

# Banking on Technology

Perspectives on the Indian Banking Industry

January 2014



Building a better  
working world



Indian Banks' Association

# Foreword

Over the last decade technology has transformed the landscape of Indian banking.

Implementation of core banking platform has automated basic processes, enabled the movement to a single customer view and allowed for optimization of work across branch and hub network. Core banking platform have also given banks a strong launch pad to offer digital channel capabilities – almost all banks today are feverishly building out their online and mobile channel offerings. ATM deployments and technology-enabled business correspondent (BC) network have allowed banks to service large parts of the Indian hinterland. Responding to Basel norms and a more aggressive supervisory regime, banks have undertaken risk and compliance management system implementations. Information management and analytics are in focus as banks have built out large data warehouses in an attempt to leverage their data assets to better understand, sell and serve their customers.

All this points to a flourishing industry, focused on technological innovation. However, while there has been significant action, considerable amount remains to be done.

Most core banking programs have been focussed on internal functioning with banks adopting a “lift and shift” approach to moving processes rather than adopting a holistic business process reengineering paradigm. Internet and mobile banking enrolment and adoption across many banks is significantly low. While the increase in the number of “no-frill” accounts opened is heartening, technology is yet to make a dent in the lives of hundreds of millions of financially excluded Indians. Risk systems are still deployed in silos as banks work toward their enterprise risk management agendas. Many data warehousing programs in the industry are floundering as banks struggle to move from “consolidating information” to “gleaning insight” from their information management investments.

The next few years are critical as banks focus on “sweating” their technology investments to increase their return on investment. The strategic use of technology to implement a differentiated business model, a transformed customer experience and an optimized cost structure will separate the leaders from the laggards in the industry.



# IBA Banking Technology Awards 2012-13

The **IBA Banking Technology Awards** was instituted by the Indian Banks' Association (IBA) for the first time in 2005, to recognize and reward banks and bankers who were forerunners and trend setters in banking technology - whose innovative ideas, initiative, risk, leadership qualities, implementation of large scale initiatives enabled their organizations to be ahead of their competitors.

These awards acted as catalysts by recognizing and rewarding the efforts of banks aiming at making better use of technology, accelerate levels of technology absorption and improve levels of customer service and satisfaction. The awards set hitherto unmatched industry standards with stringent methods of evaluation and analysis set by eminent jury members. Year-over-year, these landmark awards have come to symbolise the excellence in banking technology and outstanding achievements by banks in this regard.

Nominations from banks are short listed and points are rewarded on the basis of levels of technology implementation, innovative techniques adopted, cost reduction and productivity achieved, customer service levels and tangible customer benefits, enrichment and enhancement of manpower utilization, returns on investments to the bank's stakeholders and incremental business and customer service impact – among other crucial factors.

Over the years the categories and number of awards have changed in keeping with the evolving trends and initiatives taken by banks.

The process for the current edition of the "Banking Technology Awards 2012-13" was initiated in November 2011, under the guidance of an eminent jury comprising:

- ▶ Mr. KV Kamath, Chairman ICICI Bank and Lead Independent Director - Infosys (Jury chairman)
- ▶ Mr. B Sambamurthy, Director, IDRBT (Jury member)
- ▶ Prof. G Sivakumar, IIT Mumbai - Computer Science & Engineering Department (Jury member)
- ▶ Mr. Gagan Rai, MD & CEO, National Securities Depository Ltd. (Jury member)





The award categories for 2013 were as follows:

1. Best Technology Bank of the Year
2. Best Internet Bank
3. Best use of Business Intelligence
4. Best Customer Management Initiative
5. Best Risk Management & Security Initiative
6. Best use of Technology in Training and eLearning
7. Best Financial Inclusion Initiative
8. Best use of Mobility Technology in Banking
9. Best Payments Initiative

### Evaluation process

A total of 220 nominations were received for 2012-13 across 46 banks that participated in the awards across public, private and foreign banks. Recognizing that fundamental differences existed in the technology curve of private, public and cooperative banks, the banks have been segregated and evaluated within the peer group since 2009. The shortlist following the evaluation was presented to the jury to arrive at the final winners on the basis of self nomination submitted by banks and transparent parameters for measurement of the impact of the initiative.

We congratulate all the winning banks and all the participating banks who have nominated themselves for IBA Banking Technology awards.

It is our aspiration that the IBA Banking Technology awards continue to set the bar for innovation in technology for the years to come.



**M V Tanksale**  
CEO, IBA



**Abizer Diwanji**  
Partner and National Leader -  
Financial Services



**Mahesh Makhija**  
Partner - Financial Services -  
Business Advisory Services

## Final list of winners

### Co-operative banks (1 overall award)

Sr. no	Category	Winner	1st Runner up	2nd Runner up
1	Technology Bank of the year	Abhyudaya Co-operative Bank Ltd.	Shamrao Vithal Co-operative Bank Ltd.	—

### Public sector banks

Sr. no	Category	Winner	1st Runner up	2nd Runner up
2	Technology Bank of the year	State Bank of India	IDBI Bank Ltd.	Union Bank of India
3	Best Internet Bank	State Bank of India	Union Bank of India	IDBI Bank Ltd.
4	Best use of Business Intelligence	State Bank of India	Indian Overseas Bank	IDBI Bank Ltd.
5	Best Customer Management Initiative	State Bank of India	Punjab National Bank	Andhra Bank
6	Best use of Technology in Training and eLearning	State Bank of India	Union Bank of India	Punjab National Bank
7	Best Risk Management and Security Initiative	Punjab National Bank	Union Bank of India	IDBI Bank Ltd.
8	Best Financial Inclusion Initiative	State Bank of India	Bank of India	Central Bank of India
9	Best use of Mobility Technology in Banking	State Bank of India	Union Bank of India	Corporation Bank
10	Best Payments Initiative	Union Bank of India	IDBI Bank Ltd.	State Bank of India





## Private Sector Banks

Sr. no	Category	Winner	1st Runner up	2nd Runner up
11	Technology Bank of the year	HDFC Bank Ltd.	ICICI Bank Ltd.	Axis Bank Ltd.
12	Best Internet Bank	HDFC Bank Ltd.	ICICI Bank Ltd.	Axis Bank Ltd.
13	Best use of Business Intelligence	ICICI Bank Ltd.	Citibank N.A.	HDFC Bank Ltd.
14	Best Customer Management Initiative	HDFC Bank Ltd.	Citibank N.A.	Karnataka Bank Ltd.
15	Best use of Technology in Training and eLearning	ICICI Bank Ltd.	HDFC Bank Ltd.	IndusInd Bank Ltd.
16	Best Risk Management and Security Initiative	ICICI Bank Ltd.	HDFC Bank Ltd.	Axis Bank Ltd.
17	Best Financial Inclusion Initiative	ICICI Bank Ltd.	HDFC Bank Ltd.	Axis Bank Ltd.
18	Best use of Mobility Technology in Banking	HDFC Bank Ltd./ ICICI Bank Ltd.	_____	Citibank N.A.
19	Best Payments Initiative	ICICI Bank Ltd.	Citibank N.A.	South Indian Bank Ltd.

Co-operative		Public sector		Private Sector/Foreign Banks	
1	Abhyudaya Co-op. Bank Ltd.	1	Andhra Bank	4	Axis Bank Ltd.
1	Shamrao Vithal Co-op. Bank Ltd.	1	Bank of India	4	Citi Bank N.A.
		1	Central Bank of India	8	HDFC Bank Ltd.
		1	Corporation Bank	8	ICICI Bank Ltd.
		5	IDBI Bank Ltd.	1	IndusInd Bank
		1	Indian Overseas Bank	1	Karnataka Bank
		3	Punjab National Bank	1	South Indian Bank
		8	State Bank of India		
		6	Union Bank of India		
<b>2</b>		<b>27</b>		<b>27</b>	

Total 56 Awards

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Risk management and information security

# 1

## Banking on technology





In 2012-13, Indian banks continued to transform their businesses by deploying technology-intensive solutions to increase revenue, enhance customer experience, optimize cost structure and manage enterprise risk. While these are fairly common themes among banks, there is a wide variation in the technology agendas and implementation capability across different players of the banking industry.

### **Enhancing core banking value**

At many banks the implementation of core banking has consumed significant resources and management attention over last five years. Following the RBI mandate on core banking, banks moved forward with large core banking transformation programs. The focus was on automation and significant progress was made in reducing manual processes specifically at the branch. Customer data was centralized, teller operations were streamlined and network were established to connect branches to a common platform.

However, this initiative has also been inwardly focussed. Many banks have adopted a "lift and shift" approach of moving processes as is with "workarounds" rather than a holistic business process reengineering approach. In many cases, this has resulted in sub-optimal implementations with dubious business cases. In the current scenario, most banks use their core banking system as a "transaction platform" without getting the full benefit of enterprise customer insight and process integration. There is a significant opportunity to reduce redundant steps in processes, optimize core banking functionality to reduce revenue leakage and speed up customer service processes.

The establishment of a core banking platform has, however, given banks a strong launch pad to offer various services across alternate channels such as the web, mobile, call centers, ATMs, kiosks, and other systems, such as point of sale. It has also helped to build a robust repository of data, both static as well as transactional, which could potentially be leveraged to analyze and offer business solutions targeted at specific customer segments. The implementation of core banking therefore, narrowed the technology gap that was very apparent between private banks and public sector banks.

Core banking has also spawned multiple initiatives in the areas of IT governance, infrastructure, performance improvement, upgrade of data center, real time alerts on security incidents, bolstering business continuity planning

and disaster recovery, virtualization of servers among others. Overall this has been a big step forward for the industry and has increased maturity levels across the board.

### **Revamping the digital agenda**

By 2020 the average age of India will be 29 years. This new age consumer base is technology savvy, always connected and looking for a personalized, contextual experience with real-time online information. Cell phone penetration has reached almost 85% and the rise of the middle class has increased the number of households with internet connectivity.

Banks are acknowledging this change and almost all banks are in the process of rolling out online, mobile and social banking extensions to their core offerings in an effort to respond to this changing consumer demographic. Several banks have deployed best in class online and mobile banking features including personalization, bank wide customer relationship views and cross channel integration.

However, branches continue to remain the primary service delivery channel for all banks. In many banks, we see very low customer migration to alternate delivery channels. There are several reasons for low adoption rates. The key issue is consumer behavior – many banks have large customer segments who are not computer savvy and still do not have access to the internet. This segment has grown up with a deep rooted faith in paper transactions and the belief that the branch is the place to conduct all banking transaction. Added to this is the fear of transacting online. While measures such as 3-factor authentication and one-time passwords are starting to make a difference, online security is still a very big concern, especially for the older generation of banking customers. Banks are therefore, undertaking channel migration initiatives to increase enrolment of new customers and increase usage across customers who have already enrolled for the internet banking service. In order to increase enrolment and activation, banks are integrating the opening of an online account along with the basic account opening process so that a new customer receives her online banking credentials along with the welcome kit. Once the customer has been enrolled there is a need to create an ecosystem that drives the channel usage for enrolled customers.

Indian banks need to aspire high and move toward implementing world-class digital capabilities. Digital transformation involves delivering new consumer propositions that are engaging, comprehensible, intuitive, personalized and contextual to customers by leveraging underlying digital technologies such as the internet, mobile, social cloud and analytics. To do this, banks need to start thinking differently about their digital channels and deliver capabilities that are not a mere replica of basic banking transactions but those that provide customers a strong handle on their current and prospective future financial health along with intuitive information dissemination to make better financial decisions – be it for transacting, saving or shopping through the web.

## **Moving from information to insight**

Making sense of the explosion of information has created significant opportunities and challenges for Indian banks. What differentiates the leaders from the laggards will be how well they leverage this information within and outside their enterprise and leverage it for business benefit.

Over the years, information management and business intelligence initiatives have not been high on the banks agenda. While private sector banks embarked on single view of the customer and customer lifecycle management frameworks in 2011-12, the initiatives of public sector banks were focused on enterprise data warehousing, though some large public banks have started taking steps toward strengthening business intelligence (BI) through single view of the customer. The impact of these initiatives is still a couple of years away. Banks will have to gain an understanding of customers and put in place metrics such as customer satisfaction and service quality to drive effectiveness of customer management initiatives.

The investments made in BI have been primarily around the consumer/retail segment of customers. Banks are yet to leverage investments in these technologies for corporate customers and functions such as finance, treasury, operations, risk management, compliance, audit and human resources.

Besides investments, there is an urgent need to have strong data governance frameworks in place across the organization. This also includes a data governing organization, which envisages, prepares and grows data models and implements data governance rules across the organization.

While banks focus on having structured data within the organization, creating and applying linkages between structured data available internally and unstructured data, will be key to deriving business benefits from this technology implementation.

## **Dealing with a changing risk regime**

Over the last few years, after the financial crisis, there has been an increased thrust on risk management from the RBI. A series of guidelines have been issued by the RBI with a view to improving banks' risk management practices. Among them guidelines to migrate to advanced approaches of Basel II is one of the foremost. The recently introduced risk-based supervision mandate, coupled with the thematic audits, has also significantly increased the on-going scrutiny that banks have to face from the regulator.

Many banks have responded by improving risk management processes and upgrading their systems and infrastructure. While these initiatives are fairly standardized across banks as far as the approach is concerned, several banks are still at a very nascent stage from a maturity perspective. The integration of risk management and enterprise-level applications is still at preliminary stages. Just a handful of leading banks have implemented enterprise risk management systems and business intelligence capabilities to assist in risk-based strategic decision making. Banks will need to adopt an increased level of automation and technology tools for improving risk management. Information security has been increasingly emerging as a focus area given the rising levels of technology enablement of banking services. While large private sector banks have already implemented security incident and event management systems for real time alerts on security incidents, leading public sector banks have also started on the journey. Continuous strengthening of information security frameworks with an enterprise wide view will require strengthening of monitoring tools and appropriate metrics to be put in place.

While banks have invested and integrated loan origination systems with their product and service offerings in their retail businesses, the same level of sophistication needs to be built onto the corporate lending side of the business.

As banks are processing different portfolios in different systems, each of these systems has their in-built limit monitoring systems. However, as banks grow in size, there is an increasing need to have enterprise-wide

centralized monitoring systems, which define and track limits across applications.

Linked with the need to have a central limit monitoring system comes the need to have a central collateral management system, which assess impacts of change in underlying value of collaterals, its impact on limits and related impact on non-performing assets and stressed assets.

Banks will also have to plan to extend their business intelligence capabilities to flag early warnings on stress in portfolios and how these analytical capabilities can be used to nurse these assets back to health and link it to the unstructured data available in the public domain to manage and recover non-performing assets.

## **Enabling “less-cash”**

While cash is still a dominant force in the payments industry, it has been the endeavor of the entire industry to move customers from using cash to electronic modes of payment. The proliferation of mobile devices has also dramatically changed the ways in which consumers expect the delivery of payment services.

Many banks have introduced new payment products with different features for customer convenience as well as internal operational efficiency. While debit cards and credit cards have been in circulation for a very long time, the focus is on making them more secure and reliable through chips or even contact-less cards. Steps are also being taken to ensure that these cards are not misused on the internet by imposing separate limits and card profiles for on-line transactions. Changing consumer expectations, along with the push for financial inclusion, has resulted in a focus on mobile payments. While IMPS has been received well by customers and volumes grow month-on-month, technologies to promote payments even on non-smart phones will be the frontier to breach so that the unbanked population can leverage the true strength and reach of mobile devices.

Furthermore on the operational front, banks are attempting to consolidate and integrate channel infrastructure with help of payments hub to have better visibility on customer payments. Innovations and adoption of mobile and contactless payments, along with focused risk and compliance measures to provide the customers a risk-free and secured transaction are key focus areas. Some banks are also attempting to use analytics to detect

and prevent possible fraudulent payment transactions on a real-time basis with alerts being generated across payment platform.

## **Grappling with financial inclusion**

The rapid growth in Aadhaar biometric enrolments along with simultaneous improvements in digitization of banking and G2P payment databases, digital payment systems, technology-enabled last mile banking, has fed abundant enthusiasm for creating an all-inclusive digital financial ecosystem. Aadhaar has also led the Government of India, the RBI and the banks to rollout out the physical financial infrastructure such as ATMs, branches, micro-ATMs and BC network to unbanked areas.

However, in realistic terms, despite considerable growth in key financial inclusion indicators such as no-frill accounts, a significant part of India remains financially excluded. Meaningful progress in financial inclusion will require stakeholders to look beyond their current positions on various issues and test new commercial, regulatory, technical, process and product models.

Banks have a major role in extending banking facilities to unbanked areas. They also have a crucial role in designing of market structures and in influencing ecosystem growth, especially with regards to technology adoption, commercial arrangements, regulations and vendor partnerships. For example, in the specific area of technology, banks will have to work together to synchronize common minimum standards to ensure interoperability between various payment systems, platform and products. They will also have to work on building a business case for infrastructure sharing among banks to enable nationwide financial inclusion. Co-ordination in several other important areas will also be required – uniform standards for BC agents and operations, bank data storage, transmission and retrieval framework and standards, design of technology pilot models and their acceptance test process etc.

## **Empowering employees**

Talent management, including a focus on training, knowledge dissemination, knowledge sharing and raising security awareness levels among a large workforce is a key priority for all banks.

