



Confederation of Indian Industry



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**9th CII BANKing TECH Summit, 21 April 2015**

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# ***Banks taking a quantum leap through digital***



[www.pwc.in](http://www.pwc.in)

## Chairman's message

CII's BANKing TECH Summit is a flagship annual gathering of the Indian banking technology industry, focussing on connecting the dots between business, operations, technology and regulatory dimensions of the sector.

The ninth edition of the summit recognises the sweeping magnitude of impact that the digital wave has unleashed in the banking sector, and hence the theme, *Banks taking a quantum leap through digital*.

It has been the constant endeavour of banks to enhance customer experience, improve efficiencies by adopting leaner and cost-effective operations and drive revenue by increasing the depth as well as the spread of customer engagement. The onset of the digital era has opened up a plethora of opportunities as well as challenges to these pursuits. Multiple avenues of interaction such as the internet, mobile, tablets have veered customers away from traditional channels such as branches and ATMs. While this presents a huge potential for improving both the reach as well as the quality of engagement, it also brings up the challenge of delivering a consistent experience to the 'here and now' digital age customer across these platforms. While digital channels capture valuable insights, the opportunity of personal interaction is lost, apart from the security risks that these channels potentially introduce. Often referred to as the 'digital out', this facet represents choreographing the customer-facing layer of banks.

Another dimension of the digital evolution relates to the digitisation of internal processes that will bring in benefits of reduced cycle time, fewer exceptions and faster throughput resulting in greater efficiencies. This aspect, referred to as 'digital in', represents orchestrating the operations layer of these institutions.

The adoption of digital is challenged by the incumbent technology landscape, manifesting itself in multiple generations, as well as the multitude of business lines and geographic spread of banks. On another plane, deep dive analytics and CRM of high granularity – phenomena that are waiting to happen, hold out a promise of delivering greater value to the bank as well as its customers.

While banks grapple with these business, operations and technology imperatives, the ecosystem brings at least two dimensions of challenges (a) innovations in the payment space such as mobile money, e-wallets and payment aggregators that, collaborating with the exploding e-commerce segment, threaten to take away a sizeable chunk of a bank's cash flows and revenue streams (b) risk and regulatory framework which includes new dimensions of risk introduced by digitisation that need to be addressed so as to ensure secure banking and the evolving regulatory requirements to which banks are expected to be compliant.

With these developments as a backdrop, CII and PwC have put together this report which showcases the banking industry as it is today and the possible roadmap ahead to take a quantum leap with digital as its springboard.

We hope this report is helpful and we welcome any thoughts you may have.

Warm regards,



**Arun Jain**

Chairman - CII BANKing TECH Summit 2015 and  
Chairman and Managing Director, Intellect and  
Chairman, Polaris Group of Companies

## Foreword

The banking industry is going through exciting times and as customers, we experience this in the way it touches our lives. Technology, digitisation, social media and mobility are changing our personal lives in a big way and this naturally implies that services such as banks need to respond to this change and reinvent the way they do business.

As the banking fraternity faces multiple disruptions with the entry of small banks, new payment banks and non-traditional players, it will be interesting to see how all of this will play out for the sector.

The digital battleground has presented banks with a huge opportunity to attract new customers, lower costs, develop new propositions and business models, as also explore customer value to its maximum. To create a digital environment is now a priority for all banks and they need to undergo considerable investment for complete transformation. Leading the bank towards digital transformation implies enhanced user experience through interactive interfaces, advancement in mobile technology, improved digital security, collaborating through social media, channel integration and gaining insights into customer behaviour through digital analytics. Furthermore, fintech companies are setting new standards in innovation, time to market, and customer experience which traditional banks are forced to measure up to.

Client interactions have led us to believe that banks are leveraging digital to re-imagine existing processes, come out with new products and services, and create a new customer experience. Having said that, our report *Banks taking a quantum leap through digital* is an endeavour to address the various aspects in which the realm of banking is expanding as well as the challenges it encounters along the way. We have tried to capture the undercurrent of the industry and coupled it with our understanding of the business.

We hope that you will find this report insightful and a good read. Please write in to me with your views.



**Vivek Belgavi**

Leader, Technology, Financial Services  
PwC India

The last few years have witnessed a transition of banking from a predominantly transactional business to a customer-centric one. Engaging the customer through the most relevant channels has become key to maximising customer value and creating newer and more innovative revenue streams for banks. PwC believes that digital platforms will impact the entire ecosystem of the banking industry by redefining the type of interactions while necessitating new innovative internal processes and employee skills to support these interactions.

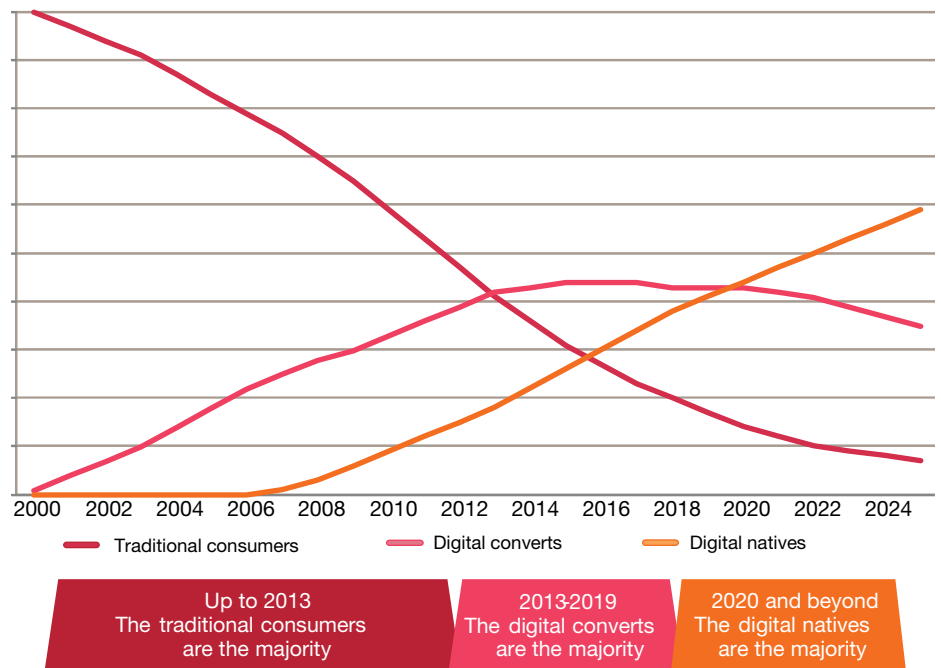
Digital platforms provide a unique opportunity to interact with customers on a regular basis in a more personalised manner. Unlike other traditional channels of communication and service delivery which cater to broader customer segments, digital channels are generally consumed individually, thus increasing the scope for tailored customer experiences. Digital is also transforming the internal operations of banking brought on by increased data access and real-time transmission and automation capabilities.

The role played by digital in each facet of banking is evolving rapidly and banks need to be on top of their game to stay ahead of competition. Below are the top five trends to look out for:

## Innovative customer acquisition and engagement strategies

Digital channels provide banks with a unique opportunity to deliver highly customised propositions and services to their potential and existing customers at relatively lower costs. While these channels provide access to larger public social platforms, the inherent nature of the platform makes communications through these channels individual and intimate. Users are able to experience services on their own terms, controlling the context, mode and length of exposure to the product or service. Given the singular mode of interaction and negligible delivery

**By 2020, digital natives are going to form the majority segment of customers changing the industry ecosystem and forcing organisations to adapt to changing customer needs.**



(Source: PwC's New Digital Tipping Point)

cost, banks can deliver heavily tailored solutions rather than having to build broad customer segment based propositions. Banks will be able to leverage this facet along with the goldmine of data that digital provides, in order to study and understand customers. Analytics and data-mining on these information assets are expected to enable banks to design and provide solutions as per individual needs.

