in terms of financial advisory and product delivery. The investors of today are in search of rich digital experience. The emergence of Robo advisors, combination of science and human based advisory models have posed a serious challenge to FIs.

Digital technology in combination with allied technologies like Internet of Things (IoT) and biometrics can also open doors for extending financial services to unbanked population (eg. low-income families and micro-enterprises) with virtually no financial history. As early as 2012, the Chinese financial industry estimated that it possessed more than 100 terabytes (TB) of structured and unstructured data which may have potential application to create new models for credit risk. The key mechanism underlying this transformation concerns the use of big data in assessing, evaluating and refining the credit worthiness of potential borrowers and reducing the transaction costs. Some possible data sources in this type of modeling include social media and mobile-phone usage patterns, e-commerce shopping pattern and utility-bill payment history. Some Chinese company now processes applications for small loans using a facial recognition system which verifies the identity of applicants automatically. The system can also analyses facial expressions of applicants to determine their willingness to repay the loans.

In India, digital era is also gradually making its presence felt. Now all banks are using digital banking as product differentiator. The supply of various digital banking products is making its way into the Indian banking through foreign collaboration or through the vibrant Start Up culture in cities like Bangalore, Mumbai and Hyderabad. However, the topology of India's fintech sector based on the study by NASSCOM is dominated by payments services and market support with latter's share exceeding the former. This is largely due to underdeveloped nature of the market and scope of technological penetration across various managerial lines and verticals of banks. Nevertheless, it is without doubt that in the last two years digital banking has witnessed strong user adoption, driven largely by the payments sector which has enjoyed a boost post the demonetization of high value currency notes. Alternate lending also enjoyed a strong year, fueled by the large number of unbanked, new-to-bank, and under-banked consumers. Thus, banks are definitely feeling the heat of this new technology, even if they are not challenged the same way they have been in the advanced countries.

Turning to the unknowns, while the digital banking is striving to become widespread in India, there is need to give greater thrust to the basic infrastructure that drives business in digital era. In the advanced economies, internet technology had reached adoption saturation by 2005; while in India there is in a lag of nearly 10 years. The total number of broadband subscribers in India including wireless data-plan subscriptions and wireless dongle users, is 310 million. Of this, only 18.1 million users are

subscribed to wireline broadband services. In rural India, tele density is 57 compared to the urban tele density of 173. The number of broadband subscriptions in rural India is even lesser. According to the Telecom Regulatory Authority of India (TRAI), the current definition of broadband is .512 kbps connection. It is expected that this definition of broadband will be upgraded to a 2 Mbps connection without which digital banking may not become a value proposition.

The targets of the Government of India are very ambitious: by 2020, the Government of India plans to have a broadband subscriber-base of 600 million.

One of the major impediments to provide broadband connectivity in semi-urban and rural India is the lack of robust and affordable backhaul. Fiber connectivity in terms of backhaul that is being planned (or provided) by the Government of India would reach only up to Gram Panchayat in the Indian rural areas. Although commendable progress has been made in executing the Bharat Net project, the last mile connectivity is still a challenge.

Practical experience after demonetization suggests that there is considerable inertia in making a new technology accepted in India given lack of digital awareness. Honourable PM Narendra Modi has approved 'Pradhan Mantri Gramin Digital Saksharta Abhiyan' recently, which is trying to fill this gap and there is a lot of progress that has to be made.

Mitigating and containing cyber risk is also essential to foster confidence in digital modes of finance and banking. How various financial technologies interact with each other is not very well understood. This opens numerous ways to penetrate the system. Thus, there is considerable cyber risk, as such, there is an urgent need of domestically developed and enforced standard on development of financial technology. Furthermore, since there is no privacy law in India, the interaction of cyber risk creates unassessed operational and reputation risk for the banks.