Technologies such as learning management systems that allow large numbers of employees to be trained using a

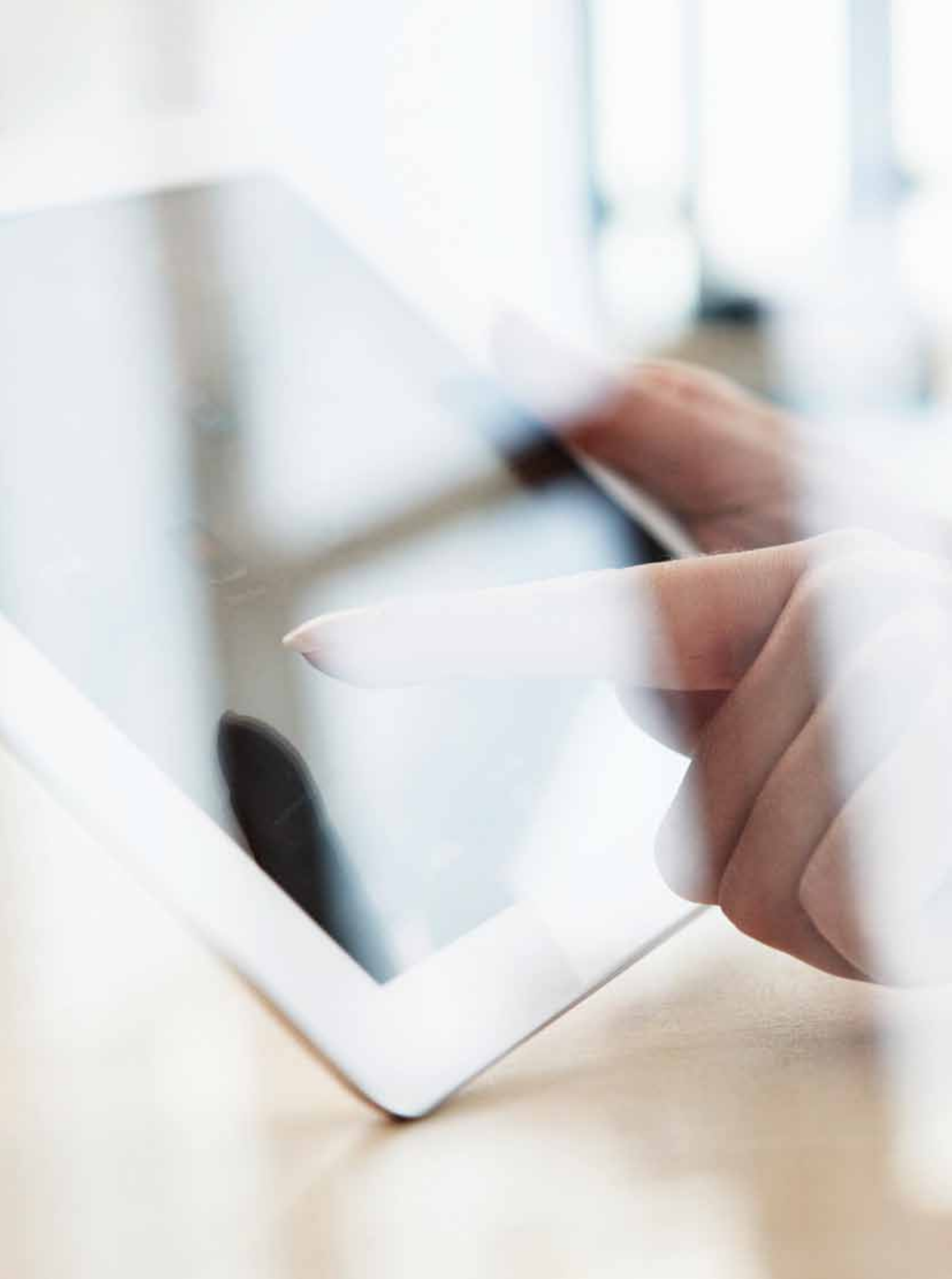
uniform curriculum in a distributed fashion is a key area of focus. Public sector banks will begin to use these systems to cater to a large number of employees and a considerable geographical spread. Private sector and foreign banks will also need to invest in e-learning platform to ensure that they are able to quickly disseminate knowledge of changes in products, processes, pricing and compliance to their employees.

### **Accelerating innovation**

Banks have also been trying different models to spread their investment risks in technology. Procurement models have moved from pure capex models on one end to pure opex models on the other. A combination of transaction-based pricing, customer-based pricing and in some cases revenue-share models and hosted models for technology infrastructure build out are being witnessed. Banks are looking at better utilizing their infrastructure lying idle at disaster recovery sites and ensure infrastructure does not become a bottleneck during peak transaction loads.

Gradually banks are focussing on maximizing investments made in technology by sweating their technology assets. Technology will play a crucial role in implementing differentiated revenue models, a superior customer experience and an optimized cost structure in the next few years.





# 2

## Internet banking



Over the last few years, banks in India have come a long way in using the internet as a channel to market, sell and serve their customers. From just provisioning static marketing information, banks have moved to more robust engagement and transaction models for their customers and in the process have improved the customer experience while lowering cost to serve.

Internet banking today is the biggest focus area in the “Digital Transformation” agenda of banks. While mobile and social channels programs are still in their nascent stages, most banks have prioritized internet banking as a top item on their business and technology strategy agendas.

The shift towards internet banking is fuelled by the changing dynamics in India. By 2020 the average age of India will be 29 years and this young consumer base is internet savvy and wants realtime online information. Customers are looking for convenience, simplification of process and ease of engagement. Peer discussion and information gathering has led to increase in awareness among customers.

The rise of the middle class has also increased the number of households with internet connectivity. The affordability and penetration of the internet is increasing exponentially across customer segments in rural and urban areas. Urban areas had a total of 205 million internet users in October 2013 that accounts for 40% yoy growth, while rural India have 68 million users and a growth rate of 58% yoy.

Banks are acknowledging this change and understand that to attract, service and retain the “new age” customer, they need to use the most effective channel to personalize and market their product and services.

This is driving the senior leadership mandate today, which on one hand, plans to extract the maximum from existing investments and on the other hand deliver innovative initiatives on a frequent basis. This is also indicated in our survey – internet banking is the award category receiving the highest number of entries for private banks and the second-highest number of entries for public banks for the IBA Banking Technology Awards 2012-13.

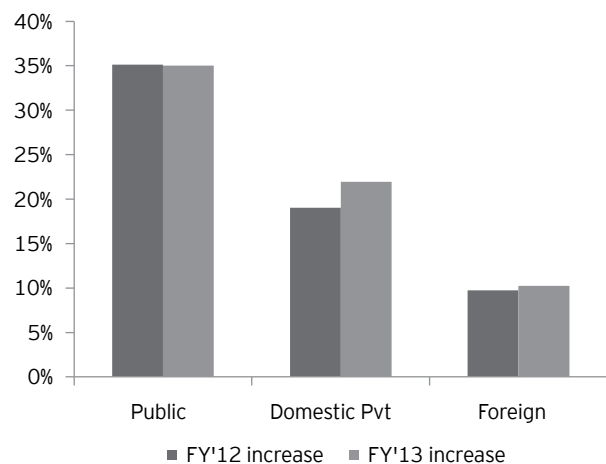
## Driving channel adoption

Based on the results of our survey, we see several clear evidence of increasing usage of the internet banking channel across all segments of the Indian banking space.

Below are some statistics based on responses received from participating banks.

Internet banking continues to grow in terms of number of registered users as well as in the number and value of daily transactions executed as illustrated in Fig. 1.

**Figure 1: Internet Banking - Increase in registered users**

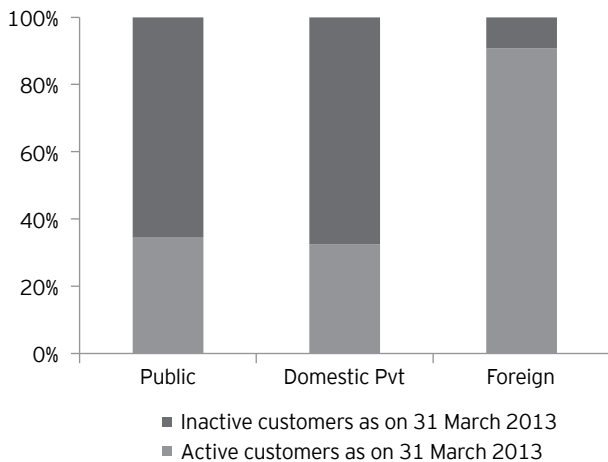


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**Figure 2: Internet Banking - Active Vs Inactive customers**



(Note: Customers classified as active should have at least one login in the last 3 months.)

Number of registered customers continues to grow at a rapid pace – especially for public sector banks, which currently have low penetration in this channel across their customer base.

However, apart from foreign banks, the level of activity is very low with almost 65% of the registered customer base remaining inactive for public as well as private banks (Fig 2). Furthermore, despite the double digit percentage growth across the number of registered users, internet banking still ranges **between 2% and 8% of overall number of banking transactions** across all channels for Indian banks.

Therefore, there exists a significant opportunity to migrate more customers to the internet banking channel.

There are several reasons for low adoption rates. The key issue is consumer behavior – many banks have large customer segments, who are not computer savvy and still do not have access to the internet. This segment has grown up with a deep-rooted faith in paper transactions and the belief that the branch is the place to conduct all banking transactions. Added to this is the fear of transacting online. While measures such as 3-factor authentication and one time passwords are starting to make a difference, online security is still a very big concern, especially for the older generation of banking customers.

Banks are therefore, undertaking channel migration initiatives to increase enrolment of new customers and increase usage across customers who have already enrolled for the internet banking service. In order to increase

enrolment and activation, banks are integrating the opening of an online account along with the basic account opening process, so that a new customer receives his or her online banking credentials along with the welcome kit. Once the customer has been enrolled there is a need to create an ecosystem that drives the channel usage for enrolled customers. For example a mid-sized public sector bank has less than 2% of its retail customers enrolled for internet banking with only 50%-55% having active accounts. Moreover, up to 45% of active accounts log-in only twice in a given month clearly demonstrating the opportunity to improve adoption.

## Moving towards a digital business model

Indian banks need to aspire high and move toward implementing a world class internet banking capability. This involves some key foundational steps.

### 1. Define the digital business model

Any internet banking initiative can only be successful if it is situated within a holistic digital charter for the enterprise. Digital transformation involves delivery of new consumer propositions that are engaging, comprehensible, intuitive, personalized and contextual to customers by leveraging underlying digital technologies such as the internet, mobile, social cloud and analytics.

To do this, banks need to start thinking differently about their digital channels and deliver capabilities that are not a mere replica of basic banking transactions. They need to provide customers a strong handle on their current and prospective future financial health, along with intuitive information dissemination to make better financial decisions – be it for transacting, saving or shopping through the web.

### 2. Transform the customer experience

Banks need to fundamentally transform the customer experience in the internet banking channel in several ways

#### a) Offer insight coupled with ease of transacting

Currently most banks are offering basic transactional capability for its retail customers related to:

- ▶ Account and product information
- ▶ Payments (own and third party intra and interbank, bill payments, tax payments)



- ▶ Requests and enquiries
- ▶ FD/Term Deposit and RD
- ▶ Other value-add services (loan information, recharge – mobile and DTH, donations, challan view, e-shopping, tuition fees)

However, leading banks are using the power of the web coupled with analytics, to provide their customers with insight into their finances. These banks are using their websites to offer customers rich exploratory journeys. In the recent past few banks have introduced innovative and customer-centric features in their internet banking channel.

- ▶ A leading private bank introduced a “pull funds” feature, targeted toward the youth, which allows them to pull funds from their parents account.
- ▶ A leading private bank introduced a product that helps customers plan and save for their goals through a recurring deposit product.
- ▶ A foreign bank introduced features that leverage customer demographics, product relationship and transactional data to offer relevant and personalized products and deals.

Banks could leverage web analytics to improve the information gathering experience for users. There is also a need to provision intuitive, informative, engaging, graphical tools with rich user experience to help users understand and compare products and services according to their needs and be able to support quick decision making. This support on the pre-purchase decision must be supported by multiple “call to action” features and a simple and integrated account opening process.

- b) Implement channel handoffs:** Integrating the web channel with the branch is critical – the branch is where most interactions happen today and the internet and mobile channel is where banks would like them to happen. Banks could start focussing on creating customer journeys for relevant segments where channel handoffs make sense and increase adoption. How easy it will be for an SME to discuss different customized product offerings in a branch with the RM, who after thinking it through at home applies for it online!

- c) Broaden the partner ecosystem:** To cater to the holistic financial need of its customers, banks are also tying up with other financial organizations that specialize in products such as insurance, trading, mutual funds and credit cards (with certain public sector banks going for co-branded cards with large airlines, retailers, etc). These offerings can be made more effective when they are linked to a single view of the customer, complemented by key analytical capabilities.

- d) Personalise rewards and offer management:** Banks have been struggling to effectively use rewards and offer management for its customers. Banks must leverage analytics (behavioral, lifestyle and transactional) to understand the need of customers and serve them with appropriate offers including cross sell and upsell of products and services. The data must also be leveraged to create appropriate reward programs by bringing in appropriate business partnerships for its customer base.

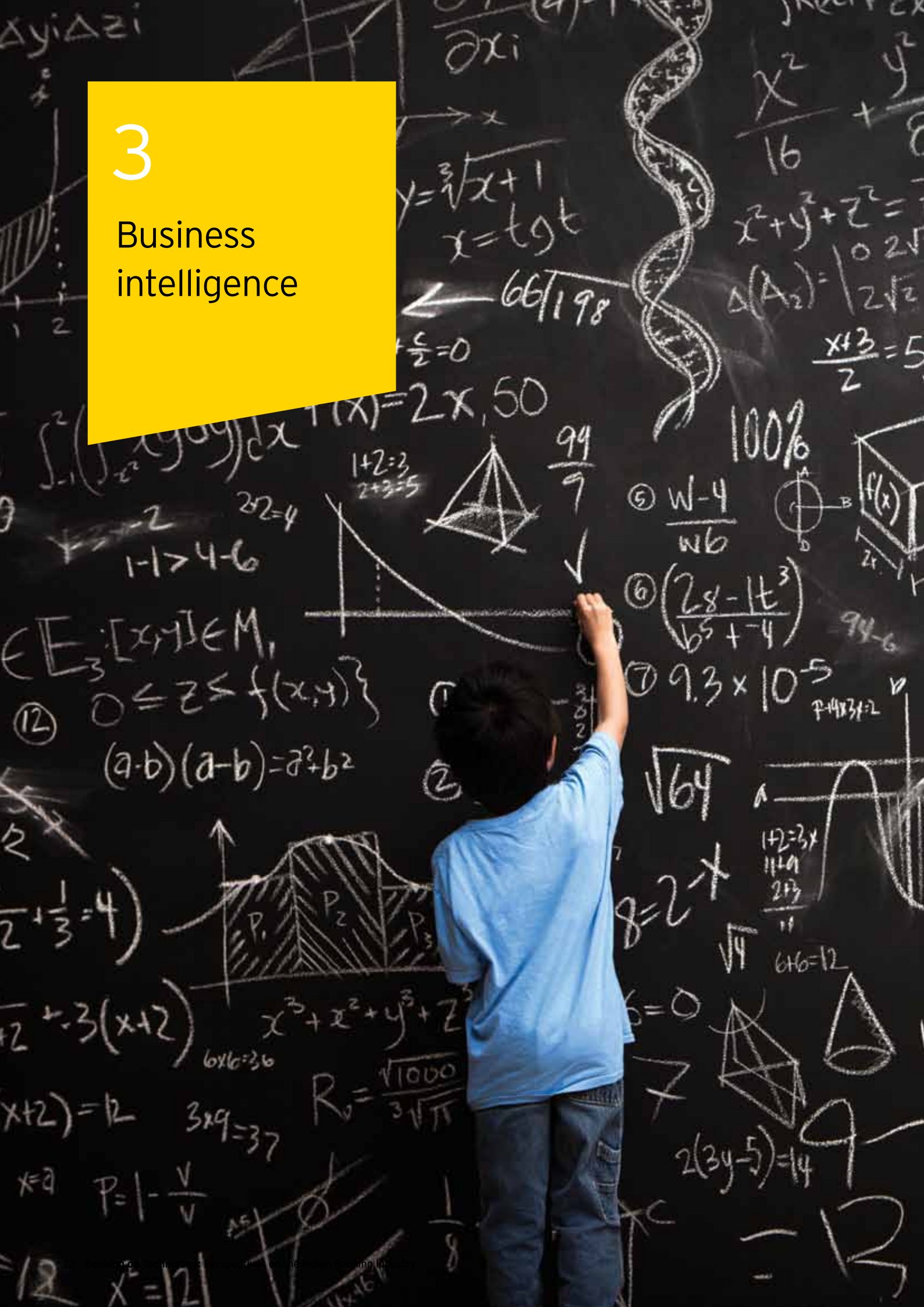
- 3. Leverage enterprise data for marketing campaigns to drive adoption:** Banks are sitting on a large customer base across retail, SME and corporate segments of customers who have either not enrolled or do not have an active internet banking account. This is a treasure trove of information and with intelligent analytics and campaign management, banks can increase adoption significantly across their existing customers.

- 4. Increase business involvement in internet banking governance:** In many banks the internet banking channel is run out of the IT department with the view that it is a technology capability. Banks have to understand the power of internet technology to fundamentally change the banking business model in terms of customer segments, revenue impact and cost to serve. Business should increase its involvement with the governance of this channel and must integrate this channel with its other enterprise processes

- 5. Educate customer facing staff:** Many banks do not have trained personnel who understand the power and benefits of the internet channel. Efforts to both educate, and optimize front office, customer-facing staff is key to be able to drive adoption at grass root level.

# 3

## Business intelligence



India's banking industry is on the cusp of a major transformation, with new banking licenses expected to bring in more players in an already competitive environment. In addition, the slowdown in economy continues to increase the pressure on banks' profitability, especially due to the rise in NPAs across corporate and retail sector lending. In such an environment, one common theme across banks in India is increased adoption of business intelligence (BI) and analytics to drive their overall profitability.