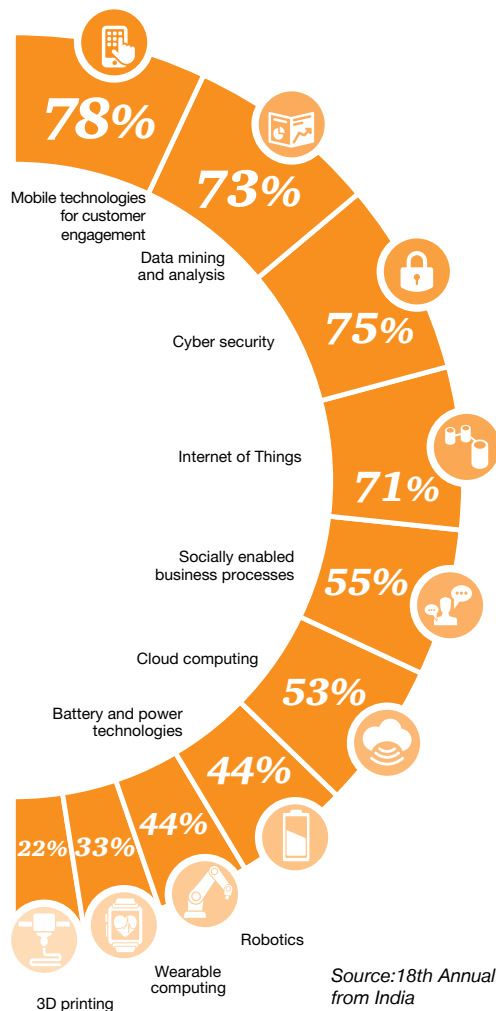
Thus, new digital platforms with underlying analytical support will be extensively used by banks to redefine the acquisition and engagement strategy for gaining competitive advantage over the counterparts. The industry is expected to soon see new methods of engagement which will get the customer hooked in a much shorter span of time providing highly tailored experiences with appropriate information content.

## Data driven innovation across all industry facets

Digital brings with it the unique opportunity to capture enormous volumes of data in a faster and more efficient manner. The challenge however is to be able to draw timely insights from this data. Banks need to ensure that their data set-up and technology architecture are optimally designed to meet the volume, velocity and variety of data at their disposal.

The focus will be on leveraging big data technologies along with in-memory analytics to be able to utilise data to draw insights in real time and act on these insights speedily. Businesses will start re-aligning their organisation structure

With the number of mobile users growing at a CAGR of 91% from 2012 to 2016, India CEOs believe mobile technologies are the strategic focus for better customer engagement.



Source: 18th Annual Global CEO Survey: The view from India

in order to facilitate analytics-backed decision-making so as to capture the market intelligently and quickly.

### Disruptive solutions in the payments space

With the proliferation of mobile-based services and the reducing median price of smartphones, the payment industry is on an exponential growth trajectory, further aided by policy, frameworks and guidelines being formalised by the regulator. Innovative and disruptive solutions have made this volume-intensive and low-margin industry a lucrative one. For example, M-Swipe has given an alternative solution to POS machines given by banks, thus increasing the reach of digital payment to traditionally cash-only transaction-based services (such

as barber shops, kirana stores, etc) in a cost-effective manner. With the advent of regulations around payment banks, PPIs, etc players such as telecom firms, payment solution providers, retail chains and banks alike have all jumped on the payment bandwagon. Dematerialisation and digitisation of plastic cards will force banks to re-invent and innovate. Ease of making payment is the new customer demand which will see a departure from traditional encrypted password-based payments to biometric security-based payments. Wearable payment solutions will also see an upsurge which will have minimal turnaround time for payment. The industry will see an evolution driven by the need to adapt to advances in mobile technology and the demand for seamless payment solutions.

### Convergence of regulations and emphasis on data management

Multiple regulations, both global as well as regional, have forced banks to look at increasing their resilience around data management. Regulators are moving from standardised reports based supervision to seeking access to granular underlying data for assessment of the bank's risk positions. The expanding ambit of regulatory initiatives such as anti-money laundering, automated data flow, Basel norms, Foreign Account Tax Compliance Act, etc have a common underlying theme of providing accurate and reliable data in a timely manner.

Data governance and management will acquire the centrestage of information strategy formulation for the facilitation of both internal as well as external regulatory information needs with appropriate standards of data quality. Standardised regulatory tools in the industry supported by a strong data governance structure will become a norm in the industry.

### New security frameworks for combatting fraud and cyber security

Information, digital transactions and smart devices continue to proliferate at an extraordinary rate. This also opens up potential loopholes that can be exploited for various kinds of fraud. While incidents in some areas can be troubling, others can destroy key elements of your business and in turn the brand.

When looking beyond enterprise boundaries, there is a need to protect what matters most and ensure investment is allocated correctly. Cyber risk management in the business ecosystem is a complex issue, requiring board and managers to engage sophisticated techniques, and for new skills and capabilities to be embedded in the people.

Businesses that seize the digital advantage must be confident that they are able to manage cyber security risk. Those that are able to build trust with customers and other stakeholders for their digital strategies will be successful. That is, trust that data and transactions will be safe, that identity and privacy issues have been dealt with and trust that systems and processes will be available when needed.

Therefore, cyber security will need to be treated as an enterprise-wide risk for which banks will need to develop a clear risk appetite to suit the specific business circumstances and associated action plan. Various department employees at all levels (from C-suite to junior management) will require education about cyber threats as cybercrime will no longer be just the domain of the IT or network security function. In short, successful businesses in the digital age will need to get to grips with cyber security.

### ***Disruptive innovations from non-conventional financial players***

The financial services sector is facing the omnipresent risk of disruptive innovation. The groundbreaking redefinition of the payments space, explosion of technology-driven wealth management or strong emergence of online peer-to-peer lending solutions are all breaching the areas which were formerly banking strongholds.

Non-bank attackers, ranging from large telecommunications companies to small and nimble technology players, are defining the standards for digital banking. Generally, these non-bankers have a small role in the overall ecosystem of the banking industry and therefore have far lesser overheads while innovating for new solutions. Therefore, they have a high pace of innovation and pose a unique question to banks to innovate at lightning speed while meeting regulatory norms.

Non-banks focus primarily on the small value-added offering while remaining in isolation of the rest of the ecosystem making them innovative and agile at the same time. They are also targetting key areas such as payments and small-term lending which account for nearly 80% of daily customer interactions.

Therefore, banks will have to look out for these non-banking players and quickly define the new definition of the digital bank focussing primarily on customer-centric alliances to build trust and hold on to the customer base.



# Digital in the realm of banking

Given the level of customer-centricity in the banking industry and the digital wave further increasing customer power, it is critical to explore the continuing impact of digital on banking vis-a-vis the customer banking journey. This will not, however, be limited to customer interaction points, but will also include all internal bank processes and operations where digital has had an impact.

## Customer acquisition and onboarding

Growing one's customer base continues to be one of the top priorities of any banking institution. Traditional internal customer acquisition strategies tend to have relatively lower conversion rates and purchasing customer databases is an expensive option. Digital avenues provide alternatives to tackle both these issues.

## Taking advantage of richer, cheaper data access

One of the most relevant outcomes of the digital boom has been the availability of data at relatively lower costs. Social platforms are fertile ground for developing customer insights, understanding the latest trends of likes and dislikes, as well as testing hypotheses and building brand equity. In an age where our lives continue to be more and more public, banks are invading this space to get access to data and use it in innovative ways.