Lastly, TRAI has not been able to sell the existing spectrum which is well suited for fintech. Thus, existing resources are underutilized and unless there is an effort to rationalize the spectrum resources, there will be considerable unobserved inefficiency in the system. This must be our agenda for long-run development of digital economy as a whole. ■

Emerging lending opportunities

M S Mahabaleshwara
MD and CEO
Karnataka Bank

The Indian financial services sector has witnessed exponential growth in the last decade. Access to banking system has improved over the years due to persistent government efforts to promote banking-technology and promote expansion in unbanked and non-metropolitan regions. At the same time India's banking sector has remained stable despite global upheavals, thereby retaining public confidence over the years. In today's volatile economic environment, the opportunity to lend has increased manifold. However, Indian banking sector is saddled with stressed assets worth ` 9 trillion and there is an overall declining trend in bank credit, primarily towards infra sector, industrial sector, etc. Credit, market and liquidity risk studies suggest that Indian banks are generally resilient and have withstood the global downturn well. Enhanced spending on infrastructure, speedy implementation of projects and continuation of reforms by the Indian Govt. are expected to provide further impetus to growth. All these factors suggest that India's banking sector is also poised for robust growth as the rapidly growing business would turn to banks for their credit needs.

The present Indian Govt. under the leadership of Honourable Prime Minister Sri Narendra Modi has taken initiatives for transforming India into a new India, by rolling out its dream projects, like smart city mission, interlinking of rivers, bullet train, e-vehicles, etc. These projects can be seen as mega development opportunity for all the concerned.

a) Smart city mission

"100 Smart Cities Mission", under the aegis of Ministry of Urban Development, was launched on June 25, 2015, in order to have the necessary infrastructure for its residents to lead enjoyable life, clean and sustainable environment through the application of 'smart' solutions. The strategic components of the Smart Cities' Mission are city improvement, city renewal and city extension plus a Pan-city initiative in which Smart Solutions are applied covering larger parts of the city. Further, area-based development will transform existing areas, including slums, into better planned human settlements, thereby, improving livability of the whole cities. Comprehensive development will improve quality of life, create employment and enhance incomes for all, especially the poor and the disadvantaged, leading to inclusive cities. Till date, 90 cities have been selected for implementation of this dream project and few cities have already started working in

this direction. Hence, smart city mission is nothing but a smart revolution.

The banking sector has a crucial role to play in implementing the ambitious plan for developing smart cities by raising the resources to meet the demand for the 'anticipated' credit deployment for private investment in housing, hospitals, roads, infrastructure and transport facilities in each of these places. To achieve this, a robust credit planning is needed.

In this direction, specific Credit Plans have to be prepared for the selected cities by the Lead banks. This has to be done very meticulously in association with all the local stakeholders including local development agencies and chamber of commerce. Periodical review of the progress has to be made in the quarterly meetings, exclusively. Thus, the funding opportunities are many.

b) Interlinking of rivers [ILR]

The inter-linking of rivers is considered to be mother of all projects and is projected as a solution to address the twin problems of water scarcity and flooding in the country. The concerned Ministry has formulated a National Perspective Plan for water resources development, envisaging interbasin transfer of water in the Country. National Water Development Agency [NWDA] has identified 30 links (16 under Peninsular Component & 14 under Himalayan Component) for preparation of Feasibility Reports. Touted as the world's largest irrigation infrastructure project, the ILR program involves construction of around 15,000 km of new canals and 3,000 big and small dams and storage structures and of course it envisages to transport 174 trillion liters of water per year.

The ILR programme involves huge construction activity, comparable in scale to the Golden Quadrilateral (GQ) project. The growth of the other sectors will depend on the strength of the backward linkages (sectors supplying inputs to construction sector) and forward linkages (sectors which are using output of construction sector as input) of the construction sector with the rest of the economy. As the output of certain sector increases, it will increase the demand for goods and services in the economy. Major sectors which get benefited from this project will be agriculture, allied agriculture, mining, manufacturing, metal, cement, wood, electricity, construction, transport, trade, services, etc. If the demand for these sectors increases, a larger share of the additional value-added generated in these sectors would accrue to the labour-supplying households as compared to owners of capital. However, even though economic and social impact is huge, this project has to be sensitive to environmental impact.