RBI has also encouraged banks to adopt BI to increase transparency and control over the banking business. The Automated Data Flow (ADF) initiative has been a strategic step in this direction, seeking to ensure submission of correct and consistent data from banks' systems to the RBI without any manual intervention.

Banks are also realizing the need to use BI and analytics to differentiate their customers' experience in terms of (a) servicing them better, (b) increasing share of their customers' wallets, (c) implementing more efficient risk management controls to reduce credit and fraud-related losses, and (d) enhancing their products and creating product bundles to address their unique needs. In the absence of a robust BI system, banks struggle to answer basic questions like number of unique customers (not just accounts), products per customer, services provided per customer, cost of providing these services, product-level profitability, demand etc. With most banks perceived to be offering similar products, banks' senior management needs access to the complete view of their customers needs and existing banking product usage, to be able to define a differentiated customer and product strategy.

Taking this a step ahead, in today's increasingly competitive environment, let's compare two banks - bank A has only basic BI/Reporting in place, while bank B has established advanced Analytics Center of Excellence and is using analytics based decision-making to optimize all their decisions. Given their limited view of the customer's overall relationship with their bank, bank A will offer flat-rate pricing for all their customers irrespective of the credit worthiness of the customers. Bank B on the other hand will leverage Risk-Based Pricing models to offer better rates to their 'good' or 'credit worthy' customers, and less attractive rates to the rest of the product applicants. As a result, bank B would attract more credit worthy customers given the attractive pricing; while bank A will only get the 'riskier' customers who didn't get the preferential rates from bank B. This biased selection will result in increased NPAs resulting in pressure on bank A's profitability.

With leading banks (large public sector and the majority of private sector banks) investing in analytics to optimize their decision-making, it is becoming increasingly necessary for other banks to quickly catch up with the competition to avoid falling into the "adverse selection" trap, described in the example above.

As we dig deeper and evaluate BI and analytics investments being made across India's banking industry, certain key trends emerge:

### 1. Huge disparity in sophistication of BI and analytics across the banking industry

- ▶ Majority of public sector and co-operative banks and relatively smaller private sector ones are focused on laying the foundation for BI and analytics by investing in data warehousing (single customer view and data quality management) and building BI and dashboards to obtain the right information about the business.
- ▶ Some of the larger public sector banks have taken giant strides in moving up the analytics maturity curve, and have already started building analytics solutions in addition to the 360-degree view of the customer to enhance the efficiency of their cross-sell/up-sell efforts, credit-related decisions, fraud management, NPA management, etc.
- ▶ The benchmark for BI and analytics in India is being set by some leading private sector banks that have moved further into optimizing their real-time business-related decision-making, including triggers to guide their RM contact frequency/messages to their high net worth customers, based on internal and external bank data, and incorporating geographical data to customize their offers to customers in the vicinity of certain locations, etc.

### 2. Different organizational approaches taken by banks toward BI and analytics

- ▶ **IT or standalone function:** For majority of public sector and co-operative banks, BI and analytics are typically an IT function when they start on their journey with an initial focus on single customer view and reporting. However, in the case of leading private sector banks, this is a separate specialized function and they leverage it as a key enabler for business decision-making.

- ▶ **Team size:** The contrast in banks' adoption of BI and analytics varies in their team size, from a team of four to five banking professionals working on BI and analytics as one of their responsibilities to as high as 150+ team members with a 100% focus on developing BI and analytics solutions

**3. Different solution-centric approaches taken by banks toward BI and analytics:** While we notice that the majority of banks think of BI and analytics as another IT project that requires them to implement specialized solutions for risk management, forecasting, etc., some leading ones have implemented a robust mix of specialized solutions and analytics platform. In addition, they have developed customized tools and solutions, which enable them to continuously innovate and develop solutions that address their immediate business challenges and long-term strategic objectives.

**4. Data quality, management and governance for the majority of small and medium- sized banks:**

- ▶ Data quality is a challenge, specifically with respect to customer data. Most of the time, data is either incomplete or incorrect. Furthermore, not many banks have identified unique customers.
- ▶ DW and BI systems have grown over time without proper management of metadata, thereby becoming difficult to maintain in the long run.
- ▶ The lack of a BI platform and a consolidated data store, especially for business units including corporate banking, operations and other functions result in delays in information being delivered to the right stakeholders. This creates challenges in efficient decision-making.
- ▶ Data governance is still not a focus area for many banks. This presents a challenge in their sustaining an EDW and BI environment in the long run, especially since their data volume, points and types exponentially increase over the years.

**5. Unstructured data still not part of BI and analytics roadmap of most banks:** Banks are increasingly generating huge volumes of unstructured data on multiple customer touch-points across their customer service centers, digital channels, etc. However, most of them have still not implemented plans to extract insights from this unstructured data and link it to their consumer 360 degree view.

## Department-wise overview of BI, current state of analytics and challenges for Indian banks

- ▶ **Consumer/ Retail:** Most private banks leverage analytics to segment their customers, product affinity/ next best product offerings, cross-sell analyses, relationship management, etc. Public sector banks have also incorporated statistical analysis as a part of their BI plans.

**Challenges:**

- Data consolidation to provide single version of truth and a centralized BI environment
- Reduced time to respond to customer-, regulator- and management-related needs
- Real time analytics, e.g., real time cross-sell decision-making, etc., as the next phase of evolution in the BI space
- Profitability-related view of all channels/ relationship managers/locations/ customers/ products, etc., being difficult to obtain due to lack of scientific cost-related allocation
- in the area of wealth management, immediate response to clients required on the performance of their portfolios on a given date and current investment options

- ▶ **Marketing:** Most private banks have utilized their analytical capabilities to fine-tune their campaigns and marketing efforts. Their statistical analyses and data mining provides an insight into the key success drivers of a campaign and the predicted effectiveness of a target group. Campaign analytics is not a focus area for public sector banks as yet.

**Challenges:**

- Many banks are in the process of identifying unique customers, and thereby reducing their marketing spend per customer.
- Integration of structured data with unstructured data such as those from social media and call centers are yet to be considered by most banks.
- Currently, most banks utilize retail customer-related data to manage their campaigns and other marketing analyses. The inter-linkage of a retail customer with a corporate or commercial banking customer, if any, is not yet utilized for analysis by most banks.

- ▶ **Commercial/ Corporate:** Most banks have yet to utilize BI and analytics to monitor their performance against benchmarks.

**Challenges:**

- (i) Most banks do not yet predict the real time risks and transactions of their customers.
- (ii) Visually enabled BI platform with the ability to drill down to last level of details are yet to be exploited by banks due to lack of consolidated data.

- ▶ **Compliance and audit:** Most banks perform their compliance reporting and audit tracking functions manually. This results in delays in their reporting. Therefore, significant effort is required for them to consolidate required data points, verify them and report them to various internal and external stakeholders.

**Challenges:**

- (i) Banks do not have consolidated data stores for compliance and audit related purposes.
- (ii) The RBI's regulations mandate reports with varied input, which can be generated from the audit or compliance data stores of banks. The need to comply with these regulations, e.g., risk-based supervision, puts additional pressure on their resources.

- ▶ **Finance:** Automated budgeting and planning are being considered the next steps by the finance departments of many banks. Those that have already implemented these are looking at costing methodologies to be enabled for proper cost allocation and measurement of their profitability.

**Challenges:**

- (i) Manual budgeting and planning leads to lack of transparency and is not supported by a scientific analysis of past data.
- (ii) Allocation of indirect costs and calculation of all direct ones at multiple levels, e.g., accounts, branches, offices, regions, customers, relationship managers, etc., will help banks gain a profit-based view of their business at each level

- ▶ **Treasury:** Most banks have implemented tools to determine transfer pricing, funds portfolio management, risk management and asset liability

management tools. These are specialized tools for performing multiple analyses in the areas mentioned above.

**Challenges:**

- (i) Many banks do not yet have a multi-dimensional, real time analysis platform, which provides their treasuries a holistic view of their holdings and the ability to perform multiple levels of ad-hoc analyses.

- ▶ **Operations:** Banks' operations are largely handled through multiple Excel files and some automated static reports

**Challenges:**

- (i) The time taken for an operational analysis is substantial since data is first consolidated, and then cleansed and arranged to derive any meaningful insight.
- (ii) Most banks only provide static reports (as operational BI) to their end users to analyze a particular process.

- ▶ **HR:** Most banks have HR-specific tools to manage their resources. Some have integrated their HRMS with BI systems to gain insights into the efficiency drivers of their employees.

**Challenges:**

- (i) Training needs, management of talent and analysis of costs incurred are yet to be automated in many banks.

The heat map below details the current maturity state of some key departments in Indian banks.

Departments	Information Management	Business Intelligence	Analytics
Consumer/ Retail	Yellow	Yellow	Green
Corporate/ Commercial	Red	Yellow	Red
Marketing	Yellow	Yellow	Green
Finance	Yellow	Yellow	Red
Treasury	Yellow	Yellow	Yellow
Operations	Red	Red	Red
Compliance & Audit	Red	Red	Red

■ Capability is at nascent stage    
 ■ Moderate stage  
■ Developed stage

## Road ahead for BI and analytics in Indian banking Industry

For a successful BI and analytics Program, it is critical for a bank to:

- a) Define its POA vision.
- b) Understand the gaps in its current data/systems.
- c) Ensure that its business and IT teams work together to develop its BI and analytics capability. Either of these teams working in silo will not be able to deliver the full business impact.)
- d) Deliver benefits throughout the program and not make it an “investment only mode for the initial years.” Banks should identify project-/business-related benefits that can be delivered in parallel with long-term projects to ensure integrity of data and create single customer view. As banks dig deep into their data, they typically realize that despite data quality issues, they still have adequate information to help them improve their business-related decision-making
- e) Metadata management, data quality and data integration are important aspects that should be considered by banks while envisioning any BI or analytical roadmap.
- f) They should implement strong data governance plans to ensure sustainability of underlying data quality

Given the disparity in adoption of BI and analytics across the Indian banking industry, we can group the Banks in four segments as we outline the roadmap for their BI & Analytics Programs in 2014:

- i) Still to invest in BI and analytics: These are banks generating basic MI (Static) reports.
- ii) Late adopters of BI and analytics: These are banks that have taken steps to get their data warehouses in order (with a single customer view) and put in place data visualization-based dashboards to get actionable business insights.
- iii) Moderate adoption of BI and analytics: Some banks have a single customer view and data visualization-based dashboards to get actionable business insights as well as predictive models to cross-sell, churn, etc., and drive their decision-making

- iv) Adoption of advanced BI and analytics: Analytics-based decision-making is embedded in most of these banks’ customer touch points

### Segment 1: Still to invest in BI and analytics

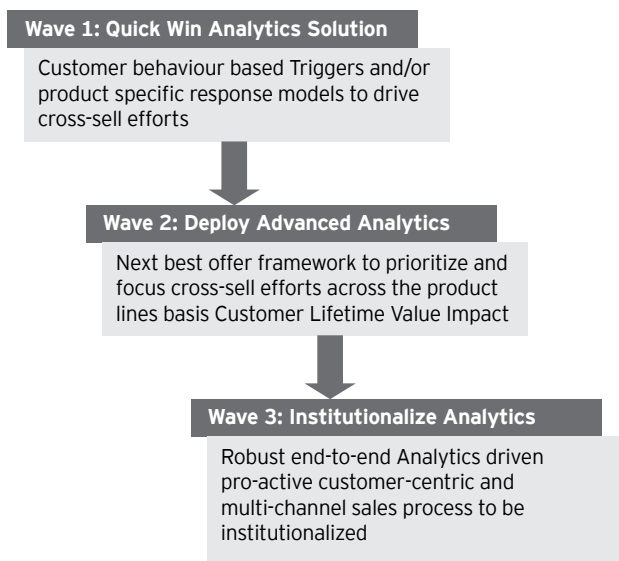
- ▶ The first step for these banks is to secure executive-level sponsorship to drive their BI and analytics agenda. Leveraging analytics as a core process for decision-making requires the implementation of a change management program throughout their functions, and executive sponsorship is critical for them to achieve this.
- ▶ They need to develop BI and analytics roadmaps in Phase 1 of their initiative, focusing on (a) delivering a quick win business impact and (b) prioritizing certain products/customers that are core to their strategy. It is critical for these banks to keep their investment amounts low, and their quick win results will help them get a buy-in from multiple stakeholders, which will give their programs the long-term impetus they need.
- ▶ Their overall focus should be on creating data visualization-based dashboards to enable improved decision-making, putting in place training and change management agendas to drive adoption of these new information sources, and creating basic analytics programs around customer segmentation to define their segment-based value proposition, product-level response models to improve their cross-sell efforts and basic risk management frameworks.

### Segment 2: Late adopters of BI and analytics

These banks have already got a good grasp of their data, put in place BI and created reports. The focus for them in 2014 needs to be to:

- ▶ Initiate increased dialogue with business leaders to understand their needs and accordingly customize and provide data visualization-based dashboards to enable better decision-making.

- ▶ Develop analytics programs in line with their business priorities across their cross-sell, up-sell, risk management and other functions. They should endeavor to split each of these into basic, advanced and optimized programs, and implement them accordingly to increase their products per customer:



### Segment 3: Moderate adoption of BI and analytics

These banks have their house in order in terms of robust data warehouses that provide them with a single view of their customers. They already have in place basic analytics including response models for products, and application and behavior scorecards for taking credit-related decisions, etc. Their focus in 2014 needs to be two-fold - (a) reduce their time to respond to customers' actions and (b) optimize their decision-making to maximize their profitability. This includes:

- ▶ Optimizing their decision-making to maximize their profitability :

Examples

1. Move from a product-level acquisition-response model to a "next best offer framework," optimizing their product cross-sell decision

across their suites of banking products, based on incremental customer lifetime value.

2. Move from flat-rate loan offers to risk-based pricing to optimize their profitability

- ▶ Reducing the time to respond to customers' actions: This will include automating their decision-making process across customer touch-points, e.g., a deposit transaction in the bank account of a customer who typically moves funds quickly should automatically trigger an attractive FD rate offer to encourage him or her to keep funds in the bank; or an unusually low balance amount in a bank account can automatically trigger offers relating to overdraft facility, etc.

### Segment 4: Adoption of advanced BI and analytics

These are banks that lead in leveraging analytics-based decision-making to optimize their related processes. They have evolved to a level where analytics is embedded in most of their customer-related decision-making functions. As they look at pushing the envelope to enhance their customer profitability further, they need to think about:

- ▶ Enhancing their single view of customers with unstructured data that can be captured across social media, call centers, customers' emails, etc., will help them move further away from the product push to realize when a customer really needs a product, i.e., in product-pull-based marketing decision-making.
- ▶ Exploring ways to create new revenue streams for themselves by considering data- monetization opportunities such as partnering with retailers to delivering smarter real-time promotions, e.g., when a customer makes a credit card transaction in a mall, should automatically trigger targeted offers from select retailers in the mall to be delivered on the customer's phone via email. This can open up new revenue opportunity for banks.
- ▶ Targeting new customer segments instead of pursuing the same customers every other bank is targeting can help these banks reach out to the unbanked population through products with dynamic credit lines and innovative risk management controls to expand their pool of customers profitably.

# 4

## Customer management





## 1. Age of the customer

Broadly, the customer ecosystem can be divided into three main eras or ecosystems in India.

### ▶ Product-focused ecosystem:

- ▶ This system was in place from the time of independence till the so called "license raj" and coincided with the first private banking licenses in the early nineties.
- ▶ This was a period when power resided with banks. With little or no product/services differentiation, customers more often than not decided on their preferred banks, frequently on the basis of locational convenience.
- ▶ Customer expectations were low, and therefore, most of them were willing to put up with long lines, rude staff and poor service levels at branches.
- ▶ Banking channels were mainly restricted to branches, and in most cases, it was a purchase economy with no concept of relationship managers or sales teams.
- ▶ Information flow was one way from the bank to the customer.
- ▶ CRM was driven at the individual level rather than as a strategy, and therefore, customer processes and systems were mainly non-existent.

### ▶ Customer-focused ecosystem:

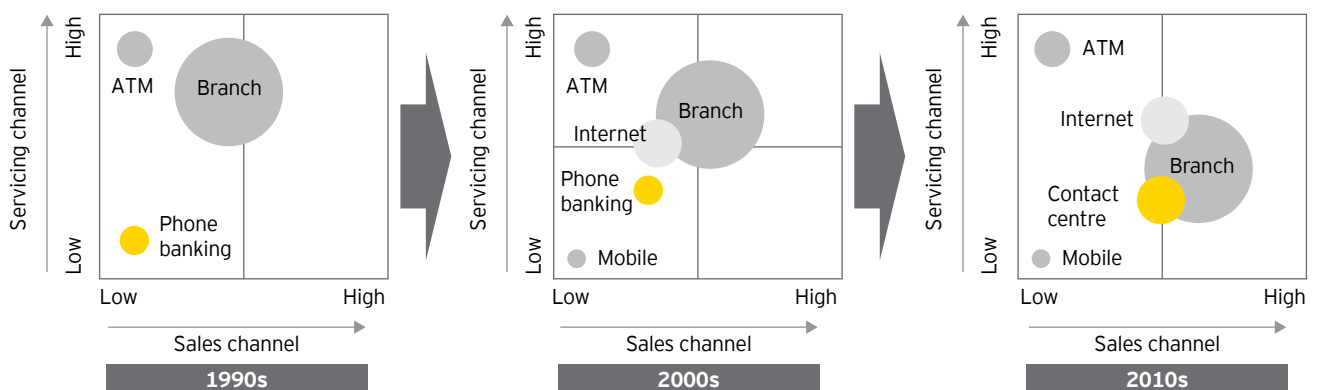
- ▶ The launch of the initial 10 private banks in 1993-94 ushered in an era of consumer banking, when product and service differentiation was thought to be an important element in winning of the market place.