The objective is to not only acquire the means of contacting potential customers, but to go a step further and accurately measure the likelihood of lead conversion, thus saving companies considerable investment that would otherwise go in fruitless pursuit. By combining access to rich, varied data with powerful analytics tools and techniques, banks can now go beyond the traditional demographic and financial data sources to utilise social data while profiling customers better to understand their individual requirements.

Search engine optimisation is another approach that continues to be a formidable customer acquisition strategy. According to the Shop.Org and Forrester State of Retailing Online 2014 study, 85% of retailers put search engine marketing as the most effective online customer acquisition tool. The study mentions that retailers spend a considerable budget on paid search programmes as compared to other tactics.

Digital technologies feature in the top five strategic technologies for organisations with speed of execution as the key driver for gaining maximum benefits.

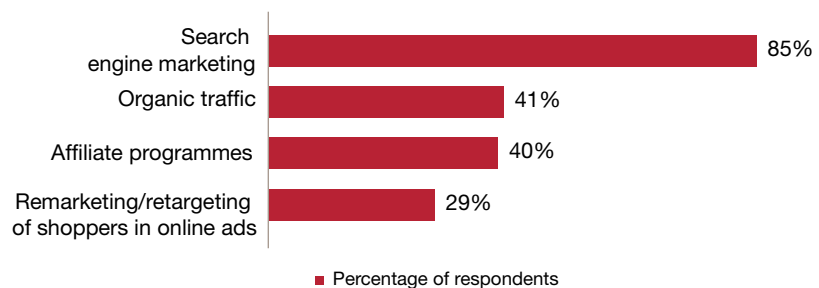
	Automotive	Business & Professional Services	Energy & Mining	Entertainment, Media, & Communications	Financial Services	Healthcare	Hospitality & Leisure	Industrial Products	Power & Utilities	Retail & Consumer	Technology
Data mining and analysis	●	●	●	●	●	●	●	●	●	●	
Private cloud	●	●	●	●	●	●	●	●	●		●
Cybersecurity	●	●	●		●		●	●	●	●	●
Mobile apps for customer	●			●	●	●	●	●		●	●
Social media for external	●	●	●	●	●	●	●			●	
Digital delivery of products and services		●				●				●	
Public cloud applications				●							●
Robotics			●							●	
Battery and power technologies									●		
Public cloud infrastructure											●
Sensors								●			

Q. Which of these technologies will be of the highest strategic importance to your organisation over the next three to five years?

Bases: 375, 1,119

Source: PwC's 6th Annual Digital IQ Survey, 2014

## Top online retailing strategies



Source: Shop.Org and Forrester State of Retailing Online 2014 study

## Building partnerships: E-commerce websites and aggregators

Tying up with other online market spaces is another strategy for customer acquisition. With phenomenal boom being observed in the e-commerce space in India, banks can use these channels as a means to reach out to new customers, including those in smaller cities. Apart from exploring regular advertising strategies on these websites, joint product offerings could be an innovative opportunity.

The e-commerce boom has also increased the customer's comfort with online purchases. And this is slowly expanding to the financial products space as is evident with financial product aggregators witnessing business growth. Bankbazaar.com, which is an aggregator for loans and credit cards among other financial products, saw disbursements double across all product categories. In 2013-14, the company disbursed 3,000 crore INR across all products on its platform.<sup>2</sup> Banks can therefore consider such aggregator sites as prospective distribution channels.

## Leveraging smartphone capabilities to improve app functionality

With a flurry of affordable smartphones being launched in the Indian mobile market through aggressive pricing strategies, device penetration is expected to experience sizable growth. According to an eMarketer report, by 2016, India will have more than 200 million smartphone users, overtaking the US as the world's second largest smartphone market.<sup>2</sup>

Couple this with the latest mobile internet trends (the number of mobile internet users in India is expected to reach 213 million by June 2015 with 160 million being urban users<sup>3</sup>), mobile and smartphones will continue to be a prime channel for reaching customers. With such telling trends, designing content tailored for smartphones, and leveraging the increased functionality of smartphones, including GPS, camera and access to fast internet, will continue to be a key driver for the growth of the industry. Developing innovative apps and mobile experiences will be a major hook in engaging potential customers.

## Snapdeal-HDFC co-branded credit card<sup>1</sup>

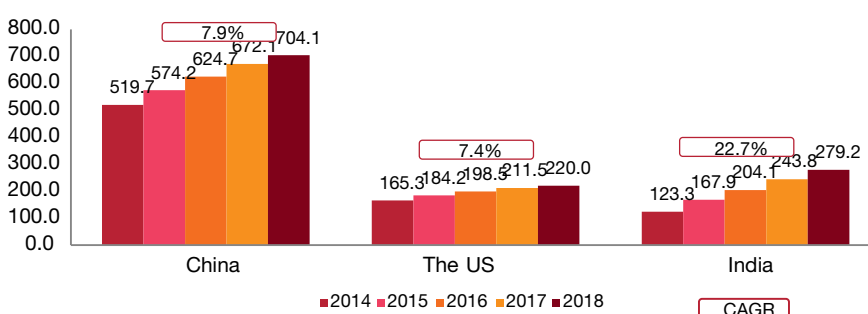
Snapdeal and HDFC have entered into a three-year partnership to launch a co-branded credit card. The card will target buyers in smaller towns and cities. The joint offering provides both companies with a host of opportunities. For Snapdeal, the tie-up will drive more purchases as customers will now have a payment mechanism to use, apart from potential sales increases with specific offers from using the card on Snapdeal. Further, the targetting of smaller towns will be beneficial to Snapdeal that sees a significant portion of its 3 billion USD annual gross merchandise sales generated from Tier III and Tier IV towns and cities. The move will also open up customer acquisitions in smaller towns for HDFC, apart from gains from increased card usage and transaction volumes.

*"Striking key partnerships with e-commerce customer touch-points such as Flipkart and Bookmyshow for providing direct benefits to customers is a key driver for digital success."*

*- A respondent from a major PSU bank for the Banking Tech Summit Survey 2015*

## Leveraging smartphone capabilities

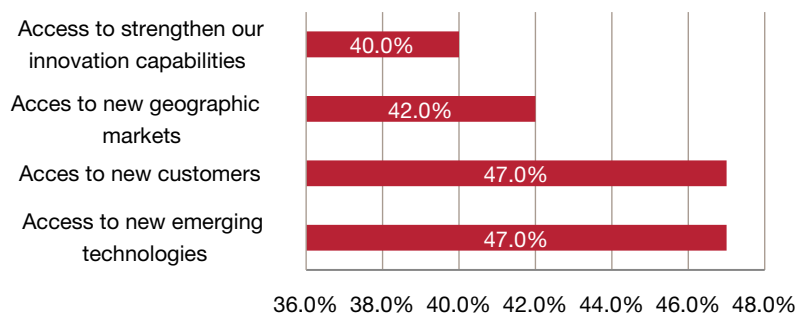
Number of smartphone users (in million)



Source: eMarketer, December 2014

## Nearly 51% of the Indian CEOs believe that they will enter into strategic partnerships to gain access to new technologies and customer base while strengthening their innovation capabilities.

What are your reasons for collaborating in Joint Ventures, strategic alliances or informal collaborations?