Banks & financial institutions can leverage these opportunities to expand their exposure to these sectors, duly mitigating the risks involved.

c) Bullet train

India's first high speed rail that will connect Mumbai to Ahmedabad, the stretch which is

dotted with dense industrial and commercial area. This dream project commenced on Sept 14, 2017 and the train is expected to make its maiden run by August 15, 2022, when India completes 75 years of independence. This project will boost national development & economic activities apart from job creation, for more than 50 million citizens, to help build a new progressive India.

Construction activity around the high speed corridors will boost allied industries such as steel, cement and infrastructure. This will translate into additional logistics and warehousing demand. A new economic system is being developed on Mumbai-Ahmedabad route. The region will become Single Economic Zone.

Here we can recall the success stories of Metro trains in India. The Delhi Metro claims the distinction of being the first government project to be completed on time. Bengaluru, Mumbai, Hyderabad, Chennai, Pune, Kochi and Ahmedabad followed. The contribution of the Metro trains in developing areas around the corridors previously considered uninhabitable is unimaginable. Dwarka is an example. No one used to prefer Dwarka before the Metro but now it has become a populated area. Having seen the success of Metro trains, one can imagine the success of bullet train from Mumbai to Ahmedabad. Once this project gets success, potential to expand to other major routes is unimaginable. Areas around the corridors will then emerge as different economic hubs.

d) Electric vehicles

Globally, a rising middle class in China and India is causing demand for passenger cars to balloon, and with it, demand for oil. By 2050, there may be as many as 1.5 billion cars on the road, compared to 750 million in 2010. This type of demand represents both a challenge and an opportunity to capitalize on new vehicle technologies, and in the process, reap substantial economic development benefits. In a world where oil is a limited resource, an alternate source of transportation fuel –electricity – is not only a smart investment, but as some would say, it is an inevitable one.

The NITI Aayog, in its draft report, recommended to electrify all vehicles in India by 2032 and to shape a new mobility policy. In this direction, India's first multi-model electric vehicle project was inaugurated in Nagpur on 27.05.2017. Every charging station for these electric vehicles also has solar facilities, which means this project will provide green and clean transport to Nagpur.

The switch to electric vehicles will generate demand for existing jobs and create new jobs as well apart from vehicles, high cost equipment, batteries, installation, charging stations, etc. Further, Electric vehicles create additional economic development opportunities by improving quality of life, reducing energy spending, decreasing reliance on foreign oil and decreasing carbon footprint.

In addition to these projects, banks can make the best use of other schemes initiated by the Govt., viz., Pradhan Mantri Awas Yojana [Housing for All by 2022] and Pradhan Mantri Sahaj Bijli Har Ghar Yojana Saubhagya [Electricity for All by 2018] in order to expand their retail segment. PMAY, launched in June 2015, aims to provide homes to 18 million households in urban India and nearly 30 million households in rural India for economically weaker sections (EWS), low-income group (LIG) and mid-income group (MIG). Saubhagya, launched on 25.09.2017, aims to provide free electricity to over 4 crore families in rural and urban areas. Further, policy emphasis by way of DICE [Design, Innovation & Creativity led Entrepreneurship] will further get energized through Stand Up India & Start Up India initiatives.

Challenges ahead

Banks face risks today as much as they always have, and perhaps more so in the current financial market. As bankers strive to transform short-term deposits into long-term assets, they are always going to be at risk. As bankers are not allowed to lend for too long period and there will be an internal exposure limit set for each sectors, funding for big projects such as above dream projects will be a challenging one. Further, there may be non availability of sufficient experienced competent employees to handle these types of long term credit management. This can be achieved by way of Project Finance & Partnering Options, Credit Enhancement Mechanisms, innovative Financing Options like interbank participation, bonds, tie up with institutional fund agencies, special purpose vehicles, and new concept like WLTF [wholesale and long-term finance] banks.