- ▶ Customers had begun seeing trends in other industries and expected the same from their banks.
- ▶ Private banks changed the rules of the game by trying to become more customer-centric, but rules were still set by banks.
- ▶ This increased customers' awareness that products needed to be different and not all customers are equal, which led to initial technology-related investments in CRM.
- ▶ The internet as a channel began to make its presence felt in the early part of the century
- ▶ Considering the quantum of investments needed in setting up new branches and their own growth-related aspirations, most private sector banks put in place "sales organizations" (both in-house and outsourced) and also began riding on the telecom revolution by providing toll free contact center numbers to their customers.

### ▶ The customer ecosystem:

- ▶ And now we come to the era of the digital customer. Communication is no longer a one-way street from the bank to the customer. The customer is now driving the agenda and discussion.
- ▶ Key technologies, including the web, mobile, social and cloud, have ensured that customers are now taking decisions outside "official channels" and only approaching the bank once their decisions have been made. Furthermore, mobility ensures that information is now on tap and that customers can compare services, prices, etc., on the move.

## Contact centres increasingly seen as powerful means of service delivery and substantial revenue generation

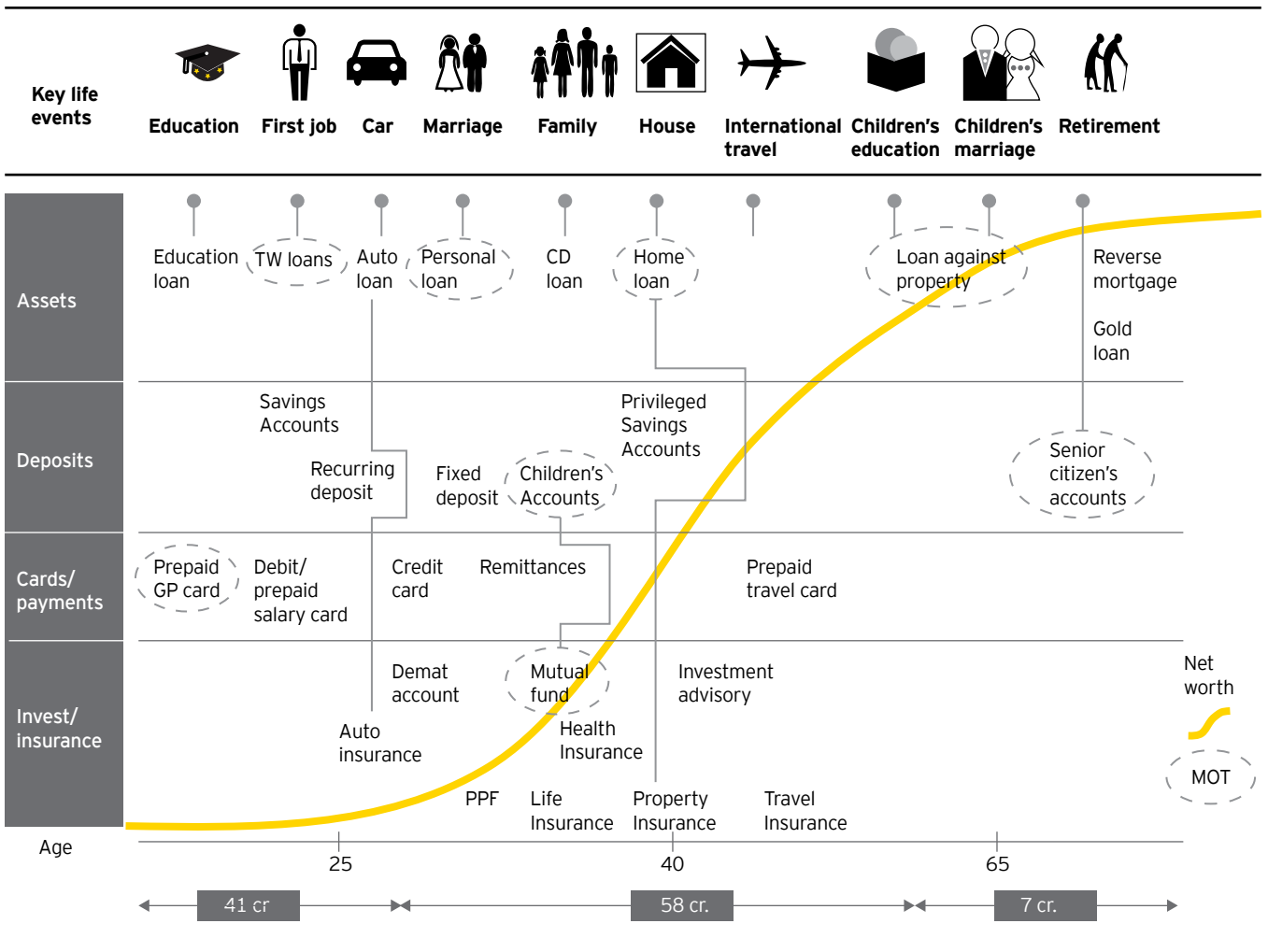


Source: "Contact Centre as an alternate channel for PSU Banks" report by EY, October 2012

## 2. Winning strategies in the age of the digital customer

Today, the cliché of the customer being king is no longer a catch phrase. In fact, what it means for banks is offering

each customer (or at least each micro segment) a set of services and products tailored to his or her needs. These need not only depend on basic segmentation parameters such as demographic and psychographic data, but also on customers' life stages, as is depicted below:



What this means is that banks need to have in place modern and efficient strategies, processes and technology in the following areas:

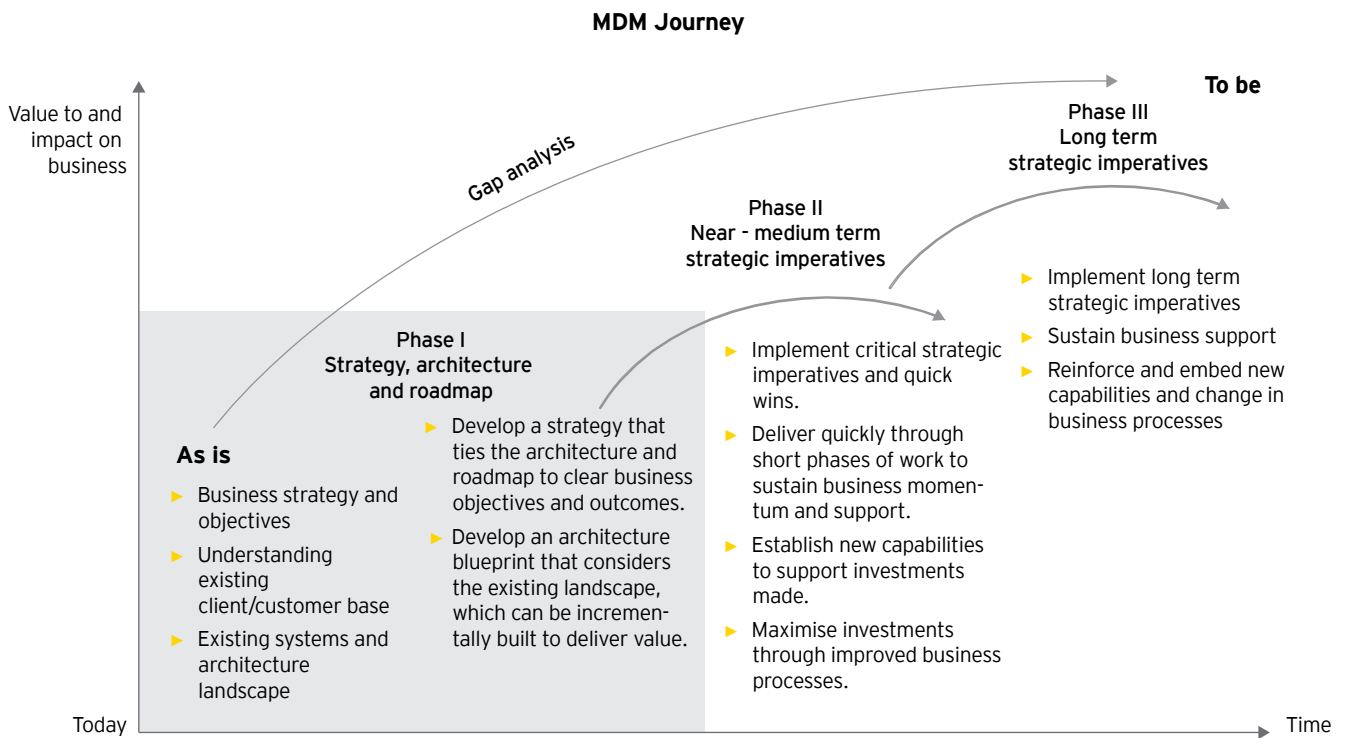
### Winning strategy I: customer segmentation and SCV

Acceptance of the fact that not all customers are created equal has meant that most banks are looking to have a clear Master Data Management strategy in place. What this means for the industry is detailed in the table below.

Winning the customer battle	Current status		
	Strategy	Processes	Technology
Analytical systems to achieve a single /360 degree view of the customer	<p>Most private sector banks have defined their strategies around how they will duplicate their customer data sources, but are unable to convert this into analytical insights, e.g., their propensity to buy score, default risk, etc.</p> <p>Public sector banks, on the other hand, accept that this is a critical part of their customer strategies, hence are working to achieve data consolidation.</p>	Processes across channels remain disparate in most cases, with no single owner at a bank having the requisite customer experience in getting different departments to pull in the same direction. This is a challenge for them.	While some of the larger banks have integrated their CRM systems into a single system or have ensured tight integration of multiple systems, most are even now continuing to struggle to define their IT strategies and roadmaps for the future.
Customer segmentation	<p>Most private sector banks have segmented their customer databases.</p> <p>Public sector banks are trying to set up systems to capture customer- segment information.</p>	Key mapping of people's skill-sets and customer facing processes have been well defined to provide segmented service levels across various channels, e.g., branches, contact centers, etc., at private sector banks. However, at most public sector banks, this segmentation is more person and experience driven than system driven.	<p>Data warehouses and analytical systems have been rolled out to achieve the above at most private sector banks.</p> <p>Most public sector banks, on the other hand, are at the RFP and system implementation phase. One of the largest public sector banks is setting up an MIS and Analytics COE to meet its segmentation needs.</p>



Therefore, it is clear that banks need to put in place MDM frameworks that measure business impact on one side and complexity (and time involved) on the other.



## Winning strategy II: co-create your offerings

Slotting today's customers into neat segments is becoming increasingly difficult as the lines blur and communication options multiply. In a recent EY global study on consumer behaviour (*This time it's personal: from consumer to co-creator*) of ~25,000 customers in 34 countries, the main insight was the following:

**"The chameleon customer** is a constantly changing persona, who defies the confines of traditional market segmentation. This consumer has conflicting preferences and facets: shops online but demands the human touch, insists on individualized service but communicates in packs. This individual is hard to read and even harder to please."

What this means is that banks' value propositions need be aimed at their relevant micro-segments. No longer will a plain vanilla service or product offering work across the board. Niche offerings will typically be more profitable, but banks need to have the right strategies, processes

and systems to receive the customer feedback. Successful marketers and bankers know that the product creation process is no longer a one-way street. It involves customers or taking their feedback (readily available online through social media and Big Data analytics) and is a surer way of guaranteeing success.

*An example:*

A private bank offered a savings account product targeted at the youth. The offerings of this product were built on the insight that today's youth wants everything done their way and anything less is unacceptable to them. Tracking young customers through their moments of truth led the bank to provide several distinctive offerings as part of this product, for e.g., young people being able take out funds from linked accounts (with their parents/guardians) through mobile banking in case of emergencies or young account holders transferring funds to other account holders of the same bank on their mobile phones.

## Key best practices

- ▶ Ensuring consistency in its messaging across channels – Above The Line, Below The Line and Digital channels need to deliver a simple integrated message. Else, there is a risk of confusing customers.
- ▶ The on-boarding process for customers is a moment of truth and the experience (positive or negative) will in all probability be tweeted or mentioned across the social space.
- ▶ The need for an integrated and robust operational CRM system, running across various customer touch points, is critical since it enables banks to attract and convert their prospects.
  - ▶ Campaign management through direct channels including the internet, chat, email, SMS, social media, etc., helps to identify leads and products and services of interest.
  - ▶ Multichannel contact centers qualify the opportunity and identify customer “hooks” for a concerned service.
  - ▶ Finally, the branch and sales teams convert the opportunity into new customers for the bank. Considering the increasing power of mobile devices, articulating a usable mobility strategy ensures increased user acceptance within sales organization.

### *An example:*

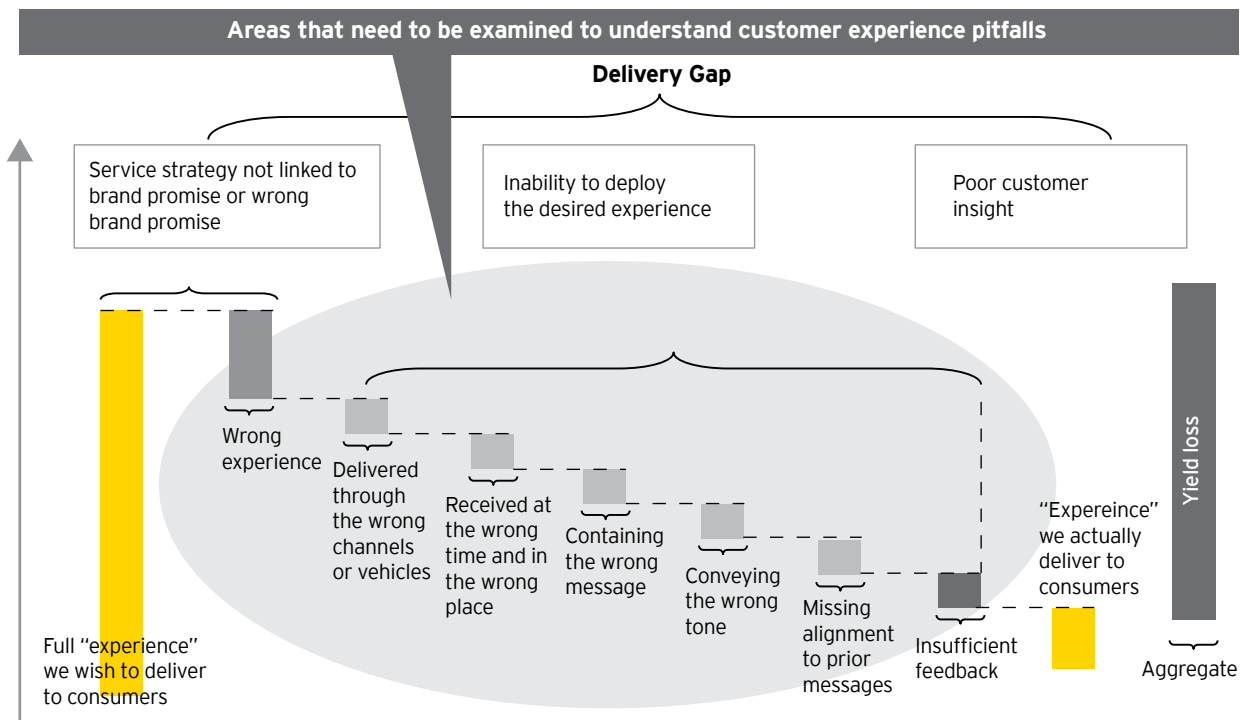
A leading private bank deployed its CRM solution in conjunction with a comprehensive data warehouse solution to reach 10 million plus retail customers through the web. The leads generated were tracked end to end and closed over the mobile interface of the CRM solution by the sales force. The leads generated in the CRM system for this bank have seen a 200% increase in the last two years with a conversion ratio of more than 50%.



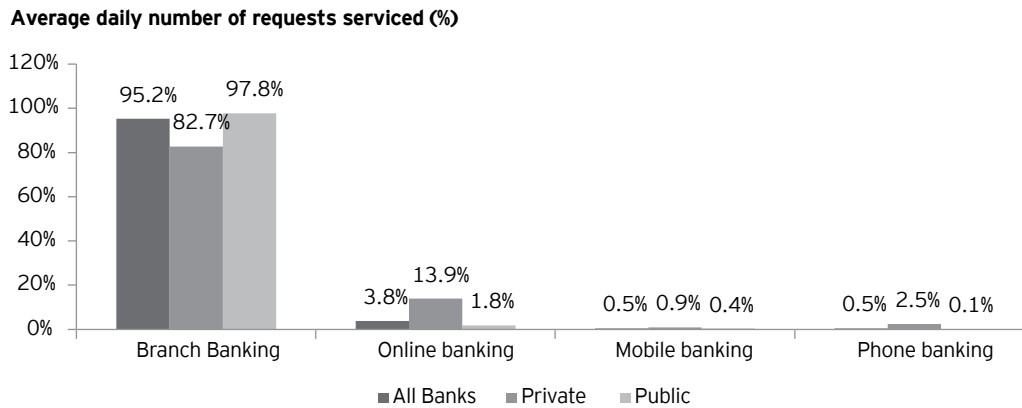
## Winning Strategy III: from CRM to customer experience

Worldwide, banks are faced with the following twin challenges:

- ▶ Customers want multiple channels of interaction, but need to have the flexibility of changing their channels, depending on their convenience
- ▶ They expect banks to provide them with a seamless cross or omni-channel experience, and may therefore look at housing loan details on banks' websites, expect to have their queries answered through contact centers and get their paper work processed at home
- ▶ Customer preferences are evolving faster than the ability of banks to respond, resulting in a widening of the delivery gap, as seen below:



Furthermore, while banks' branches continue to be the predominant mode of banking services provided to customers, especially for products and processes with high levels of complexity, private sector banks are increasingly seeing greater adoption of alternative channels than public sector banks, as seen below.