Source: 18th Annual Global CEO Survey: The view from India

1. Gooptu, Biswarup. (2015, March 09). Snapdeal and HDFC Bank tie up to launch co-branded credit card. The Economic Times. Retrieved from <http://retail.economictimes.indiatimes.com>

2. eMarketer. (2014). 2 Billion Consumers Worldwide to Get Smart(phones) by 2016. Retrieved from <http://www.emarketer.com>

3. IAMAI. (2015). Mobile Internet Users To Reach 213 Mn by June'15 [Press Release]. Retrieved from <http://www.iamai.in>



Expanding the scope of banking app functionality to provide options for not just existing customers but potential customers could be a major step towards using the platform as a customer acquisition tool. For example, tying in the smartphone's GPS functionality to provide customers with top retail offers and discounts in their vicinity can be a pull to download and use the app. Bundling this with further discounts when using the bank's products can then induce the user to apply for the bank's products. If the app can be used to set up a meeting with a bank sales representative (messaging or calling through the app or geo-tagging the customer's location) or even allow the potential customer to apply for the product directly through the app, the conversion from potential to existing customer is far more likely. Such hooks to promote customer interest that require low initial customer effort will provide a good opportunity to increase lead conversion.

#### Low participation hook to promote usage

A major hurdle in the lead conversion process is the application itself. KYC norms are rightfully stringent so as to protect against fraud risk. In the process, applying for even the most vanilla banking products calls for considerable customer involvement and effort which can act as a deterrent. While we subsequently explore how digital has significantly simplified the application hurdle, having an option to engage potential customers and provide a preview of the benefits of one's banking services without requiring the customer to invest considerable time and information to experience such previews, will be the optimum strategy.

"Using innovative portal design to redirect customers online for most of their queries and responses has led to significant savings in FTEs at call centres, in addition to increasing digital engagement with customers."

- A respondent from a major foreign bank for the Banking Tech Summit Survey 2015

"Smartphones will be ubiquitous so mobility is going to be the key. Smartly leveraging mobile devices keeping in mind ease of access and customer comfort will be a major differentiator."

- A respondent from a large foreign bank for the Banking Tech Summit Survey 2015

#### Chase's My New Home app as a mortgage lead generator<sup>4</sup>

Chase has developed a 'My New Home' app that allows users to search, rate and compare homes, save and share favourites, estimate payments as well as connect with a mortgage banker. The app positions itself as a useful tool to explore housing options, but also provides additional services such as mortgage calculators and mortgage help. It links the customer's housing needs to a service that the bank can provide.

The app therefore targets potential customers who may be interested in mortgages, thus acting as a good lead generator.

#### MyUniverse

Aditya Birla's MyUniverse<sup>5</sup> is an innovator in the personal finance space, providing a completely digital customer experience. The registration process is simple and not time-intensive. The platform itself provides a financial aggregation tool, assimilating various financial relationships of an individual under one virtual roof. The initial attraction is therefore being able to see all of one's accounts in a single place, track expenses and manage one's personal finances.

However, what MyUniverse has additionally been able to achieve is the exploration of a range of line and product extensions so as to gradually expand customer participation towards its revenue streams. The platform not only categorises expenditure and provides insights on spend analytics, it also lets you carry out a set of financial transactions from the platform itself. Based on your existing portfolio, it analyses your holdings, provides advice on instruments to invest in and directs you to Aditya Birla's investment platforms to seamlessly purchase mutual funds and stocks. By providing customers with a superior analytical experience without them having to make much effort, it successfully builds customer relationships and steers them towards its more profitable services. The digital delivery of such an experience is integral to this process since it develops customer comfort, encouraging them to not only consume the initial vanilla services but to also eventually graduate to premium offerings.



4. Retrieved from [www.chase.com/mortgage/mynewhome-app](http://www.chase.com/mortgage/mynewhome-app)

5. Retrieved from [www.myuniverse.co.in/home.aspx](http://www.myuniverse.co.in/home.aspx)

## Optimising acquisition processes through digital

Obtaining optimum results from digital innovations will require simplified application processes to maximise the lead to conversion ratio. With the onset of Aadhaar, biometric technologies are fuelling innovation in this space. By leveraging such technologies, banks can now develop 'doc-less' application processes. By scanning one's fingerprint and hitting the Aadhaar database, one's KYC is automatically generated, eliminating the need for photo-identification or having to carry duplicates. This, combined with a camera, fulfils all KYC requirements.

There are similar industry approaches in the asset production space where, apart from KYC, income documentation is also necessary. Using alternative proxies to estimate income (surrogates) is already a tried and tested method for banks. However, analytics is expanding the scope of such estimation and banks are now going beyond the usual proxies. The same credit information companies (CICs) that provide banks with customer financial transaction and payment information, also link to Aadhaar and PAN databases. Therefore, the same fingerprint that is used to generate KYC can now also be used to retrieve and verify one's bureau records. This not only provides banks with enough information to underwrite applications instantly and decide on whether to extend such asset services to a customer, but also aids them in estimating income and payment behavior from CIC data, thus allowing for accurate pricing of the risk being undertaken; all of which can be achieved remotely in real-time.

Such biometric and camera functionalities are now available as built-in features in mobile phones, thus enabling the front-end sales staff to be adequately equipped for providing a hassle free application experience. Various examples, such as ICICI's Tab Banking, illustrate the leveraging of digital technologies to streamline processes and overcome the application drop-off hurdle. Providing such technologies to the front-end staff achieves multiple objectives by establishing a digital experience for the customer and providing adequate customer delight situations, as well as reducing the time the sales staff spends in logging-in applications, thus opening up more time for customer interactions. The same mobile devices can also be loaded with sales aids and presentations for improving conversion likelihood. This is in addition to other internal employee engagement tools that can track productivity as well as time utilisation.

## Customer engagement and servicing

### Keeping your customer connected to your brand

Continually engaging with one's customer for being the preferred financial transaction platform, the top brand to refer others to, or even simply to be the first credit card the customer reaches for in her wallet, is imperative to promote service consumption and utilisation.

According to a recent Gallup study<sup>6</sup>, fully engaged customers bring 402 USD as additional revenue per year to their primary bank compared to disengaged customers. This number goes up to 869 USD for mass affluent customers. Even more compelling is the finding that fully engaged customers have a significantly greater wallet share in both deposit balances with their primary bank as well as in investments, and also hold a higher number of products as compared to disengaged customers. These statistics further highlight that the additional investment in creating a formidable customer experience gets more than justified in the returns it generates.

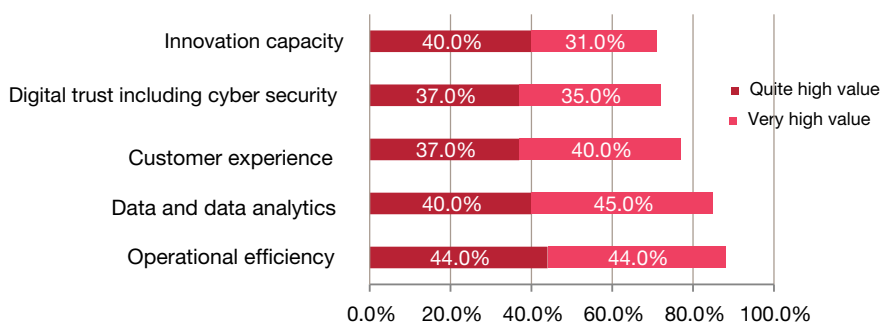
Banks must therefore endeavour to find opportunities to continually engage with their customers, right from the point of application. For instance, be it a credit card or a loan, there is a reasonable turnaround time before the product is available to the customer. Rather than a lack of interaction during this phase, providing one's customer with relevant information on the product, such as key features, payment options etc., can be a good way to keep one's customer engaged. A clever example of such engagement is the SundaySky SmartVideo.