While most banks are burdened by legacy systems and processes, India has leapfrogged into the era of innovation in banking by adopting the latest technology. Today's digital age and hyper-connected environment requires banks to re-imagine their business continuously. Life of a new technological innovation is short & hence, continuous upgradation is a challenging task.

Conclusion

In the corporate segment, these infra activities will boost allied industries such as steel, cement, equipment manufacturing, besides creating millions of job on sustainable basis. Banks have to leverage this opportunity to serve the nation and proudly become part of a New India and hence adaptability will be the differentiator. ■

Digital Banking Branch

Rakesh Sharma
MD & CEO
Canara bank

Digital Banking Branch was one of the projects mooted at the Bank's internal **"Top Management Strategy Workshop"** to provide end to end Digital experience to the Gen-Next customers.

The bank has acknowledged the **digital shift** that occurs among a section of its clientele and in pursuance of such a digital shift, it has been decided to give shape to a true digital branch of international standards. And it aligns with the objective of re-inventing the branch strategy and moving towards more digitization and self-service channels. Towards this endeavour, the bank intends to set up Digital Banking branches.

Digital Banking branches shall be ideally located in places to target clientele who are tech savvy / high net worth individuals. **These branches are cashless & paperless futuristic banking** envisioned as a part of digital agenda of the Bank. There are no cash receipts/payments counter like a traditional banking branch. This Branch works from **8a.m-8p.m** on two shift system without having break for lunch hours on all working days. These branches are equipped with a suite of innovative, next-generation banking tools which use advanced technology to streamline services, improve efficiency and encourage tech-savvy customers to use digital devices for their banking needs. These hi-tech self service branches equipped with complete banking solutions through digital services and shall facilitate services like instant account opening, personalized debit cards, video Banking, Touch Banking, fund transfers, deposit, retail loans, Non-financial transactions, services related to various products, service requests etc.

The Digital Branch services are basically grouped into three types of services viz., Self Service (Machine operated only), Semi-self service (account opening kiosk, where staff assist customers) and Assisted Service (staff does the operation upon request from customer, e.g. Fund Transfer/NEFT/RTGS, Deposits, Loans etc.,).

Digital Branch logo **"CANDI"** is made of the letters of the word Candi derived from Canara Digital. A triangle is used in place of the letter A. The triangle signifies upward mobility, dynamism and progress. The colour palate includes shades of Blue in the typography and colours yellow, pink, blue and purple in the triangles. The colour blue is associated with trust and dependability, both important qualities that add to a brand's image. Darker shades of blue represent power and integrity. The colour yellow represents innovation and the

colours purple and pink impart a sense of vibrancy and youthfulness.

The following are the software applications and digital devices that provide hi-tech services to Gen-Next customers at Digital Branch:

1. **Customer On-Board Application** which facilitates -

- Instant opening of Savings Bank account by the customer himself through Kiosk using finger print/IRIS authentication
- Printing of personalized debit card
- Personalised cheque book Indent
- Instant Mobile / Internet Banking registration
- Issuance of Virtual Welcome Kit
- Registration for e-Pass Sheet
- Accessing of Canara Bank asps such as e-infobook, Canara Swipe, UPI-empower etc.

2. **App based token & Queue Management System** to facilitate paperless appointment system via SMS to customer's mobile phone using cloud based technology.

- Appointment can be booked for various services such as Fund Transfer, RTGS/NEFT, remittances etc.
- For an appointment on a particular day, customer can schedule it the previous day itself. She/he cancel/re-schedule an appointment too. Customer will get an SMS with token number and approximate time of service. If there's a delay expected in service time, the same will be communicated through SMS.
- A LCD/LED display will direct the customers to the appropriate counter by displaying the token number and the counter number where the customer can avail the service.
- The app also keeps track of the time taken by the teller for servicing various services. This information would help optimize operations area.
- The app is integrated with Queue Management System. When customer visits Branch, she/he will be attended to according to the token number allots, irrespective of the customers already waiting in the Branch.
- The app will be available on Android/iOS/Windows Platform.
- For all the services listed on the app, a brief description will be provided. It serves as a 'services guide' for the user.
- The app also facilitates prioritizing Senior Citizen/Pregnant Women/Physically Handicapped Customers.