Most banks are attempting to define their “customer experience” initiatives, but few are starting the journey on the wrong foot with an inside out thinking of how they can fix their processes, people skills and technology initiatives to deliver the maximum value to their customers. However, their customer-experience initiatives should be aimed at customer engagement rather than customer management, and therefore should involve “right brain thinking” about customers’ emotions, thoughts, likes and dislikes as a starting point before getting into left brain areas such as processes and technology.



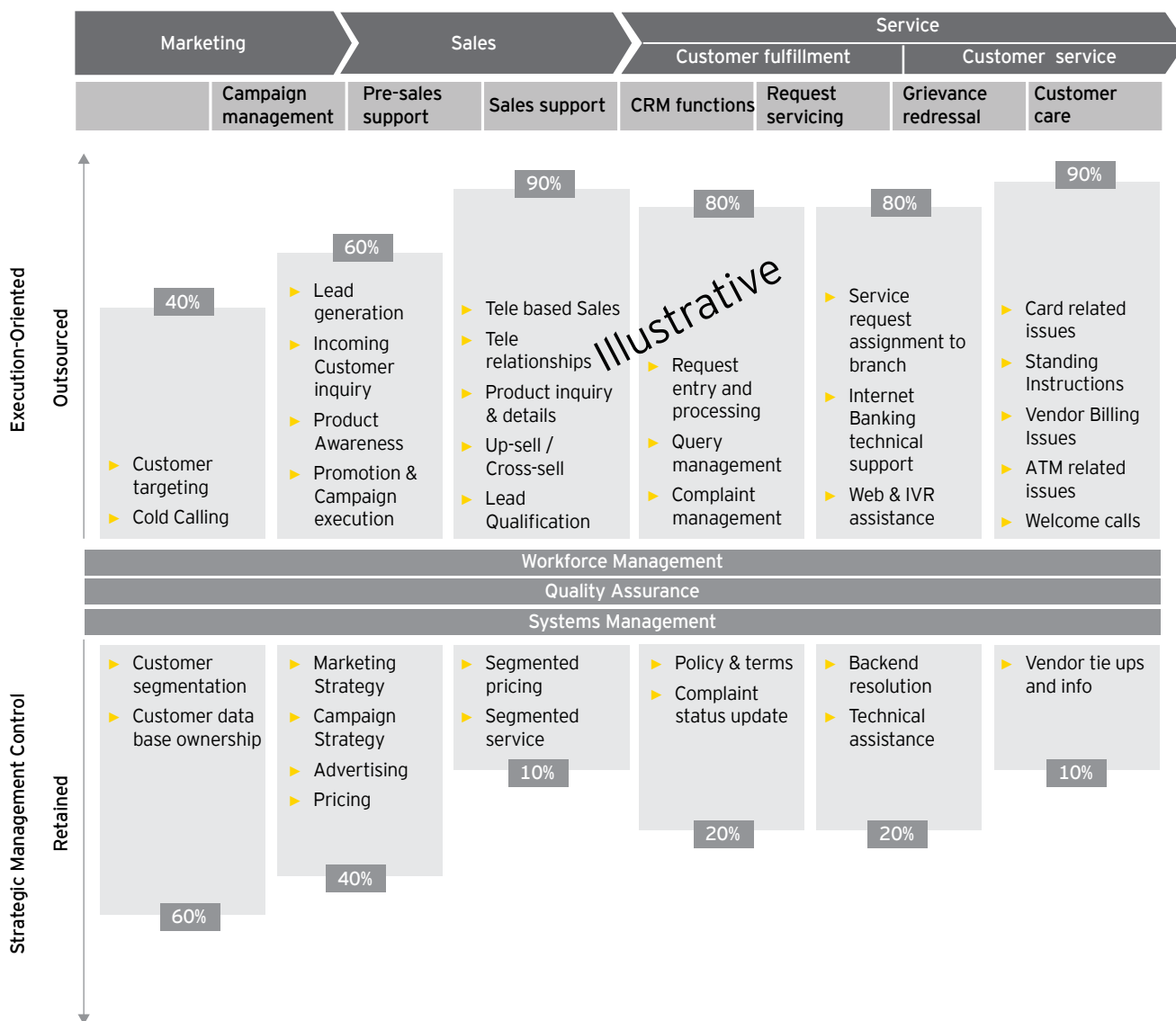
## Winning Strategy IV: use of alternative channels

### a) From call center to multichannel contact center

- ▶ Phone banking has evolved into multichannel contact centers providing support for voice, SMS, email, chat, social media, etc.
- ▶ Therefore, contact centers, which had previously been viewed as little more than low-cost customer-

servicing and problem-resolution channels, are quickly becoming a powerful means of service delivery and substantial revenue generation (cross and upsell programs).

- ▶ An established trend in this space is to outsource the operations of contact centers to third party vendors and retain strategic operations as an in-house function.





**b) Self service**

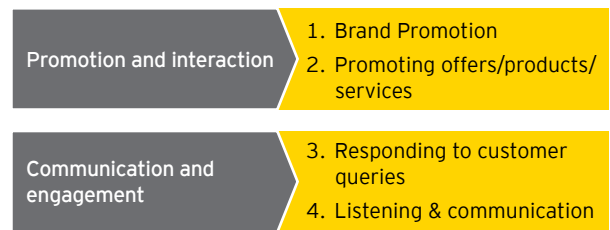
Customers increasingly prefer to depend on themselves or other customers to solve any issues they face or queries they want answered. This is done through FAQs, forums, communities, social media, etc. In this case, the bank needs to provide systems and tools for facilitating such interactions. Today, Indian banks are offering self-service options to their customers, mainly through the internet and IVRS.

*An example:*

A leading Indian private bank was focused on providing services such as fund transfers, bill payments, debit card/credit card servicing and other requests through IVRS. As a step further, it also provided a call-back option for inbound customers in which customers' positions in the queue was maintained, even if they disconnected their calls. The bank has seen more than a 30% increase in service requests received through phone banking over last year.

**c) Harnessing the power of social media**

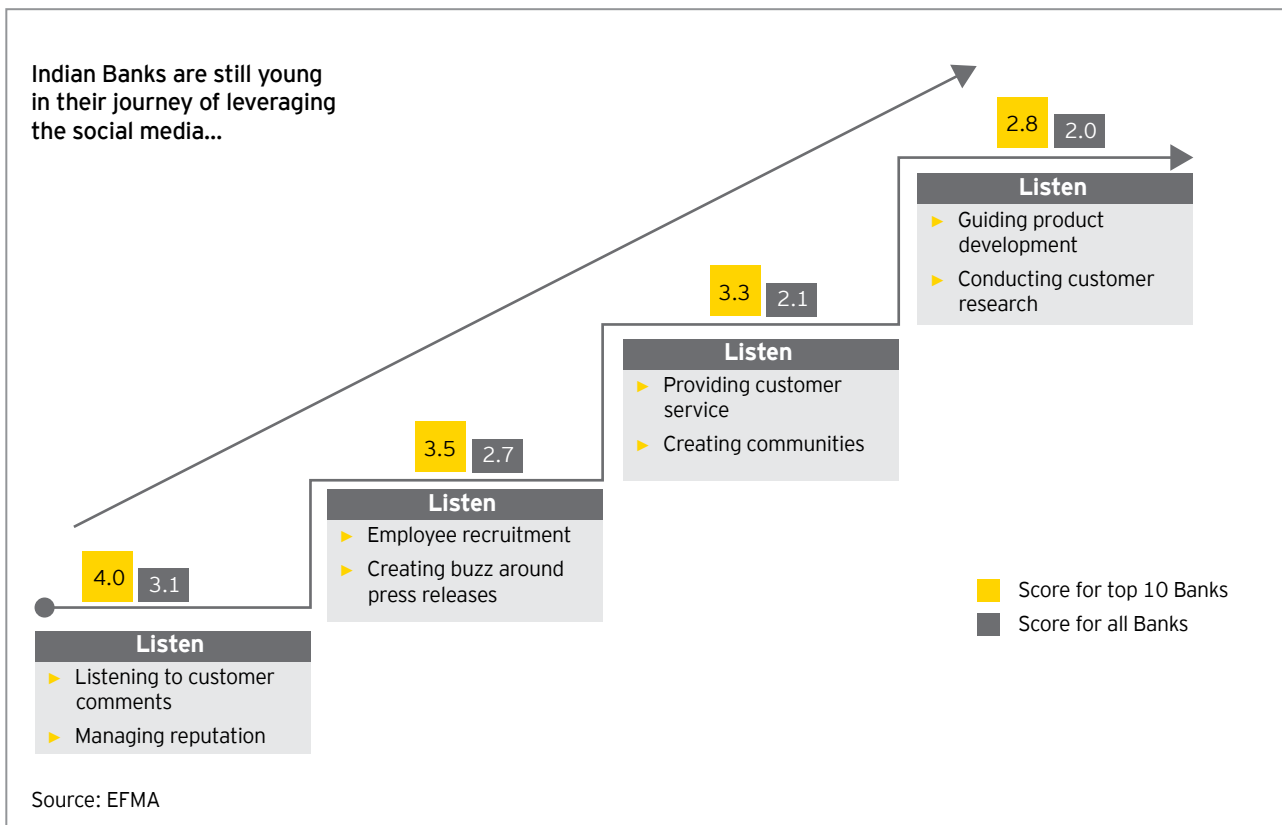
The social media space can perform four key roles relating to customer engagement, service and education:



Most banks have embarked on their social media journeys by ensuring their presence on a Facebook, twitter, Youtube or blog site, but integrating their input into the following:

- ▶ Sales channel for cross and upsell for customer delight
- ▶ Service channel for disappointed customers

However, they have still not achieved the above seamlessly, as seen below.



## Winning strategy V: effective cross and upsell

Global banking statistics indicate that response rates during effective cross sell can be three times that of trying to acquire new customers. Adding to this is the fact that retaining customers is far more profitable than acquiring new ones, which is why most banks are trying to monitor and track this as a critical lever to improve their top and bottom lines.

Banks are slowly waking up to the idea of the following:

- a) Understanding varying needs and cross sell potential in different customer life stages, as seen above
- b) Attracting additional customers in the immediate family or social circles of their existing customers
- c) Looking at customers' life time value another concept increasingly being adopted by some private sector banks
- d) Identifying extended relationships of their customers (by tapping their network of friends and family).

Only a few leading banks have been able to leverage the customer data available and translate this to strategies to influence customer behavior and deepen relationships

*An example:*

A leading Indian private bank launched a first of a kind reward-based loyalty program, which rewards customers for using its net banking, debit card, Demat linking and automatic bill payment facilities. The bank was able to execute this program with its analytical CRM output as the basis for selecting target customers. It has been able to differentiate its Savings Bank account offering and quantify the increase in its relationships (monthly average balance) through this program by integrating its core systems and CRM solution.

### Best practices at this stage:

- ▶ Implementing an integrated operational and analytical CRM program, which guides banks' employees in their real time decision-making (with appropriate offers and responses) in relation to customers' queries, requests and complaints
- ▶ "Ring fencing" customers from multiple offers, i.e. tracking the number and type of offers that have already been made to them and their response to these, since duplicating offers can annoy them
- ▶ Banks having the ability to segment their customer base, not just on demographic but also on psychographic parameters

### 3. Conclusion

Banks need to clearly articulate and measure the expected benefits from the winning strategies discussed in this note. These benefits would, in turn, be dependent on the value these initiatives provide customers. As we begin defining the business case, the question is who will do what to make this a success and how this can make them accountable. This will require them to clearly articulate KPIs and industry benchmarks applicable to their banks.

Process Description	Metric Name	Median	Unit of Measurement
Plan and manage customer service operations	Average call handling time in seconds	310.93	seconds
Measure and evaluate customer service operations	Customer attrition (or churn) rate	12.00	percent
Plan and manage customer service operations	Average number of contact center seats per contact center	155.60	seats
Plan and manage customer service operations	Inbound contacts received via calls as a percentage of total inbound contacts	99.10	percent
Plan and manage customer service operations	Response time for inbound requests coming from e-mail	20.00	hours
Develop and manage sales plan	Number of FTEs for the process "manage sales orders" per \$1 billion revenue	4.49	FTEs
Develop and manage marketing plans	Budget for marketing as a percentage of revenue	6.93	percent
Develop sales strategy	Budget for sales as a percentage of revenue	6.15	percent
Develop and manage sales plan	Sales FTEs as a percentage of total business entity FTEs	15.24	percent
Develop and manage sales plan	Percentage of sales orders received through new (such as digital/electric) channels	45.00	percent
Develop and manage marketing plans	Marketing FTEs as a percentage of total business entity FTEs	3.02	percent

# 5

## Risk management and information security

# Risk management

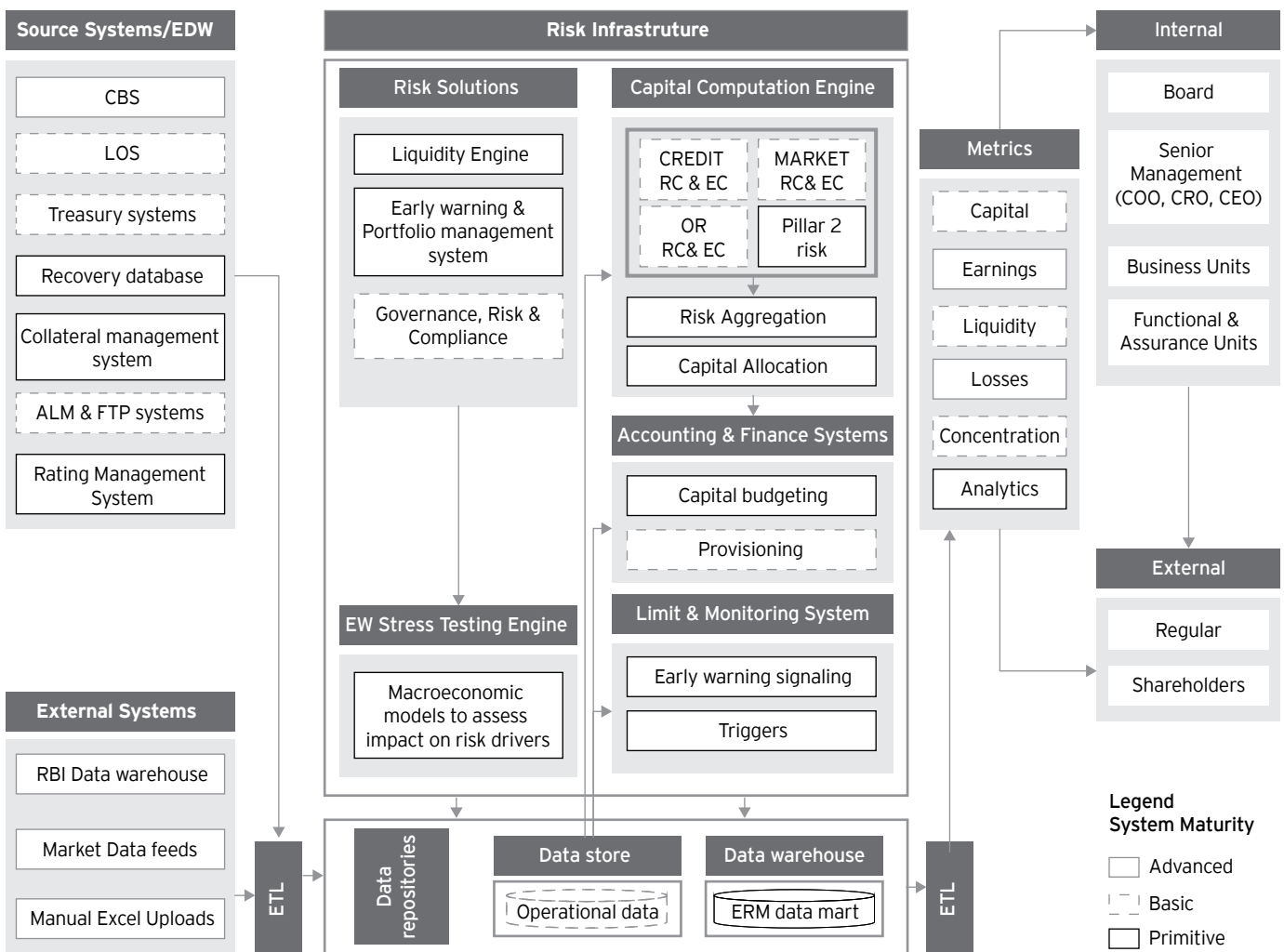
## Introduction

Over the last few years, after the financial crisis, there has been an increased thrust on risk management from the Reserve Bank of India (RBI). A series of guidelines have been issued by the RBI with a view to improve risk management practices at banks, of which guidelines to migrate to advanced approaches of Basel II is one of the foremost. Banks have responded by improving risk management processes and upgrading their systems and infrastructure; however, a lot still remains to be done. The maturity of risk systems and infrastructure is still at nascent stages across the Indian banking landscape.

The IBA survey and EY analysis reveals that Core Banking System (CBS) is widely used across the banks for transaction management. However, its integration with

risk management and other enterprise level applications is still at preliminary stages. While banks have embarked on the journey of Basel II implementation, covering only credit risk, operational risk and market risk capital computation engines, most of them are still at an implementation stage due to various challenges such as data availability and quality, as well as lack of skilled resources for advanced risk modelling.