*"Marketing, digital as well as analytics teams must work closely to give a personalised experience to the customers, while using the mobile application and building a strong connect using positive customer experiences."*

*- A respondent from a large private sector bank for the Banking Tech Summit Survey 2015*

**Majority of CEOs in India believe that digital innovations to enhance customer experience are helping build customer trust, while at the same time enabling organisations to increase roi by decreasing operational costs.**

To what extent are digital technologies creating value for your organization in the following areas?



Source: 18th Annual Global CEO Survey: The view from India

6. Hughes, Jon and Youra, Betha. (2014, March 7). The Financial and Emotional Benefits of Fully Engaged Bank Customers. Gallup. Retrieved from <http://www.gallup.com/>.

### SundaySky SmartVideo stories<sup>7</sup>

SundaySky SmartVideos are visual stories delivered to a customer through online platforms that provide succinct views of the products that the customer has applied for. These include credit limit and interest rate, first statement due date, rewards programme benefits and encouragement to uptake on value-added tools such as paperless billing and auto-pay, as well as key cardholder resource recommendations such as mobile apps. The company terms these video stories as 'personalised customer onboarding experiences' and credits their approach with improving customer activation and product utilisation.

"Smartphones are growing at a rapid rate and convergence of online and mobile banking in the coming years is inevitable, soon making it a mobile-only market."

- A respondent from one of the largest private banks for the Banking Tech Summit Survey 2015

### Video calling with your relationship manager

IndusInd Bank has launched 'Video Branch'<sup>8</sup>, a service available through the bank's website and via a mobile phone app. It allows customers to talk to bank representatives through a video call. The app leverages the ever increasing popularity of digital video calling made popular by services such as Skype and FaceTime. Positioned as an alternative option to phone banking, and especially attractive to its NRI clients, the app is a smart move in establishing the bank's digital brand.

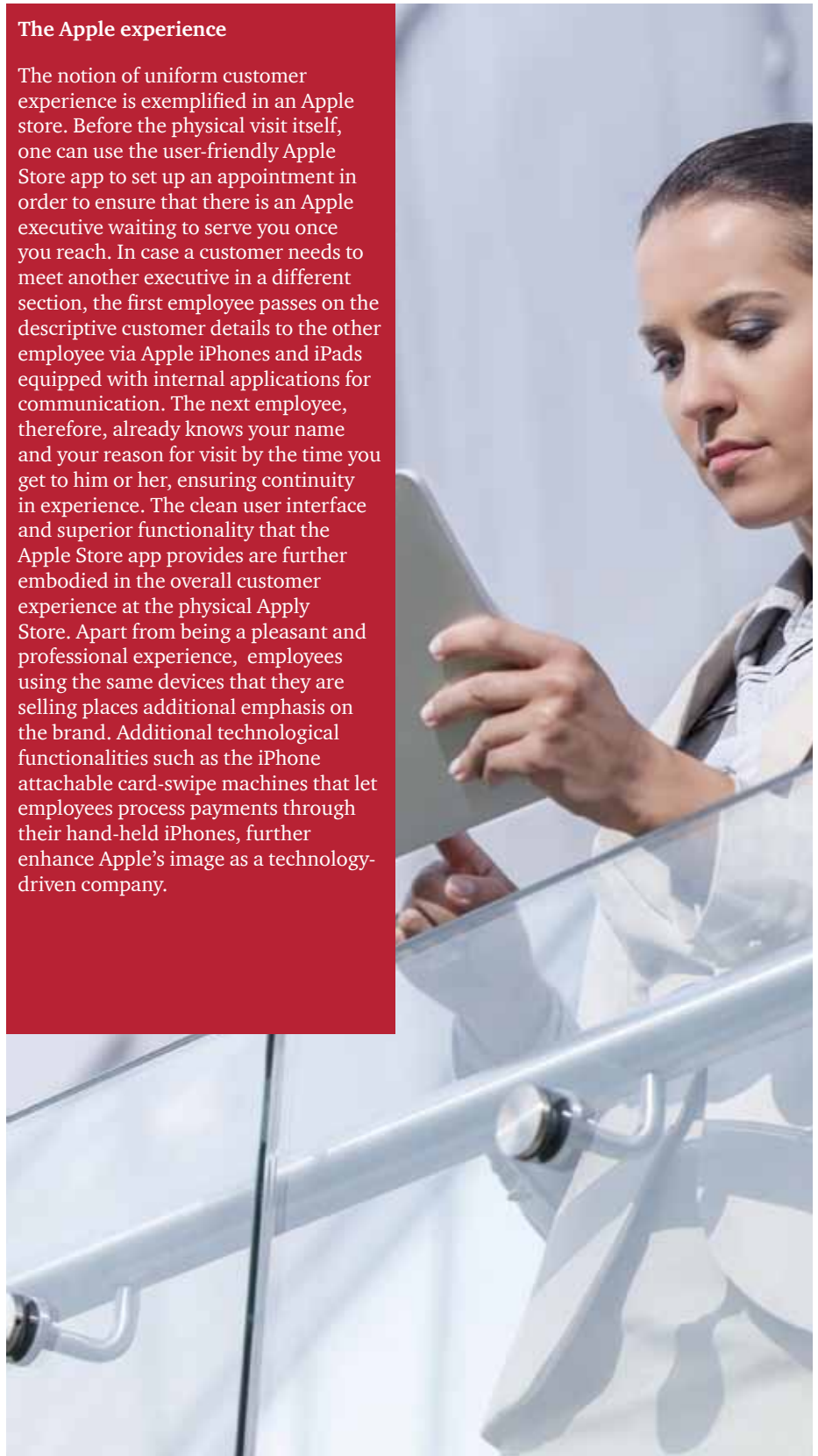
Applying such plays to the banking space, maintaining the same look and feel of a sales employee's customer application form with the customer's online banking platform, or equipping the sales force with the technology to carry out customer requirements such as payments, scanning and applying, go a long way in creating niches in one's customer's brand impression and improve the chances of recall, loyalty and referrals.

While using multiple platforms to communicate with one's customer improves the reach, it may not be the most optimum strategy. Using analytics to study channel consumption trends and applying predictive modelling to identify communication routes that provide greater success, are techniques that have become more common today.

### The Apple experience

The notion of uniform customer experience is exemplified in an Apple store. Before the physical visit itself, one can use the user-friendly Apple Store app to set up an appointment in order to ensure that there is an Apple executive waiting to serve you once you reach. In case a customer needs to meet another executive in a different section, the first employee passes on the descriptive customer details to the other employee via Apple iPhones and iPads equipped with internal applications for communication. The next employee, therefore, already knows your name and your reason for visit by the time you get to him or her, ensuring continuity in experience. The clean user interface and superior functionality that the Apple Store app provides are further embodied in the overall customer experience at the physical Apple Store. Apart from being a pleasant and professional experience, employees using the same devices that they are selling places additional emphasis on the brand. Additional technological functionalities such as the iPhone attachable card-swipe machines that let employees process payments through their hand-held iPhones, further enhance Apple's image as a technology-driven company.

Some customers may prefer email and app based consumption while others may prefer phone conversations and physical meetings. The banking mobile app as a means of customer interaction, as opposed to one-way communication, is a fertile space, beginning to be explored by industry players.



7. Retrieved from [www.sundaysky.com/solution/banking-onboarding-customers/](http://www.sundaysky.com/solution/banking-onboarding-customers/)

8. Retrieved from [www.indusind.com/content/home/personal-banking/payment-service/services/video-branch.html](http://www.indusind.com/content/home/personal-banking/payment-service/services/video-branch.html)

## Servicing your customer efficiently and identifying opportunities for relationship growth

Another major advantage of digital channels is the ability to provide real-time solutions to customers. Banks have been able to considerably simplify their internal processes with the help of cloud systems, mobile apps and digital back-end set-ups. The key is for banks to be able to manage their data efficiently and set up processes and policies to facilitate data flow and constancy through the organisation. Establishing the right technology architecture is also crucial to achieving such a set-up.