3. **Digital Challan**

- There are services requiring filling up a Challan like funds transfers through NEFT /RTGS and for such services the customer will be presented with a Digital Challan to be filled. A link for filling up digital challan will be sent to the customer, via SMS.
- Customers can fill up the challan at their own convenience and visit the branch later.
- It can be used for services such as cash deposit/withdrawal, fund transfer using a cheque, cheque clearing, remittance, Account/RD/FD opening, cheque book

request, address/nomination change request, e-mail/mobile number registration, Aadhaar linking, PAN updation, debit card request, hotlist/block debit card etc.

- We are the first among Public Sector Banks to provide this facility. It is cloud-based technology.
- The teller can also fill/edit the challan information while serving a token. This ensures that mandatory details are available before customer approaches the counter.
- After the challan is serviced, acknowledgement is sent to customer's e-mail ID and mobile number.

4. Digital Feedback System

- On completion of the service, teller will provide a tab to the customer for rating the service availed. Otherwise, customer will be sent an SMS confirming the completion of the service, provided with a link in the SMS requesting for feedback on the service availed.
- Rating can be given based on three categories: Branch Ambience, Staff Courtesy, and Quality of Service.
- Based on the rating given by customers, branch can improve services in appropriate areas accordingly.

5. Video Banking - to facilitate the interaction with remote-site **Subject Matter Expert** on various categories of Retail Loans & Corporate Advances.

- This is a glass enclosed area where 4 people can sit across a round table.
- This space will also be used by Marketing Manager to discuss/ deliberate with prospective customers.
- Staff at Digital Branch might not always be able to guide customers on various products. Using video conferencing, customer can connect to an expert on that aspect and make decision based on the discussion.

6. **Interactive touch screen based 'Touch banking'** to enable the customer to understand about banking products and apply online for the products.

- An LCD/LED touch-screen monitor will be available in the Digital Branch, enumerating various ancillary services.
- Customers will have an interactive experience while browsing through the monitor on their own.
- Some customers might not want to interact with staff for availing a Housing Loan or an Education Loan. Some may want to explore the products on their own. Some might even don't find the opportunity to communicate with a staff to discuss. For customers like these, interactive screen will pave the way.
- Customers can explore products such as Housing Loans, Education Loans, Car Loans, Life/Health Insurance etc., on their own.
- Leads can be generated with the help of this. Marketing Officers can later follow up with the leads generated.

7. Cheque Deposit Kiosk

- Customers can deposit their CTS enabled cheques at this KIOSK that will scan the

cheque in real time and route it to the Clearing House directly.

- The cheques shall be processed faster and confirmation will be sent back to the customer via SMS.
- Customer need not enter their account details while depositing their cheque and it is automatically picked up using debit card of the customer.

8. Cash Deposit kiosk (BNA)

- Accept the cash using debit card authentication
- No need of keying in account number and no scope for credit to wrong account

9. Humanoid Robot

- It is named as " Bro"
- It entertains the basic queries of customers on banking products & services.
- This is a first of its kind initiative by a Public Sector Bank in the country.
- Customer need not approach any staff and queue up for basic queries.

This will save time of the customer as well as our staff. ■

Leveraging Innovation in Finance for Inclusive Growth

Shikha Sharma
MD & CEO
Axis Bank

1. Innovation in Financial Services

The pace of India transitioning to or adopting digital channels has accelerated over the past few years. Increasingly, innovations within the financial services industry are changing how firms deploy – and users interact with – financial services and products. Digital platforms across multiple financial verticals are transforming conventional processes.