While senior management may have access to more data than ever before, almost 80% of the banks, lack system capabilities such as an Enterprise Risk Data Mart and Business Intelligence capabilities for effectively extracting business insights and driving strategic decision making.. In fact, there is still a reliance on manual processing and excel spreadsheets for the analysis and interpretation of data. The diagram below demonstrates the maturity of risk management systems among Indian banks:



These implementations would only help the banks comply with the Pillar 1 of Basel II guidelines. However, for the overall Basel II compliance (and other recent RBI requirements) and to derive strategic value of investments, banks need to focus on enhancing the following systems:

- ▶ Credit systems covering application rating/scoring platform, limit management, collateral management, NPA management
- ▶ Liquidity management to comply with recent Basel III requirements and advanced stress testing needs of liquidity
- ▶ Enterprise risk systems, to enable banks to implement Pillar 2 risk frameworks and enterprise-wide stress testing capabilities in compliance with the RBI guidelines on stress testing and risk-based supervision.

## Credit systems

The primary business of Indian banks is credit disbursement. In this regard, the core banking systems have been able to automate the entire transaction processing requirements. However, these systems do not cater to risk management needs of banks such as limit management, early warning systems, NPA management. Broadly the following credit systems are found to be lacking in most banks:

- ▶ Loan origination system
- ▶ Internal rating and scoring system
- ▶ Limit management system
- ▶ Collateral management systems
- ▶ Early warning signals and NPA management systems

There are refinements, which are required, to cater to some of the emerging trends in the market:

- ▶ Introduction of sophisticated credit rating models and scorecards for the assessment of borrowers enabling banks to understand their customers, which would require a single source of data collection
- ▶ Significant growth in origination volumes, especially in the retail segment, which would require efficient and improved processes
- ▶ Increased complexity and burden of regulatory compliance, which may require putting in place efficient processes

- ▶ Movement toward advanced approaches for the calculation of capital, which would require increased data elements and complex computations
- ▶ The competitive and business landscape of the banking industry may require to have in place a robust portfolio and limit management capability
- ▶ In recent times, there has been a significant increase in non-performing assets (NPAs), requiring more sophisticated NPA and recovery management infrastructure to be set up

The banks would be able to achieve following advantages through implementation of the above mentioned credit systems:

- ▶ **Loan origination system (LOS):** A loan origination system is useful to automate the entire customer and application data capture for a new loan application, configure the credit appraisal workflows, check for policy compliances, enable risk scoring and pricing. The key benefits of LOS are:
  - a) Provide key loan application data for various downstream portfolio analytics, customer relationship management, KYC/AML, credit scoring activities; the quality and depth of credit analytics can be significantly improved based on the data generated from an LOS
  - b) Provide single store for bureau information
  - c) Improve loan application turnaround and thereby enable banks to tap credible customers.
  - d) Implement automated controls to check credit policy compliance and channelize lending to targeted risk profile.
  - e) Automate the usage of internal rating models and scorecards so that a rich database of internal rating and scoring can be created to enable downstream IRB model management activities such as model validation and enhancements. In addition, this feature enables to show case compliance with the Basel II internal rating system criteria, which cannot be demonstrated without a system.
- ▶ **Exposure and limit management system:** Traditionally, limits are only viewed from the lens of prudential limits and few top down policy limits. The RBI has recently laid a foundation stone to implement risk-based limit systems by way of the Financial

Stability Assessment Report released in December 2013. A limit management system enables the Bank to aggregate the overall exposure to group of counterparties across all banking activities (not just credit), define multi-dimensional limits across single name, group borrowers, industry type, geography etc., and monitor adherence to all the limits collectively. Once internal rating systems are stabilized, banks would be required to implement risk-based limits in terms of capital consumed rather than exposure. Key benefits of limit system would be:

- a) Single view of the customer across the banking entity (a very key requirement for corporate and SME portfolios)
- b) Optimization of capital usage through risk-based capital limits
- c) Early warning triggers on potential limit breaches, which can be used by the bank to review its credit policy and credit growth. This could also enable the bank to request collateral and mitigants to reduce risk exposure.
- d) Dynamic monitoring of limits, setting up trigger alerts, and exception management

▶ **Collateral management systems:** Collateral management systems enable the Bank to have a single point store of all the credit risk mitigants (financial, non-financial) and credit guarantees and derivatives information. Once banks qualify to migrate to advanced approaches, they can take capital relief on account they can take capital relief on of account non-financial collaterals and guarantees non-financial collaterals and guarantees. However, currently most banks do not have system capabilities, which can store and provide information according to qualitative standards, to establish the eligibility of the collateral and map it for capital computation, which leads to capital drain. The key benefits would be:

- a) Effective mapping and netting of collaterals for the purpose of deriving capital benefit
- b) Efficient management and monitoring of collaterals, in terms of legal and valuation characteristics
- c) Ability to perform centralized stress testing and sensitivity analysis on various types of collaterals.

▶ **Early warning signals and NPA management:** There has been a significant build-up of non-performing assets in the industry. Currently, management of stress assets starts from the date of delinquency, which is reactive as compared to being pro-active to arresting any slippage into stress assets by monitoring early warning signals. An EWS and NPA management system would enable the Bank to:

- a) Capture bank wide information on early warning signals, which indicate asset quality deterioration and transform them to refined rules and advanced default prediction models such as behavioral scorecards, collection scorecards etc.
- b) Monitor remediation actions taken for each early warning trigger and review the performance of various bank departments and personnel in maintaining asset quality
- c) Determine the best course of recovery in case of defaulted asset through advanced analytical models such as collection scoring, recovery modelling etc.
- d) Capture all the recovery-related information, which is crucial to build loss given default (LGD) prediction models. Currently, this is one of the biggest hurdles in adoption of Advanced-IRB approach.

Overall, the credit systems detailed above will assist banks in achieving capital efficiency, streamline and automate processes reduce efforts and costs, provide better control and monitor capabilities as well as enhance reporting to senior management for strategic decision making.

## Enterprise Risk Management Systems

With the advent of renewed stress testing guidelines, risk-based supervision and the capital taking center stage in senior management decisions, banks are looking forward to setup an enterprise risk management (ERM) framework to move away from the “silo” approach for risk management toward a “holistic” view of enterprise-wide risks. Especially in the current business scenario, it will be increasingly difficult for banks to retain a competitive edge, return value to shareholders, or respond to emerging regulatory demands without a well-established ERM framework.

Key benefits that banks can derive from ERM systems include:

- ▶ **Comprehensive view of risks across the bank:** Analysis of risk/return profiles across all lines of business, generation of enterprise risk heat map, and computation of portfolio risks with respect to different risk measures, such as value-at-risk, expected shortfall, earnings-at-risk or liquidity-at-risk.
- ▶ **Integrated stress testing:** Forward-looking assessments of risk from both external as well as internal (business) events on the asset quality, business growth, profit, capital requirement and liquidity position of the bank in the short term (one year) and strategy planning term (generally three years), reverse stress testing to get an insight into the potential vulnerabilities and fault lines in the business, including “tail risks.” This topic has seen renewed focus and attention from the central bank in its recent guidelines.
- ▶ **Scientific approach to capital management:** Analysis of products, portfolios, business units based on scientific measures such as RAROC, improve capital allocation decisions by taking into account current and future EC requirements and a BU’s ability to exceed the cost of allocated capital
- ▶ **Ability to institutionalize risk appetite:** Movement from a risk appetite defined in terms of minimum capital requirements to a scientifically derived one defined in terms of earnings-at-risk, liquidity-at-risk, capital-at-risk, etc. based on assessment of risk capacity and risk tolerance using simulation techniques
- ▶ **Integrated risk management strategy:** Enable effective distribution of key risk information across banks to different user types by adopting an integrated risk management strategy that meets all data, methodology and usability requirements
- ▶ **Support innovation and adapt to changing needs:** Adapt to changing business needs both today and in the future by customizing models, analysis and reports on an ongoing basis and support innovation by introducing new risk measures and models in a fully transparent and auditable environment

Hence, a successful implementation of ERM systems would drive banks toward better risk governance, reduction in the overall risk profile, increase in the stakeholders’ and regulators’ confidence and change the face of risk management in Indian banks from risk compliance to risk strategy.

## Liquidity risk systems

Liquidity risk is not only a source of bank’s funding risk but also has a strong link to market liquidity. The market turmoil that began in mid-2007 has highlighted the crucial importance of market liquidity to the banking sector. The contraction of liquidity in certain structured product and interbank markets, as well as an increased probability of off-balance sheet commitments coming onto banks’ balance sheets, led to severe funding liquidity strains for some banks as well as central bank intervention in some cases. The crisis illustrated how quickly and severely liquidity risks can crystallize and certain sources of funding can evaporate, compounding concerns related to the valuation of assets and capital adequacy. Unprecedented levels of liquidity support were required from central banks in order to sustain the financial system and even with such extensive support a number of banks failed, were forced into mergers or required resolution.

Given the dynamic and multi-faceted nature of liquidity risk, banks globally have recognized the need to develop in-depth understanding of their risk exposures and to manage them closely – even on a daily basis where necessary. Banks have started building frameworks that will help them track and manage their liquidity positions across multiple dimensions in detail. They have started realizing that in due course the effort involved in such detailed analysis will prove to be a beneficial investment in management of their own firm.

## Implementation challenges

Implementation of risk systems will not deliver the perceived benefits if it is treated merely as a compliance requirement or merely an automation of existing manual processes. Instead, it has to be executed as a strategic initiative to relook the inefficiencies and re-engineer the entire risk management function of the bank. Banks would need to chart out phased implementation and expansion plans with clearly defined metrics for success and return on investment.



Implementation of risk systems is a long and arduous journey and the success is primarily dependent on banks addressing following key challenges:

### Data management and governance

- ▶ Lack of adequate historical data for quantitative model development
- ▶ Lack of robust data governance models with respect to data ownership, data verification and adherence to data management standards
- ▶ Few standards for collection and storage of risk data in a ready to use standardized format
- ▶ Lack of data integrity due to silo systems resulting in non-integration of risk data

### People and organization

- ▶ Lack of senior management involvement and support resulting in systems inadequately customized to address key management challenges
- ▶ Frequent changes in leadership (especially in public sector banks) leading to non-continuity of the risk strategy
- ▶ Lack of skilled personnel with a right mix of banking and systems knowledge to support system implementation, which leads to ambiguous requirements and delays in project implementations
- ▶ Lack of non-standard processes and different regulatory requirements for international operations

### The way forward

To move on the risk journey and derive the maximum out of investments made on risk systems banks may consider to:

- ▶ Conduct review of their current state and draft a multi-year risk implementation roadmap in line with regulatory expectations and business aspirations of the bank
- ▶ Develop a dedicated pool of risk specialists and risk technology specialists through in-house or outsourced mode to implement the risk strategy by clear definition of risk projects, perform project management, clear specification of project requirements.

## Information security

Information security has emerged as one of the priority areas of focus for banks. Banks have established the grounds for a strong information security framework by certifying against the ISO27001: 2005 standards. Additionally, banks have implemented tools such as anti-virus, anti-malware, anti-phishing, log monitoring, etc. Some banks have also extended their coverage by implementing tools such as Data Leakage Prevention (DLP), Privileged Identity Management (PIM), Identity Management (IDM), Database Activity Monitoring (DAM), etc.

There is expected to be new risks and challenges for managing information security in 2014. With the advent of mobile computing, social media, cloud computing and increasing sophistication of hackers it is evident that the risk environment is changing. New risks revolve around inadequate governance of changing IT landscape, new mechanisms for data leakage, risk of exposure while storing data on the cloud and complex and sophisticated malware attacks. Additionally, in India, data privacy and protection of customer data have reached the tipping point. With more and more cases being registered under the IT Act 2000, banks can no longer ignore privacy of customers. These risks combined with a need for cost optimization create a dichotomy in the information security agenda. Furthermore, regulators have identified this threat and are putting pressure on banks to comply with rules and regulations, to admit to cyber breaches publicly, and to submit to detailed examinations.

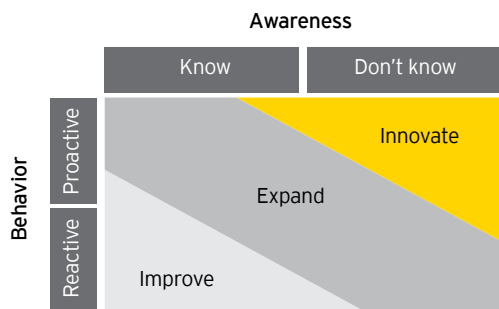
To tackle this challenge, EY suggests a three-pronged approach to improve, expand and innovate information security.

**Improve:** Many banks have taken steps to manage risks, which they become aware of, in a reactive manner. They should look to improve this in 2014 and be more proactive toward managing risks.

**Expand:** Banks should take initiatives about risks that they know proactively and be prepared to handle new risks as and when they come up. This will expand the current information security program.

**Innovate:** Organizations in the innovate space proactively take initiatives toward handling some unknown and unrealized risks, put a framework and governance model in place, have mature processes, etc.

The table below provides a guide to the above definitions:



### Improve

- ▶ Continue to improve the governance framework, which has been established to drive the security agenda
- ▶ Establish a security program management (SPM) framework for processes, people and technology that your organization uses to establish, implement, operate, monitor, review, maintain and improve a security program, within the context of your overall business objectives and activities
- ▶ Enable unified threat management (UTM) solutions that deploy a single application with a single administrative interface for the functionality of antivirus, content filtering, intrusion prevention and spam filtering functions

### Expand

- ▶ Deploy IT GRC program and solutions. IT GRC processes span a wide range of activities including IT governance and policy management, IT asset tracking, IT risk assessment and response, IT control implementation, IT regulatory compliance and reporting, IT incident and threat management, IT vendor risk and performance management, business continuity planning, and ongoing IT auditing.
- ▶ Expand the information security program to encompass privacy. Establish a privacy framework for protecting the customer personal information and be compliant to the IT Act 2000 and its amendments of 2008 and 2011.
- ▶ Formalize the software licence management programs to enable cost optimization within the organization

### Innovate

- ▶ Broaden the information security program to adopt enterprise-wide information risk management
- ▶ Optimize tools: Conduct a value versus benefits analysis for the existing tools deployed within banks.

This not only includes the cost but also the value and the objective of the tool that has been deployed. Does it serve the purpose? Does it meet all requirements? Is it being effectively used? Often organizations deploy tools as off the shelf products. Banks should now customize the functionality of these tools to their organization's requirements. More effort should be spent on establishing strong processes and frameworks to govern the usage of tools and training people versus cost of the tools. For example, a DLP tool will not be very effective unless you appropriately classify all the data and put correct rules in place. Furthermore, consider benchmarking your tools and processes to understand how mature they are. For example, conduct a benchmarking exercise for your identity and access management tool to understand what access risks and gaps exist.

- ▶ Enhance KPI and KRI to measure leading indicators: Traditional security metrics tend to look backward – vulnerability counts, compliance with policy, missing patches, percent completion on initiatives – or they focus on seemingly relevant security statistics that have little bearing on the actual security of the information that organizations are trying to protect. For example, traditional security dashboards might report the number of alerts generated by intrusion detection systems, scans seen on perimeter devices and the number of times malware has been blocked. However, these metrics may not be relevant or they may not be sufficient. Instead, they focus on output-based metrics. While traditional metrics should still be tracked, the focus should be on the few critical metrics that really matter. It consists of the number of actual information security compromises; the number of business records lost through an attack; the time it takes for the organization to recover from a breach. These metrics align directly with business objectives of competitiveness and data integrity, as opposed to other measurements, such as patching effectiveness or compliance with security policies.

In conclusion, EY recommends that banks should not look at information security only as a compliance necessity and a cost burden to the business. Executives need to view information security as an opportunity that can truly benefit the bank and its customers. By rethinking the information security strategy and using an integrated security approach, banks can proactively protect customers and themselves while anticipating the worst; they can embrace change instead of resisting it; they can focus on trust rather than paranoia..



# 6

## Technology in training and eLearning



## Introduction

The last decade, which marks the era of liberalization and reforms in the country, has been an eventful one for the banking sector, changing the face of the industry in a big way. On the one hand, technology has brought in substantial changes in banking services and new product innovations, while on the other human resource have become the single-most strategic and competitive edge in this age of globalization. Consequently, developing and nurturing this talent pool has gained more importance, evidenced by the fact that banks have increased focus on learning and development (L&D) initiatives over the years.

This increase in investment on training and development by banks in India is caused by a variety of motives, which include – new technology adoption, productivity, responding to skills deficiencies, new hire inculcation, and staff performance management. Moreover, currently banks and financial institutions are adapting to increased regulatory oversight (know your customer (KYC), anti-money laundering, fraud prevention and control, internal controls over financial reporting – SOX Compliance etc.), which necessitates fundamental changes in the way these regulations are then cascaded to grassroots and compliance is enforced in the organization.

The dissemination of training itself is being done in a variety of formats – traditionally banks have used the formal classroom format, with training being an opportunity for a break from routine and encouraging team-building initiatives among employees. Currently the training culture is tilting more toward on the job training programs and nowadays, banks have slowly but surely adopted technology in a big way in this initiative and moved to eLearning or virtual classrooms where employees can find most of what they need on the company intranet or eLearning portal at the click of a few buttons. While this has made information accessibility easy, banks have also reaped cost savings in the long term from such measures.

Through technology advancements in L&D, banks have realized that they can build, deep, long-lasting relationships with customers by ensuring that its staff possesses the right skills, knowledge and professional qualifications to help customers achieve what's important to them.

## Current trends

### Training initiatives and systems deployed in banks

This study focuses on the best use of technology in training and eLearning initiatives in the banking industry. The study relied on both qualitative and quantitative analysis of data received against queries posed to banks to understand their technology adoption in the following areas:

- ▶ Training initiatives and systems deployed in banks
- ▶ Leveraging Training for efficiencies in the bank
- ▶ Measurement of the success of Training initiatives

The study reveals that most banks have invested in intranet portals, eLearning systems and institution training mechanisms. Trends for more informal learning mechanisms and the accessibility of information and subject matter experts at the click of a button, such as virtual classroom, blogging, chatting, discussion forums, helpline, also appear to be on the rise.