A bank's data set-up is just as significant from an analytics perspective. The bank has access to a universe of financial information regarding its customers. While its ability to utilise this data depends on its analytical capabilities, it is equally important to be able to capture as many distinct variables as possible. Collating social media data is another rich data source. Banks must invest in adequate data capabilities to capture such information at the back-end.

Once the bank's data set-up is equipped to meet these requirements, the scope of customer servicing significantly expands. Measuring customer sentiment as part of a larger complaint management and brand management effort is one such function. Companies are now more and more interested in being able to assimilate the sentiments of customers across different social platforms so as to understand where they stand and what they need to do better.

Based on customer product usage trends, banks can identify key product tweaks to further enhance customer experience while providing better revenue streams. For instance, based on a customer's spending patterns and movements, a bank can map specific retail offers for the customer to avail in close vicinities of places he or she frequents, thus increasing the utilisation of bank payment products during such purchases.

The banking mobile app provides a fantastic medium to deliver such service delights. Given the increasing penetration of smartphones, mobile apps are becoming all the more important in a bank's customer servicing and engagement strategy. Apps are becoming differentiators for banks as they provide unique customer capabilities leveraging smartphone technologies. The app now goes beyond vanilla applications such as viewing account details and transactions and provides suggestions regarding which products will enhance a customer's overall financial well-being.

The scope of such apps is expanding, encouraged by the increased functionality

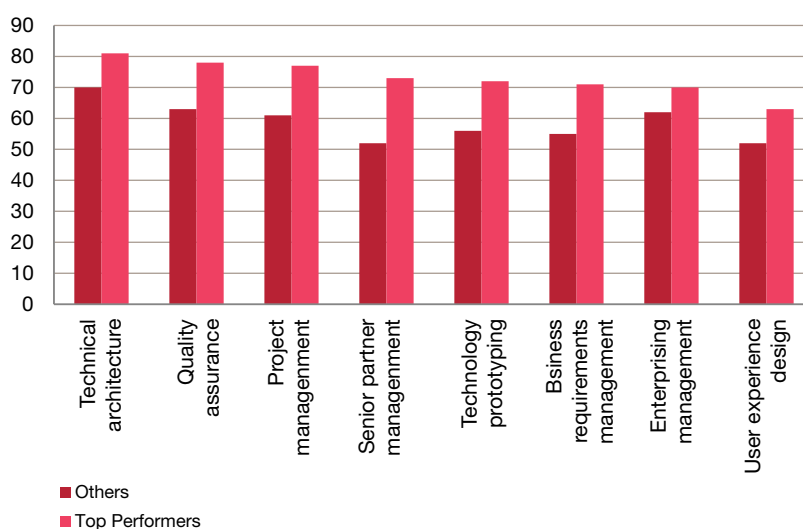
that smartphones provide. For example, a smartphone's GPS can now be utilised not just to provide the branch and ATM locations, but to map offers and discounts that the customer can avail while using the bank's products. Another offering involves combining access to a smartphone's camera with an app's QR code scanning capabilities, which can let customers download banking or product information on their smartphones on the go. QR codes can further supplement or even replace advertising, thus expanding the amount information that can be exchanged with customers. QR codes are also a great way to capture customer responses by asking them to scan appropriate codes corresponding to their answers.

"e-KYC via finger print scanners across all the branches has helped us reduce the turnaround time and has led to increased customer satisfaction."

- A respondent from a major private sector bank for the Banking Tech Summit Survey 2015

Players with strong enterprise architecture and user experience design skills are expected to be the top performers in the digital era.

How would you rate your organization's IT department on the following skills needed to integrate digital capabilities into your core business?



## Digital payment solutions

The digital economy has evolved and multi-channel delivery has become an imperative today in every business. As we enter a new era of digital revolution, payments made through cash and card is paving the way for payments made through various digital channels. This transformation is not only triggered by a revolution in mobile technology but also by the rising awareness about digital payments and an increase in the preference for hassle-free transactions. As per Ken Research, India's payment market is expected to reach 8,172.7 billion INR by 2019. The payment industry in the country is composed of various segments, mobile wallet, mobile banking, mobile point of sale, bill payments and online payment gateway, with each segment comprising of a number of players. Each of these segments is being dominated by different players, for example, mobile banking is dominated by banking institutions, mobile wallets by partnerships between financial institutes and mobile operators and MPOS by new players such as Ezetap, Mswipe and iKaaz.

### Disruptive payment technologies

Technological advancements have led to the emergence of innovative and disruptive payment models, which will shape the future of the industry.

#### *Outdoor payments enabled by near field communication technology*

Most outdoor micropayments will be driven by near field communication (NFC) devices, as is evident with the bPay band, a wearable payments solution launched by Barclaycard. It is a wristband that enables customers to make myriad transactions in shops, bars, cafes as well as public transport. The wearable device offers customers a simpler way to pay for goods and services by just tapping their wristband to pay for bus journeys, their morning coffee, lunchtime sandwich or post-work drinks. It is an open market product, that is, users can attach any Visa or MasterCard debit or credit card to the band and need not necessarily be a Barclays or Barclaycard customer. In order to make use of this device, customers are required to set up an online account with bPay. Existing debit and credit cards can be linked to this account and customers can recharge the wallet as per their needs. On similar lines, the Turkcell Wallet for instance is a digital wallet product that offers customers the payment option for both, online as well as point-of-sale transactions based on the NFC technology. It supports NFC technology with a secured layer that is built within the SIM card

itself. It transacts at all retail point of sales that have NFC readers. The product provides services such as couponing, transportation cards and pre-paid mobile account top-ups using the online payment services. It can store a range of payment cards, including credit cards, tickets and ID cards. It supports, through an SMS or internet connection, person-to-person money transfers as well as bill payments.

### *Redefining remittances*

Cross-border remittance so far has been controlled and operated by banks in India. Currently, only banks are authorised to execute bank-to-bank outward remittances. Players such as Western Union, perform outward remittances in association with other banks. However, this will soon change in the future. Earthport for instance, is seeking permission from the Reserve Bank of India (RBI) to start operations in the country. Currently, the company provides cross-border payment services for financial institutions, large corporate clients and small medium enterprises, using its epClearing system. epClearing is a payments framework, designed for high volumes of low-value cross-border payments, ensuring a cost-effective and transparent service for secure international payments. Unlike traditional open loop (correspondent banking or wire payment) systems, Earthport processes a cross-border payment as a domestic credit transfer, interlinked through a sophisticated virtual accounting engine. The model avoids several costs and complexities involved in transferring cross-border funds. Funds passing through the service are lodged within segregated client accounts held with banks around the world. This can help banks cut down costs and make the remittance process more transparent by having a fixed fee structure.

### *Innovative security solutions*

Increase in the volume as well as value of digital transactions has made payments susceptible to various security risks. UK-based technology company, Ensygnia tries to address this issue with its Onescan mobile transaction platform. The platform securely and confidentially exchanges all the requisite information needed in order to complete a purchase, transfer funds, log-in to a network, register with a service, and redeem or claim loyalty rewards. All these process can be performed without the need to remember a username and password, complete a form or provide bank account details. The customer's payment card details are all

tokenised, thereby providing maximum protection from fraud, through a secure mobile transaction platform. This secure identity management platform holds the customer's encrypted data safe from access and 'tokenised' in order to render it meaningless unless unlocked. The only 'key' that can unlock this data is the customer's phone, using the Onescan app.