India now has the world's second largest internet user base at 462 million (mn), 109 mn having been added in 2016 itself. That's 13% of world internet subscribers. 43% of the total are broadband subscribers. At 35% of India's total population, the Net has strong potential for further growth. Costs of digital access are falling every day, particularly in rural areas, especially with the Prime Minister's Saubhagya Mission for electrifying rural households. India now has 1.1 billion phone subscribers. Competition has intensified in telecom, with the price of data services falling dramatically. The number of online shoppers is expected to go up from 60+ mn in 2015 to 175 mn in 2020. It is expected that 18.7% of Indians will be accessing social media in 2017, up from 13.9% in 2015.

Financial services have already become deeply immersed in the advances in technology and innovation. Computing power and mobile technologies are expanding opportunities and providing unconventional approaches to meet the digital demands of the 21st century global economy. The use of financial instruments, has opened up a range of opportunities: (i) empowering consumers with increasing access to formal finance (ii) growing small business (iii) promoting financial literacy and savings. The question is how to accelerate the development of a financial system that is more accessible, affordable and secure.

2. Developing the ecosystem for financial innovation

India is already one of the top startup countries in the world, and conditions are progressively becoming more favourable for deepening the entrepreneurial ecosystem. Multiple intermediaries, companies, entities and institutions comprise of and contribute to the development of a vibrant and competitive digital financial ecosystem. Financial services providers, including the new breed of fintech companies, venture

capital and private equity funding pools, responsive regulatory systems, a supportive policy scaffolding and a talent pool have been the key contributors for driving innovation in the country.

I. Financial services companies

(i) Increased convenience leads to higher financial savings: The most basic role of financial services is access to banking, the ability to save in an account, make payments for various services and remittances, and eventually to obtain credit. Over the past 3 years, the informal sector and rural segment have been increasingly brought into the fold of the formal banking; there are now 305 million beneficiaries with Jan Dhan accounts, with balances of Rs 673 billion (bn), 51% of these beneficiaries are women and 60% of them are in rural areas. The challenge now is to cascade the rapidly improving provision of financial services available to urban customers – based on the interplay between technology, design and usability across platforms and services – to the hinterlands.

(ii) Increased access to capital and analytical tools facilitates strategic data driven decision: The focus has now shifted from banking the unbanked to funding the unfunded. The legacy financial system, leveraging on fintech advances, is increasingly building capabilities to meet the credit needs of small and medium enterprises (SMEs). Payments channels have emerged as the most important conduit of conjunction between deposits and credit. As payments are increasingly transacted using digital channels, important behavioural information is increasingly available to potential lenders, who can use sophisticated data analytics to predict the account's creditworthiness, and enable loan sanctions with finer pricing, thereby creating economic opportunity for the borrower. Axis Bank's digital lending platform enables instant sanction of personal loans to pre-approved customers, enabled on the mobile app, internet banking and ATMs.

Invoicemart, a digital invoice discounting platform created by A.TREDS, an Axis Bank subsidiary, allows SMEs to post their receivables and get them financed. For SMEs, the platform delivers quick payment of invoices at competitive rates, without collateral requirements. Buyers of the invoices (corporates, Govt. Departments, etc.) benefit from efficient cash flow management and seamless settlement of transactions. Overall, the platform allows financiers access to multiple buyers and SMEs with minimal acquisition cost.

Customization is the motif of technology enabled delivery of financial services. A new era of personalized banking and commerce is emerging wherein customers can converse with brands and financial institutions in a natural language through their preferred mode of communication.

Not only does this lead to enhanced acceptability of interactions with service providers, this also incentivizes financial responsibility in customers, aware that their charges will be lower based on responsible behaviour.

For banks increased automation enhances back-office functions, leading to process efficiency and faster transactions. Axis Bank has partnered with Active.ai to build intelligent chatbots for its users to chat through the Axis Bank mobile app and messaging platforms like FB Messenger, facilitating a number of day to day activities like bill payments, funds transfer, management of credit card spends and much more, in a seamless manner. Auto application completion algorithms using Aadhaar validation, enhance customer convenience by greatly automating and simplifying the process.