Some banks have also gone a step ahead to ensure that their staff is incentivized to read the circulars and guidelines on the portal by scheduling monthly quizzes with cash awards.

Banks often put these portals to best use to disseminate knowledge, training and publishing material on their core banking systems. One of the large banks effectively used this medium to increase user adoption of core banking to assist 1,500+ bank users to adopt a new way of working in less than three months without disturbing current operations. Their eLearning tool introduced visual process maps for each of the processes, which the staff carry out in CBS, with each task classified as manual or system oriented. Each task was further enhanced with details on exact role profile eligible to execute the task along with action or system screen to be accessed by the user. Users could then access the task by clicking on "show" mode or "guide" mode, which can even simulate data entry.

However, some of the banks have taken technology adoption to a new level by introducing gaming, simulation and mobile learning in the workplace. These smartphone applications were targeted at roles that needed a real-time, on-the-go access to critical product and process-related information. Thereby significantly enhancing the efficiency

of client acquisition and servicing processes, by reducing rework and strengthening the overall brand equity of the bank. For example, a tablet-based gaming application was designed for trainees aimed at building proficiency in correctly filling-up the account opening forms for savings account. The game features as many as eight levels of game-play with different customer profiles to give enough practice to the learner.

Classroom-based training programs are also still in vogue with many banks having dedicated staff and training colleges. Some have associated themselves with renowned international institutes such as Harvard Business School so that employees of the Bank can access their online learning and collaboration tools on self-management, leadership and soft skills, containing the world's most respected voices in business.

## **Leveraging training for efficiencies in the bank**

Most banks have leveraged training programs to inculcate new joiners into the bank, effectively acclimatizing them to products and services, as well as transmitting the necessary behavioral attitudes for exceptional client service.

Training programs have also been found to be effective for Risk Management and Information Security Policies (ISO Compliance), which requires large number of employees to be trained, being catered to by e-learning portals.

The banks have increased user adoption, with the launch of some of these gaming modules, and as a result, rework levels have been reducing consistently and significantly.

Furthermore, these gaming modules were designed by replicating a specific transaction into an interactive storyboard – featuring an engaging user-interface and providing a non-threatening environment of skill practice with immediate performance feedback. For example, in a game called “cash detectives,” learners can practice detection of fake currency from a given set of currency notes by evaluating the features of the currency note. Similarly, another game “Cheque Mate” throws a challenge at the learner, of tagging a series of correct and incorrect cheques with respect to an identified discrepancy in a limited time.

While gaming offers a play-based learning experience, simulators were developed for training branch service staff on various complex banking transactions by replicating real-life branch environment. In a branch environment, an

employee has to assimilate knowledge of banking processes, core banking system and norms of customer service to handle customer service requests. Through the branch banking simulator, the bank brought together a simulated environment where a learner has to handle hundreds of scenarios/transactions by applying his product/process knowledge and customer service skills. The simulation focuses on providing a real-time, yet risk-free environment, where the learner enjoys a complete freedom to experiment, make mistakes, have fun and learn on the go.

By popularizing web-based learning portals, discussion forums and video conferencing facilities, most banks have been able to reduce the expenditure incurred (time/ money) in classroom training by supplementing it with e-learning. The use of e-learning has therefore reduced trainers, eliminates travelling expenses, printing costs and also saves on the opportunity costs by way of salaries of trainees. Banks are now capable of training large number of employees in a short duration, and whenever required, are able to disseminate knowledge and skills to large number of people, geographically dispersed simultaneously. Therefore, ensuring timely knowledge upgrade and saving on any incidental costs, which could have resulted from loss in business because of knowledge/skill gaps.

Institutional training capacity is being reserved for more advanced subjects and basic gaps and work-related subject areas are taken care of by e-learning facilities in most banks.

## **Measurement of the success of training initiatives**

The measurement method employed by most of the nominated banks is to host e-evaluation packages, mostly developed in-house, which contain tests or online examination surveys and feedback forms/forums when administered to employees would enable generating a “report card” on each employee and consequently the success and impact of the training program.

Most of these banks have also linked the training and development initiative to performance management process. This is being done by:

- ▶ Using the performance management process as a platform for training needs analysis
- ▶ Using the training KPIs such as training outcomes, number of trainings attended, test scores and feedback of line managers as an input and integral part of performance assessment of the individual

The ultimate test of the effectiveness of training initiatives is the performance of the individual on the job.

## Importance of e-Learning

### Compliance

Employees within the banking sector – from tellers to senior executives – must remain in compliance with specific banking regulations imposed on the industry in India. Virtual classrooms ensure these employees remain qualified for their jobs and are always in compliance, even as the regulations change frequently.

### Skills

Most training programs delivered to employees within the banking sector revolve around products and services the banks offer, such as general banking operations, foreign exchange services, and basics of retail asset finance as well as other knowledge elements such as sales training, anti-money laundering, budget management and cash flow management. Topics for managerial training may involve more leadership/supervisory skills training, behavioral, communication skills and conflict resolution.

These skills play a critical role in the customer acquisition cycle by not only helping pitch the right product to commercial banking clients but also optimizing the turnaround time (TAT) during various stages of client acquisition and servicing and ensure that new joiners are productive right away.

### Culture

e-Learning is an outstanding way to establish the banks' culture and transfer it to staff. The bank's way of doing business, values and background can be transmitted effectively in such programs. Orientation programs, induction programs, offsite programs, and annual training events transfer the norms and traditions of the bank to the workforce.

### Quality

Employees learn how to produce quality products and services as an outcome of such training programs. Improved quality brings increased profits and enhanced job satisfaction for the staff. Furthermore, quality training also creates standards and expectations that gets cascaded to customers.

### Productivity

Productivity increases when employees are properly trained; this is especially true for usage of complex systems such as the core banking system. Effectiveness and change management improves, as the staff understands how to perform jobs in a more efficient manner and appreciate how it will help their personal success. More work is completed in less time when everyone knows exactly what to do and how to do it. New employees are trained more rapidly when processes are documented and training is standardized. Hence, training initiatives must be ongoing, and as employees gradually become more familiar with their assignments, gains in productivity become a certainty.

### Profitability

Increases in profitability occur when employees are properly trained and developed. Errors reduce with consistent and documented training. Sales increase when the sales force has been well trained and use standardized selling process. Customer service scores improve as employees learn and apply a process that leads to customer satisfaction. This can, in turn, keep the staff motivated as their learning curve increases and turnover decreases.

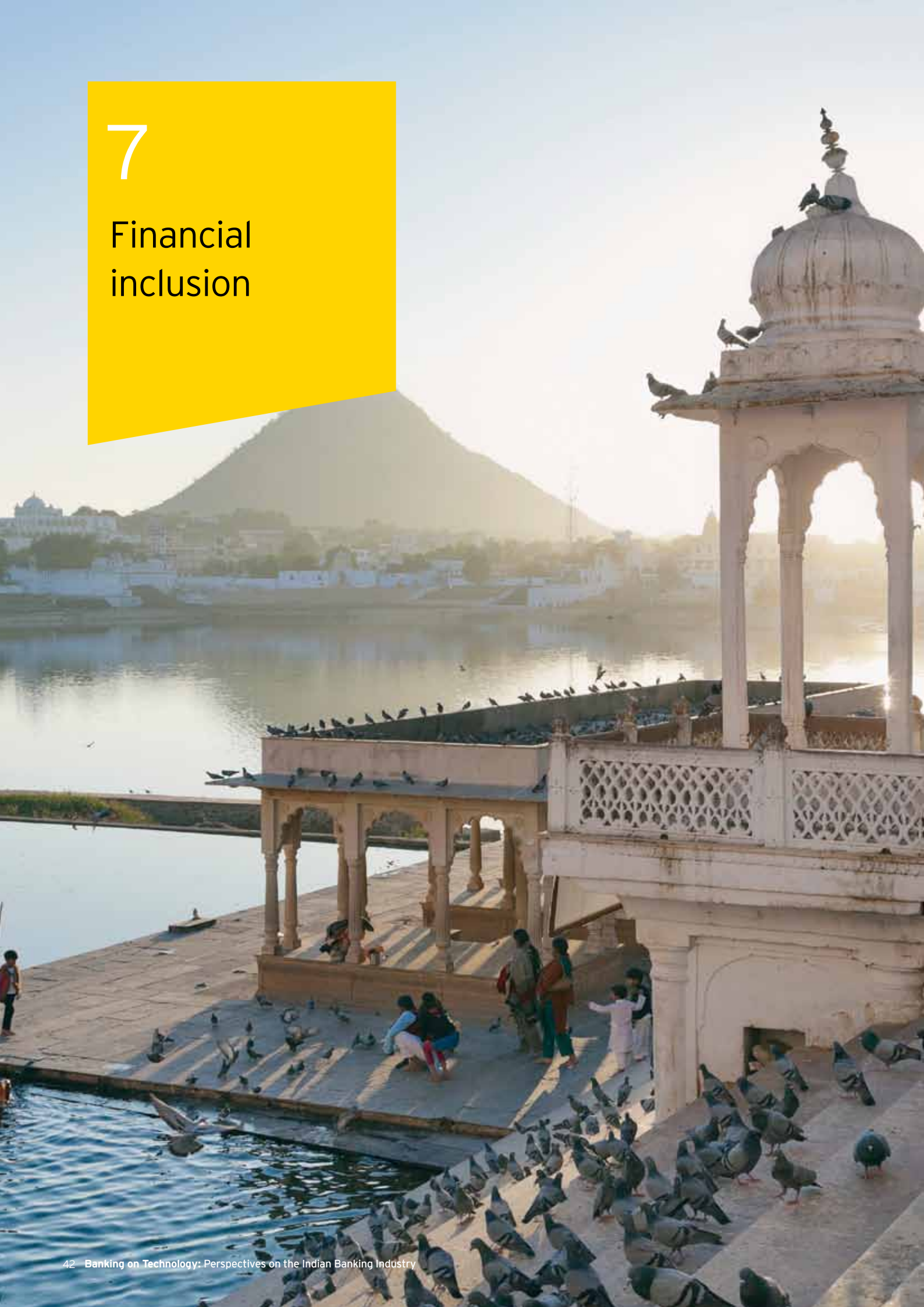
## Way forward

While most banks have already taken giant strides in the area of L&D, there is still scope to align learning and strategy at a corporate level. In India, L&D is still more of a support function and not many see it as a part of corporate strategy. Many a times L&D is not informed about strategic decisions and have to play catch up rather than driving the change. L&D needs to be more connected to the business and focused on developing competencies and capabilities required to survive and prosper. There should be more focus and concentration on organizational capability building rather than exclusively on individual competencies.

Overall, leadership development through these training initiatives is still vastly untapped and a mentorship-driven development program for identified leaders of the future can be deployed. Technology, as a delivery tool for training, helps measure the success of training programs and thereby, improves knowledge sharing and enhances productivity.

# 7

## Financial inclusion





## Introduction

Financial exclusion can be debilitating for the poor. For most of the 841 million people in India living on less than US\$2 per day<sup>1</sup>, saving money is difficult, access to formal banking is sparse with credit only available at very high rates, and a drought or illness can push people without savings or insurance deeper into poverty.

Access to financial services can be a key element in overcoming these harsh realities. There is wide recognition that poor people could see significant improvement in their lives if they have easy access to even basic financial services such as a savings accounts, loans and insurance.

However, despite this rationale, the financial services ecosystem has failed to reach the poor in India. Only 35% of Indian adults have access to formal savings bank accounts. Access for women and rural populations tends to be even lower. Only 47% of no-frill accounts were active in public sector banks at the end of FY13.

We have provided some key ideas (in Fig 1) that serve as a cornerstone of the vision for greater financial inclusion among the unbanked. The need of the hour is to identify significant interventions that advance these ideas and lead India to address the largest gaps in achieving its vision of financial inclusion.

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### The six cornerstones pillars of financial inclusion

The ability of technology to bring services to people wherever they are and whenever they need them is the biggest driver of achieving comprehensive financial inclusion.	Electronic payments are accelerating this drive, and new developments, including Big Data, ubiquitous internet access and cloud computing, are expected to have enormous impact.	Regulators should consider relaxing restrictions in areas that disproportionately affect unbanked customers, e.g., through KYC, agent banking and mobile banking.	Interoperability can create value for customers to attract large volumes.	Keeping pace with technology changes in the financial inclusion space will require significant investments in the regulatory capacity and changes made in regulatory processes.	Government can incentivize service providers to introduce technology-enhanced business models that improve last mile delivery by deploying their own resources, e.g., DBT payments and universal service funds.
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The RBI, together with players in the financial services ecosystem, has adopted an approach that has resulted in several initiatives on the supply and demand side. It has focused on expanding the reach of physical banking infrastructure through initiatives such as the Swabhimaan and Ultra Small Branches Schemes. It has also been focusing strongly on creating a ubiquitous payment infrastructure that will drive financial inclusion, e.g., a nationwide network of bank branches, ATMs, BC agents with micro-ATMs, universal data connectivity, a national switch and an array of financial service providers including banks, SHGs, RRBs, telcos, etc., that utilize this platform to provide banking and payment services. Innovative approaches such as “Bank on Wheels,” offering banking services at the doorsteps of rural consumers, have also been taken.

## Technology as a pivot and key driver of financial inclusion

In the last decade, rapid advances made in different fields, such as the spread of digital connectivity and mobile phones, upgrading of banking technology, and adoption of Aadhaar, along with other accompanying trends including growing urbanization and a rising middle class, have created attractive opportunities in the Indian financial inclusion landscape. In particular, technology promises to enable hundreds of millions of people to access financial services for the first time due to its wide reach, convenience and low cost of delivery.

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1. World bank data 2010

India is experimenting with several new ideas in financial inclusion in almost all areas requiring immediate focus – banking and payment channels, technology platforms, regulatory. Significant progress is required in financial inclusion, as indicated clearly by the World Bank Findex Survey 2012<sup>2</sup>, the following initiatives hold considerable promise:

- ▶ **National payment infrastructure:** Leveraging of technology has resulted in the country setting up strong payment infrastructure assets such as the NPCI (NFS, Rupay and IMPS), UIDAI, expanded wireless mobile network and connectivity.
- ▶ **Innovative business models:** Innovation and technology have spurred the onset of new business models in the financial inclusion space. This has resulted in the creation of improved value chains to serve customers including shared service providers, WLA operators, transaction processors, technology service providers, corporate BC agents, etc.
- ▶ **Phenomenal expansion in banking infrastructure:** Nearly 95% of this growth has been in setting up of banking outlets (branches, BC points, etc.) in villages as on March 2013 as compared to March 2010 (268,000 v. 67,694 outlets). Policy initiatives such as the Swabhimaan scheme<sup>3</sup> and Ultra Small Branches<sup>4</sup> have resulted in achievement of this expansion
- ▶ **Rise in bank accounts for the unbanked:** Nearly 109 million basic bank accounts were added from March 2010 to March 2013, taking the total number of bank accounts to 182 million. The share of ICT-based accounts has grown from 25% to 45% during this period.
- ▶ **Growth of acceptance infrastructure:** Acceptance infrastructure such as ATMs grew at a CAGR of 24% during the period 2011-2013, with ~ 137,000 ATMs deployed as on November 2013. PSU banks have finalized contracts for installation of more than 63,000 ATMs over the next two years to give a further boost to their deployment. Out of these, ~50% will be set up in rural and semi-urban areas. The RBI has also allowed

non-banking entities to set up, own and operate White label ATMs (WLAs), mainly in small towns and cities. In addition, POS infrastructure grew at a CAGR of 25% during this period with the deployment of ~ 975,000 terminals as on November 2013

- ▶ **New payment platform and channels:** The establishment of transaction platform such as RTGS, NEFT, the Aadhaar Payment bridge, AEPS and CBS are bringing about large-scale changes in consumer usage. New payment channels such as micro-ATM devices, kiosks and low cost ATMs, together with BC agent banking, are slowly but surely changing established notions of traditional banking.
- ▶ **Increased financial support through institutional credit:** The Kisan Credit Card (KCC) has been an important instrument to assure farmers of universal access to institutional credit. The number of KCCs issued by cooperative banks and RRBs as on March 2012 was 11.7 million, against which the outstanding loan amount was INR 916 billion.
- ▶ **Operationalization of the Direct Benefit Transfer (DBT) scheme:** The DBT scheme, which enables transfer of G2P payments under 28 various benefit schemes, has been rolled out in 121 districts across the country. It is expected that this flow of funds into poor beneficiaries' bank accounts will encourage them to use their bank accounts and savings.

## Key challenges in technology-enabled financial inclusion

A variety of issues prevent technology-enabled financial services from reaching their full potential to help India achieve financial inclusion:

- ▶ **Fear of technology (by prospective customers and regulators):** Lack of trust in technology or digital financial systems can be especially acute in the early stages of development of technology-enabled financial

2. The survey reports that only 35% of Indian adults have access to formal bank accounts and only 8% borrowed formally in the last 12 months. Only 2% of adults used bank account to receive money and 4% used these to receive payment from the Government.

3. The RBI's policy mandates that bank branches should be opened in 74,000 habitations with populations in excess of 2000.