*"Customers are fast moving to the digital platform. Approximately 80% of transactions now originate on digital channels and the number goes even higher in case of corporate customers."*

*- A respondent from a major foreign bank for the Banking Tech Summit Survey 2015*

## New payment banks: Role in enhancing financial inclusion

The idea of a payments bank originated from the recommendations of the Nachiket Mor Committee, which had examined at length the various challenges within financial inclusion and remittance services. As per the committee, more than 60% of the adult population, both in urban and rural areas, is still excluded from basic services such as having a bank account for savings and remittance purposes and that existing banks cannot meet these requirements. In order to ensure economic growth of a country, appropriate means of savings, credit as well as remittance is a must for all sections of society. To achieve these objectives over the year, various steps have been taken, such as the creation of regional rural banks and 'branchless banking through business correspondents'. Prime Minister Narendra Modi's **Pradhan Mantri Jan Dhan Yojana** currently plans to cover the entire country by March 2016 and ensure that there are at least two bank accounts for every household.

However, even after these changes, there is a huge service availability gap in the efforts of the existing bank which the payments bank can supplement. Moreover, new players in the banking sector will commence with superior technology and an all-India presence through franchise models, thereby providing a wider reach in a more efficient manner. Towards this, kirana stores can provide the franchise and can be the fixed point service outlets. The differentiating factor between scheduled banks and payments banks which can make an impact lies in focus. Financial inclusion is one of the focus areas for scheduled banks whereas for payments banks, financial inclusion is the sole focus area.

"Beyond financial inclusion is economic inclusion- how to ensure the benefits from financial inclusion are being realised by the target community. Financial literacy is essential. Banks have a major role to tie up the entire financial inclusion value chain."

- A respondent from a major public sector bank for the Banking Tech Summit Survey 2015

## Oxigen's contribution in financial inclusion

If we look at the mode of operation of Oxigen, which has one of the largest networks of retail partnerships among payment solution providers in India, we will get to know how a payments bank can help in financial inclusion. For instance, if a customer wants to transfer money to his or her family based out of a village, he or she will then need to go to one of the retail outlets where the merchant opens a mobile wallet for him or her and tops it up with the cash that he or she deposits. The retailer then uses the customer's wallet credentials in order to transfer the money to the bank account in the village where his or her family lives. This can be performed only with the customer's knowledge. When the transaction is initiated, a one-time password (OTP) is sent to the customer's mobile. Using this OTP, money is transferred to the bank account and once the transfer is complete, both the customer as well as the recipient receive a confirmation on their mobiles. As a prepaid payments instruments (PPI) licensee, Oxigen can only put cash in the wallet. However, to withdraw cash, the money has to be first transferred to a bank account. As a payments bank, players such as Oxigen will now be able to offer direct cash withdrawals and interest on the money deposited with them.

As per a CRISIL Research report, *Payments bank tailor-made for telcos*, the 800-900 billion INR domestic remittances market is expected to grow at an 11-13% CAGR in the next few years based on an assessment of remittances to the low-income migrant population. Moreover, telecom operators have a larger reach and distribution to the bottom of the pyramid. This presents a good opportunity for telecom players and payment system operators.

Payments banks will provide banking access to the bottom of the pyramid enabling them to perform domestic remittance to the remotest part of the country. It will drive cashless transaction in geographically inaccessible and sparsely populated parts of the country. For example, in small villages, where cash is consumed by others in the same area, One97, a mobile marketplace, aims to drive cashless transactions. It plans to tie-up with 1,50,000 kirana stores over the next two years. So, when a customer calls up to order groceries from a kirana store, he or she can make the payment through a mobile wallet once the goods are delivered.





Thus, a payments bank's primary target will be the rural population. And unlike the previous models, which was dependent on the brick-and-mortar branches and banking correspondent, this time, high mobile penetration and sophisticated and innovative technology can drive the financial inclusion.

#### Key trends

The payments sector which was once a quiet corner of the financial world is now buzzing with a host of activities. Large non-bank organisations as well as startups perceive digital payment as an opportunity to capture new transactions and thus revenues, without the need of acquiring a banking licence. Data breaches involving more than 100 million credit as well as debit cards at big retailers, such as Target and Home Depot, have grabbed headlines. However, on the other hand, there have also been unexpectedly exciting and innovative developments. The digital payments industry has seen a number of developments emerging in the wallet space and its increased adoption. Some of the key trends observed are as follows:

- Biometrics is considered to change the future of payments and how consumers interact with their service providers. One such example is of PayTango, which enables customers to pay through a fingerprint scan. PayTango's system links a form of payment such as debit or credit card, to a user's fingerprint. The user will then have to only place the index finger and middle finger on the biometric fingerprint scanner in order to make the payment. The software immediately then recognises the user and authorises the transaction.
- Cards need to re-invent and innovate in order to find its purpose in the new digital commerce environment. It will require transforming card payments and processing capabilities, since dematerialisation and digitisation of plastic cards will leave them irrelevant. For example, Apple Pay combines digitised cards with mobile contactless capabilities, and has the power to transform how consumers make payments in-store as well as for in-app purchases from mobile devices. Hence, the challenge for banks is to ensure that customers link the cards issued by them as the default payment method in Apple Pay as well as other digital wallets.

- Digital payments for e-commerce, mobile payments, and for social media platforms, poses legal complexities, especially when considering the different countries taking part in cross-border e-commerce, each posing unique challenges. It is believed that millennials will set the trends in payment technology by demanding fast, easy-to-use solutions, with multiple currencies, multiple languages, on any form factor, and wanting to be informed of the status of their transaction as opposed to a process.
- Unification of the fragmented payment landscape, the ability to perform digital transactions independent of the underlying payment method, where the value is held, or currency or channel used, is key. Thus, payment providers will be able to provide different types of currencies as well as payment methods under one single interface which seamlessly integrates with multiple channels. For example, American Express announced in October 2014 that cardholders will be able to make payments through the American Express reward points system at point-of-sale in McDonald's.<sup>9</sup> This is the first step of providing a choice to customers how they pay for goods and services.
- The next step in the transformation of payments will result in exposing payment functions over digital channels. Banks and payment providers can expose services through application programming interfaces (APIs) for third-parties in order to embed within their applications. For example, PayPal offers a set of APIs that provide the means to incorporate the PayPal functionality into website applications and mobile apps.

9. American Express case study. Retrieved from <http://www.bloomberg.com/bw/articles/2014-10-14/how-you-can-redeem-american-express-rewards-points-at-mcdonalds>

# Challenges from digital adoption

## Fraud mitigation and cyber security

### Increasing risk of cyber fraud

*“As the digital channel in financial services continues to evolve, cyber security has become a business risk, rather than simply a technical risk.”*

Sector-wise findings from the Global State of Information Security Survey 2014 (an annual, worldwide study conducted by PwC, CIO magazine, and CSO magazine)

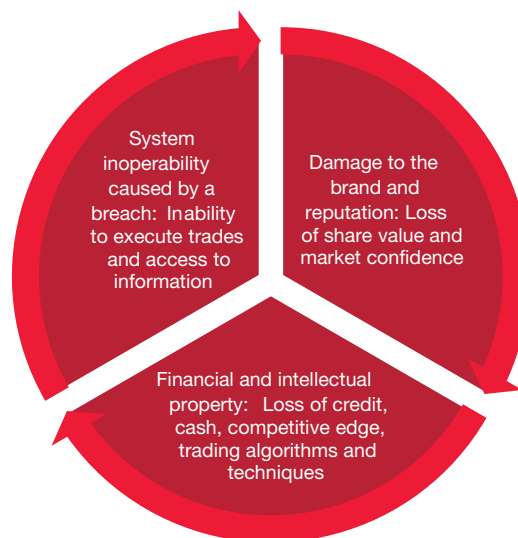
In the digital world, securing critical data, transactions as well as operations will mean working beyond the traditional network walls since adoption of such technologies will mean exposing more data as well as internal systems with the extended ecosystem, thereby amplifying the security risks to every area of the business.