II. Regulators

Innovation improves in efficiency, productivity, quality, competition, among other positives. But they also introduce uncertainty about current business models, and associated long term untested effects and risks. Regulators have started assessing the pros and cons of these innovations, and have begun a careful, thoughtful ring fencing of risks.

Regulators have started responding to the push by innovators against legacy regulations by seeking to create a more enabling environment for fintech firms to develop and proliferate. Some countries and regulators have opted to regulate fintech companies through existing frameworks; others have introduced specific and tailored regulations.

New tailored, responsive frameworks are being developed that can adjust to the frenetic pace of change. Regulatory sandbox approaches are being fostered to give space for innovations to enter and compete in the market place.

III. Govt and policy authorities

The Govt. at the Centre and States have encouraged the development of technology and institutions to enable and establish a world class digital infrastructure. Balances in PMJDY accounts have been deepened, by incentivizing bundling of various products and payments of subsidies and subventions into the accounts. Direct Benefit Transfers (DBT) payments of Rs 2,334 bn have been deposited into bank accounts - Rs 506 bn in FY18 alone.

A step jump up in digital transactions was seen post the November, 16 demonetisation. Credit and debit card transactions at POS terminals rose from an average of Rs 13.8 billion per day during April – October '16 to Rs 24.2 bn per day over December '16 – August '17. Transactions value on UPI has jumped 7.7 times since December '16 to Rs 1.8 bn per day in Sept '17. The Unified Payment Interface, operationalized in August 2016, is an instant, real-time, mobile-based payment platform for inter-bank transactions.

To accelerate online payments, an experiment labelled Indiastack has been set up – a set of open source APIs designed to allow Govts., businesses, startups and developers to utilize India's advanced digital infrastructure – facilitate public service provision which are presence-less, paper-less and cashless The increasingly ubiquitous biometric digital identity allows people to participate in any service from anywhere. Digital records move with an individual's digital identity, eliminating massive amounts of paper collection and storage.

3. Managing risks while harnessing the benefits of digitalization

Even as digitalization promises significant advances in delivery of financial services, risk profiles have already changed. Cyber risks have become not just a major risk, but as much of a disruptor as the innovations themselves, threatening data integrity and business continuity in an increasingly connected financial system. The use of cloud and dependency on external service providers adds to the complexity of managing the risk.

Cyber-attacks on business have increased in frequency, scale and impact and are becoming more sophisticated and persistent. In 2016, cyber-attacks were estimated to cost businesses as much as $450 bn [L Graham, CNBC Cyber Security, 2017]. Risk of data loss and theft has also risen, with the increased use of data analytics for creating business opportunities. The fine balance between data access and privacy is hotly debated.

4. Fostering an innovation environment

A loose variant of the comment of a former UK Minister best sums up fintech developments and the digital environment in India: "Here in Silicon Valley, I have seen the future, and India is very much part of it". The potential for further development is enormous. The Govt. has given its full support to fostering and supporting financial innovation, and India has become a thriving fintech hub.

Individual companies are also contributing to fostering an innovation environment. Axis Bank, through an accelerator programme at our Thought Factory, works with early stage startups, enabling validation of business models in areas like payments, digital lending, investment advisory and operations. The programme facilitates startups' connections with mentors, investors and potential customers.

The financial ecosystem is becoming interconnected and the nature of competition is changing. Axis Bank's UPI platform is attracting top technology companies, creating shared synergies. Value creation will be enhanced through partnerships and acquisitions, as well as co-creation with customers. Axis Bank's acquisition of Freecharge is expected to enhance the digital footprint by enabling the addition of millennial, native mobile customers to the existing pool. On a longer

time scale, the future of jobs in a digital environment has emerged as a serious policy issue all over the world, and particularly in a rapidly growing economy like India. This is an inevitable. ■

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