Rarely a day goes by without the mention of a new cyber crime within news feeds. Businesses today face a wide range of threats. Adversaries range from nations, states and organised crimes to proactive hackers and insiders. By the time a company may have strengthened its defence mechanisms, probably, it might already be under attack.

Security breaches can damage reputations and destroy trust, thereby jeopardising the investments made in digital solutions. In order to address these new age risks, organisations will have to adopt a cyber security approach, which not only addresses risks associated with the traditional IT realm, but also those that emerge from the extended business ecosystem. They will have to invest heavily in cyber security programmes, which are equipped with predictive analytic solutions and reactive readiness.

According to PwC’s 18th Annual Global CEO Survey, one-third of CEOs do not think a cyber attack will negatively impact their business. Yet, 61% of consumers will stop using a company’s product or services if an attack has resulted in a known breach.<sup>10</sup>

### Key cyber security risks; Banking and capital market



### Cyber security approach for secured organisations in a digital world

	Traditional information security approach	Cyber security approach
<b>Scope of the challenge</b>	Limited to the ‘four walls’ of the extended enterprise	Spans the whole business ecosystem
<b>Ownership and accountability</b>	IT-led and operated	Business-aligned and owned, CEO and board accountable
<b>Cyber threat characteristics</b>	One-off and opportunistic, motivated by notoriety, technical challenge, and individual gain	Organised, funded and targeted, motivated by economic, monetary and political gain
<b>Asset protection</b>	One-size-fits-all approach focussed on data	Priorities and protection of data, transactions and operations most important to the business strategy
<b>Defence posture</b>	Protect the perimeter, respond if attacked	Plan, monitor, and rapidly respond when attacked
<b>Security intelligence and information sharing</b>	Keep to yourself	Public or private partnerships, collaboration with industry working groups Be prepared for regulatory requirement to report breaches

*“Fraud prevention and mitigation is always a major focus area since it’s not just about operational losses but also the reputational risk frauds present. Investments in the area are always driven by worst case scenario simulations.”*

*- A respondent from a major foreign bank for the Banking Tech Summit Survey 2015*

10. PwC Consumer Intelligence Series (2012)



## Technology implications of increased regulatory requirements

With increase in the complexity of the business and market competition, there has been a growing emphasis on banks to manage the vast amount of data and the various systems used, not just for regulatory purposes but also to leverage them to boost the institution's performance. With the advent of digital technologies, the amount of data is going to multiply, further increasing the complexity of data management.

The global financial crisis of the last decade brought to the forefront the need for a stronger information management system in order to control and oversee various risks. Complex business and growing use of technology has led to international regulatory committees such as the Basel Committee on Banking Supervision, the International Organisation of Securities Commissions and the International Association of Insurance Supervisors to chalk out guidelines as well as standards on technology and risk management systems so as to ensure the robustness of information systems.

Some of the recent and upcoming regulatory standards, both global and Indian, as well as their implications on the current state of technology in banks are as follows:

### Regulatory reporting and data standardisation<sup>11</sup>

The RBI, in early 2010, had mandated banks to automate the regulatory returns that are submitted at regular intervals. With more than 150 returns that are submitted at different intervals, this required banks to implement an efficient as well as a dynamic system in order to ensure that data from various source systems of banks flow to a centralised server which will be used for regulatory reports and also ensure no manual intervention. The regulator also highlighted on the usage of the ADF platform for generating internal management information systems (MIS) wherein the banks may explore using the platform for generating internal MIS as well as other uses, including non-profitable assets automation and management. Towards this, a committee on data standardisation was also established by the RBI in order to ensure

harmonisation of several returns. As banks will have to ensure the availability of correct information at an individual entity level, this will not only call for data cleansing, but will also require interconnectedness among systems. These additional reporting requirements have brought in increased focus on data governance standards within the industry.

### Risk-based supervision

Progression of the regulatory environment in India to the stay on par with global regulations has intensified the pressure on banks to adapt themselves to the newer regulations and provide accurate data in a short span of time. The change in the supervision of banks from the existing CAMELS approach to the risk-based supervisory approach has intensified the need for banks to develop a robust reporting system that provides accurate granular data in a timely fashion. The new process depends both on onsite supervision as well as offsite monitoring and requires large volumes of information from banks regularly. Moreover, the regulator has also stressed on the importance of data integrity and the need to eliminate manual intervention in the data flow. Since the risk-based supervision process depends heavily on the quality of data, the RBI has mandated banks to automate returns. It has also mandated the need for the availability of adequate information across risks at both the consolidated as well as granular levels to the top management so as to effectively improve the controls available. The need of the hour is therefore not just the collection of data, but maintaining data quality standards which will suffice the current as well as future regulatory requirements.

### Risk data aggregation<sup>12</sup>

The Basel Committee on Banking Supervision (BCBS) paper, Principles for effective risk data aggregation and risk reporting which elaborates the 14 principles required to strengthen banks' risk data aggregation and risk reporting practices has set out the need for a stronger data architecture and IT infrastructure. These principles are expected to enhance the management of information across several group entities while at the same time aid in the assessment of risks at the group level. It has also touched upon the need for data governance. Several global systematically important bank groups have already started the process of updating their current technological capabilities in order to meet these standards. Going forward, as these expectations are likely to be imposed upon several larger Indian banks, the current state of technology within banking groups across countries will have to be revamped in order to make them more compatible with each other and ensure data availability.

With several global regulatory bodies shifting their focus on the strength and capability of IT systems and the state of technology in financial institutions, it has become imperative for banks and as well as larger financial institutions to develop an integrated IT system as a solution (instead of the earlier piece-meal approach) that will not only help with the current regulatory guidelines but also any future developments. Moreover, with the banking system becoming complex by the day and with the growing presence of Indian banks across several foreign countries, there is a stronger need for Indian banks to start focussing on areas such as data governance and integrated management information system across all business and all regions so that sound business decisions can also be taken based on the accurate information.

11. Reserve Bank of India. (2015). Report of Committee on Data Standardisation. Retrieved from [rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/DATASTA240315.pdf](http://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/DATASTA240315.pdf)

12. Basel Committee on Banking Supervision. (2013). Principles for effective risk data aggregation and risk reporting. Retrieved from <http://www.bis.org/publ/bcbs239.pdf>

## About CII

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The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering industry, Government, and civil society, through advisory and consultative processes.

CII is a non-government, not-for-profit, industry-led and industry-managed organization, playing a proactive role in India's development process. Founded in 1895, India's premier business association has over 7400 members, from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 100,000 enterprises from around 250 national and regional sectoral industry bodies.

CII charts change by working closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry through a range of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

Extending its agenda beyond business, CII assists industry to identify and execute corporate citizenship programmes. Partnerships with civil society organizations carry forward corporate initiatives for integrated and inclusive development across diverse domains including affirmative action, healthcare, education, livelihood, diversity management, skill development, empowerment of women, and water, to name a few.

With 64 offices, including 9 Centres of Excellence, in India, and 7 overseas offices in Australia, China, Egypt, France, Singapore, UK, and USA, as well as institutional partnerships with 300 counterpart organizations in 106 countries, CII serves as a reference point for Indian industry and the international business community.

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