4. The ranch model scheme for small villages through BCs comprises a small area of 100-200 sq. ft with a bank officer manning it on certain days.

services when there is very little awareness among customers about these. Regulators are sometimes concerned about the impact of technology-based financial inclusion models on systemic risk, since these introduce new risks such as electronic data security and new arrangements including outsourcing of specific bank functions (e.g., core banking ones)

- ▶ **Lack of clear value propositions for governments and individuals:** Governments sometimes do not have a clear view of the advantages new technology can bring with them due to issues including their slow adoption, onerous procurement processes and lack of adequate technical manpower. Decision-makers in the Government have to contend with other issues as well- overhaul legacy processes and their impact on manpower, and managing transition to new technology. On the other hand, unbanked customers can view introduction of new technology introductions negatively, either due to lack of significant advantages for them, compared to current alternatives, or to the inadequate network of financial providers that enable them to transact by using new technology
- ▶ **Lack of scale and linkages:** Technology-enabled financial inclusion initiatives are often characterized by inconsistent co-ordination among public and private sector players. For example, lack of agreement between telcos and NPCI on use of USSD technology, pricing, etc., has resulted in a highly fragmented market in which several telcos compete to build proprietary closed-loop network.
- ▶ **Lack of customer education:** Financial service providers are sometimes slow in adequately addressing the need for customer education with regard to financial literacy and digital financial systems. Information asymmetries on customers' response and usage behavior are the primary cause of ineffective customer education initiatives.
- ▶ **Gaps between access and use:** Certain customer groups may not know about these services or feel comfortable about using a new technology or service. They may not perceive a need for it or may have other alternatives. The most excluded groups (those who have inadequate education on and experience with technology) may not know how to use new technology or services. For example, the IMPS service has seen around 55 million user registrations as on December 2013, but the number of transactions was miniscule at around 1.95 million during the month.

## Way forward

While recognizing the complexity and variety of challenges relating to the spread of technology-enabled business models, this paper focuses on the way forward for four of the most important of these – enabling regulatory frameworks, interoperability, customers' understanding and bridging of the access-usage gap.

### Enabling regulatory framework

**Technology-related changes require regulators to continually adapt their response to technical developments and commercial issues involved to ensure a competitive marketplace while preserving the interests of consumers.** Existing regulatory frameworks have been built around traditional models of banking that were used for decades. Technology brings changes in the way financial service providers operate as well as new players such as telecommunications companies and internet-based providers, to name a few . Moreover, these changes have not coalesced around a fixed new model, but seem to be in a continuous flux.

In the future, regulators will need to orient themselves to framing regulations that enable development and scaling up of technology-enhanced business models. They will also have to set the required guiding principles to ensure co-ordination among banks in the critical areas of BC operations, storage of bank data, transmission and retrieval standards, design standards for technology pilots, etc. They will need to consider implementing flexible, proportionate and tiered KYC measures, depending on perception of system-related risk. They will also have to continuously simplify the regulatory and supervisory roles governing financial services.

### Interoperability of technology and payment platform

Interoperability plays a central role in enabling scale and increasing access and usage of newly introduced services. Furthermore, because interoperable services allow any user to connect with any other user, these can attract more people than closed-loop services. This leads to the critical mass of users needed for business models to function efficiently. Interoperability is also an enabler of innovation, if innovators can readily connect to an expanding open

ecosystem. In an interoperable system, customers are likely to have a greater choice of providers due to healthy competition among the latter. A substantial degree of interoperability is frequently required before a broad technology-enabled ecosystem can develop.

Going forward, interoperability will be a key priority for all stakeholders in the financial ecosystem. For example, banks will need to work together to synchronize common minimum standards to ensure interoperability between various payment systems, platform and products. The Government will have to consider providing financial support or incentives to interoperability initiatives, especially where these result in greater public good. For example, financial incentives for banks investing in building interoperable BC network with micro-ATMs could be considered by the Government under this category. Policy-makers should also ensure that the commercial arrangements and principles of a free market should be maintained at all times in shaping of policies, especially while mandating use of one technology over another. They should also incentivize use of only those technology platform that use open international standards rather than proprietary ones.

## **Understanding of customers using data**

Access to credit and other financial products is often blocked because poor or low-income customers do not have formal credit histories, although they may have other types of financial activity records such as their mobile usage history or payment of utilities. Alternative data sources reveal unprecedented information, even about customers with no prior exposure to financial services, which enable financial service providers to create new products based on their customers' needs. This data may transform credit and insurance underwriting as more is learned about how risk can be predicted by customers' behavior. Such advances have the potential to enable many new customers to be considered creditworthy or insurable for the first time, and present huge opportunities to advance financial inclusion.

Over the next few years, financial service providers will have to invest in non-traditional sources of financial or behavioral data such as on mobile usage or purchase records to establish the financial identities and histories of the unbanked. The regulator will also need to develop policies to ensure customers' access and control over personal data generated by digital service records as well as rules for sharing this with third parties.

## **Narrowing access-usage gap in technology**

There is a significant gap between the number of people who have physical access to financial services and those who actually use them. Target customer groups may not know about such services or feel comfortable using a new technology or service. They may not perceive a need for the service or may have other alternatives. The most excluded groups may not know how to use new technology or services. As technology becomes more and more essential for basic services, a significant population, including the elderly, could remain excluded while the rest of the world moves ahead.

To bridge this gap, financial service providers will need to leverage technology to design services that better address customers' needs. They will also have to educate customers on the use of technology-based financial products to empower them to engage more easily and actively with these services.



## Conclusion

Meaningful progress in financial inclusion will require stakeholders to look beyond their current positions on various issues and test new commercial, regulatory, technical, process and product models. For example, banks and the RBI will make slow progress in financial inclusion if they continue with business models that place an uneven burden of costs on last mile players such as BCs and technology vendors. Mobile network operators are unlikely to provide technology platform such as USSD for financial inclusion at a wide level unless they are compensated adequately by banks or bodies such as the NPCI. They will also have to come forward and convert their closed APIs into open platform, which will make it easier for application developers to develop applications and providers to integrate these with their payment systems.

The path to establishment of an all-inclusive digital financial ecosystem will only evolve significantly when market participants re-evaluate their existing positions and assumptions relating to regulations, technology, infrastructure and banking. These will be difficult issues to address. The challenge is whether we can arrive at a judicious mix of technology with the right business model that will lead to a paradigm shift in the current scenario and make financial inclusion a priority for all stakeholders.

# 8

## Mobile banking



The past 10 years have been the mobile decade. Advances in mobile technology have revolutionized almost every facet of society, from information to education, granting enhanced access to an ever-growing number of people in the country. Penetration of mobile phones is one of the highest across the world in India, and almost 83% of its population is expected to use mobile phones by 2014. This is projected to have a dramatic impact on the country's social evolution.

Mobile banking continues to be a focus area for all banks in India. Our survey indicates that they are not only looking at this channel as a way to increase their customer engagement in urban areas, but also to reach out to new ones in rural regions, and thereby significantly further their financial inclusion agenda.

## Mobile banking still at its infancy

While mobile banking has tremendous potential, a lot still needs to be done to fully leverage this channel and the intrinsic benefits it provides.

Our survey indicates that all categories of banks (public sector, Indian private sector and foreign banks) have seen high growth rates in their number of registered customers and usage of mobile services. However, while growth rates are high, the mobile enrolled customer base of these banks is still fairly small as a percentage of their total customer base.

There is a wide variation in mobile banking services offered across the industry.

Most public sector banks have:

- a) Limited features relating to account-related information, transfer of funds, bill payment and associated alerts, service requests and recharge facility and point of service (ATM/branch) locators
- b) Inadequate offerings to cater to the SME and corporate segment
- c) Very few native solutions using the full power of the iOS and Android platform

However, Indian private sector and foreign banks have invested considerable time and effort in leveraging the mobile channel strategically. They have delivered the following:

- a) Multi-platform solutions (iOS, Android, BB, Symbian and Java)
- b) Customized online sites for usage on the internet on mobiles

- c) The ability to open FD/RD and apply for other product types
- d) An exhaustive list of service requests and addition of payees
- e) Views on integrated relationships and transactional capabilities relating to credit cards, Demat accounts, insurance and mutual funds
- f) Solutions for the SME and corporate segments including workflow-based authorization, limit management, cash position, etc.

The next step toward mobile maturity

Our survey indicates that banks need to look at the mobile channel as a strategic mode to deliver banking services across different segments in the country.

Several steps, which need to be undertaken to accomplish this are as follows:

- a) **Identify high potential customer segments:** Apart from analyzing target segments in their customer base, banks must also treat their employees as a service segment. A close look at each of these segments would reveal multiple sub-segments and their relevant journeys.
- b) **Understand their needs from the channel:** The features that rural retail customers would leverage (for example remittance) are very different from those required by urban retail customers (payments, financial tools and offers) and corporate ones (cash positions, market trackers and overview of company's financial health).
- c) **Provide differentiated offerings:** Banks need to understand the difference in usage and features, and deliver capability that supports the financial inclusion needs of the rural segment, provide a seamless shopping experience to urban customers on the move, approve payments for corporate customers and provide in-depth information on new products to their employees.
- d) **Leverage the right technologies and delivery mechanisms:** Although affordability and penetration of technology is improving across India, technology- and device-adoption issues persist. Therefore, banks need to leverage cost-effective and efficient mediums to deliver their services, leveraging the right mix of triple play choosing between SMS, WAP and Apps.

The diagram below provides an overview of the segment-based service model.

Customer segment	Retail (Rural)	Retail (Urban & Semi Urban)	SME & Corporate (CFO, Ops & Treasury)	Employees
Segment need	<ul style="list-style-type: none"> <li>Access to Basic Banking</li> <li>Fund people @ native location</li> </ul>	<ul style="list-style-type: none"> <li>Make immediate payments</li> <li>Identify localised &amp; personalized offers</li> <li>Manage budgets &amp; spend</li> <li>Tools to identify financial viability</li> </ul>	<ul style="list-style-type: none"> <li>Ability to take decisions on the move</li> <li>View Cash &amp; Overall Positions</li> <li>Keep track of markets</li> <li>Manage financial health</li> </ul>	<ul style="list-style-type: none"> <li>Productivity enhancing tools</li> <li>Product know how/updates</li> <li>Offsite engagement enablers</li> </ul>
Differentiated Offerings towards segment needs	<ul style="list-style-type: none"> <li>Account Inquiry</li> <li>Basic Trxn Banking</li> <li>Remittances</li> </ul>	<ul style="list-style-type: none"> <li>Payments (FT, SI, P2P &amp; Immediate)</li> <li>Bill/Utility Presentment Payments</li> <li>M-shopping incl. Top Ups</li> <li>Profile Mgmt &amp; Personalised Recco</li> <li>Personal Finance Management</li> <li>Social &amp; Contactless Payments (NFC)</li> <li>Financial Tools &amp; Advisors</li> <li>Location Based Loyalty/Offer</li> <li>Customer Service &amp; Social Advocacy</li> <li>Integrated Wallet Services</li> </ul>	<ul style="list-style-type: none"> <li>Ability to take decisions on the move</li> <li>View Cash &amp; Overall Positions</li> <li>Keep track of markets</li> <li>Manage financial health</li> </ul>	<ul style="list-style-type: none"> <li>Lead Mgmt &amp; Origination</li> <li>Private &amp; Wealth Management</li> <li>Financial Need Analysis</li> <li>Product Info</li> </ul>
Delivery tech and device ownership	<ul style="list-style-type: none"> <li>SMS &amp; USSD</li> <li>Feature Phones</li> </ul>	<ul style="list-style-type: none"> <li>Mobile Internet &amp; Apps</li> <li>Smartphones (Low /High End)</li> </ul>	<ul style="list-style-type: none"> <li>Mobile Apps</li> <li>Phablets &amp; Tablets</li> </ul>	<ul style="list-style-type: none"> <li>Mobile Internet and App</li> <li>Phablets &amp; Tablets</li> </ul>

Apart from provisioning a segment-wise need-based solution, banks need to pay attention to several important factors as they devise their mobile strategies.

- a) **Improving usability:** Banks should improve usability of their mobile offerings. This includes leveraging the features of the underlying platform, multi-lingual options, and the real estate of different device types, including feature phones, smartphones, and tablets, in the best possible way.
- b) **Securing the engagement experience:** Security is often cited by consumers as the main reason they shy away from mobile banking. Banks need to educate users on the basics of password/pin protection and installation of anti-virus software on their handsets to implement multi-factor authentication solutions, including sophisticated biometrics (in the near future).
- c) **Leveraging location-based personalized services:** As a channel, mobile differentiates itself from others in a big way due to its innate ability to determine the

locations of its users. Banks must leverage this key facet of mobiles, backed by strong analytics solution-sets to engage customers effectively. For example, they need to ensure that branch managers know when high-value customers have come to their branches. They also need to provide location-specific mobile coupons of partner merchants to relevant customers once they understand the usage habits of their customers.

- d) **Implementing mobile wallet and proximity payments:** The gamut of integrated services a mobile wallet offers should range from banking services including payments, personnel finance management services, loyalty and offer management, social hub and servicing. Different business and technology models are being tested and enabled in the global environment. Their adoption requires a robust collaborative engagement model in financial institutions, telcos and participating retailers. Adoption of these models can be a big game changer for organizations that pursue them with diligence, keeping



in mind customer-centricity and methods focused on creating an ecosystem that will ride on the frequency of engagements and differentiated experience.

**e) Embedding social concepts in mobile offerings:** With most social media usage being driven through mobiles today, it is imperative for banks to provide features that support social behavior, for example:

- ▶ Splitting of restaurant bills and payment request notes to friends
- ▶ Integrating goal management and payments via social network channels
- ▶ Creating bank-hosted and focused social media forums for the SME customer segment, helping them conduct their business better
- ▶ Analyzing discussions on social media to understand the needs of customers and supporting them with financial assistance
- ▶ Sending social spend-related alerts based on customer segment groups

**f) Empowering bank employees with mobile devices:** A majority of initiatives, if not all, taken by banks on mobility has been focused on their customers. They now need to begin focusing on providing their employees with mobile devices for in-branch and off-branch environments, so that they can garner real time insights about customer relationships and engage in meaningful conversations with them. Senior management can keep a tab on the operations of banks within their purview by leveraging dashboards that even provide information on the smallest denominator. Mobile devices can also become an effective tool to educate and impart the latest information about products and policies to front-line sales teams.

The mobile channel offers exciting options for banks to create new business models for their changing customer base. Banks need to monitor evolving trends carefully and make strategic decisions on their appetite to invest in this game-changing channel. While we may debate the pace of adoption, mobile technology is certain to play a critical role in the technology landscape of the next-generation Indian bank.



# 9

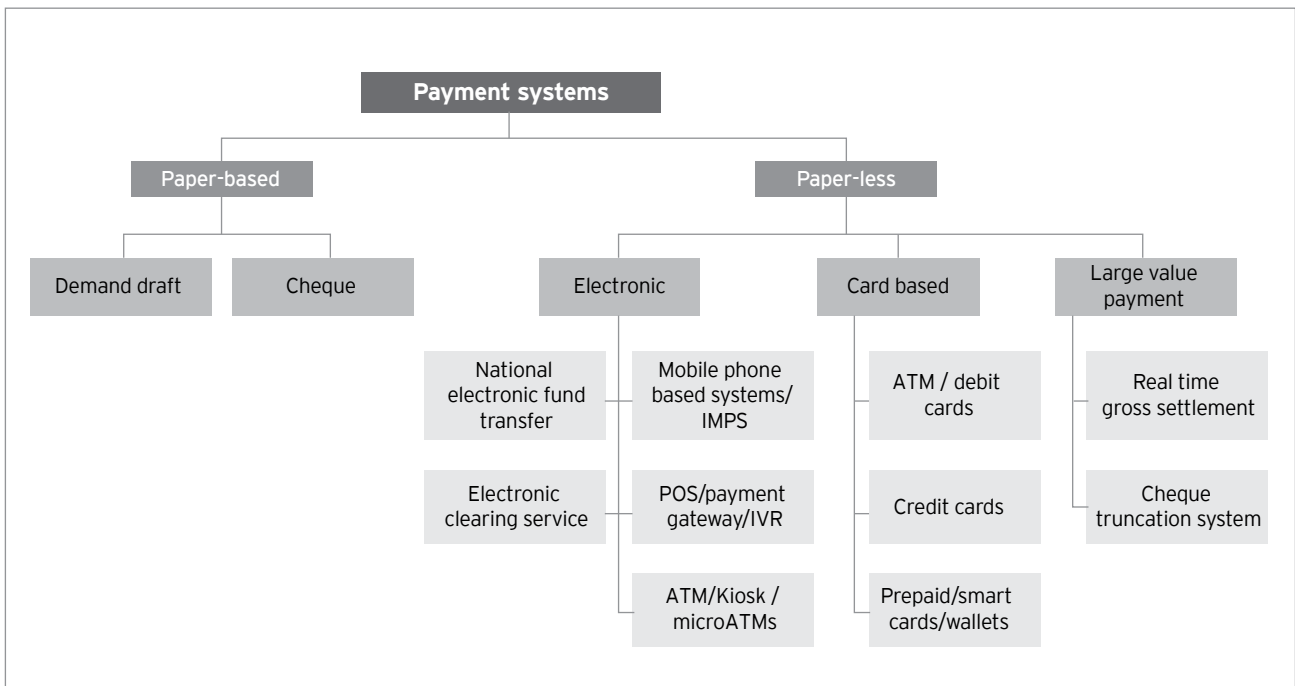
## Payments



## Overview

The payments industry has witnessed significant changes over last few years due to business requirements and technology innovations. In the last decade, India has seen a shift from traditional payment methods, i.e., cash/paper-based payments to modern electronic payment systems. However, 97% of payment transactions for public sector banks are paper based as compared to 60% for private sector banks.

In the recent past, the RBI has taken multiple steps to promote electronification of payment instruments such as framing the Payment & Settlements Systems Act to provide for the regulation and supervision of payment systems in India, providing robust RTGS/NEFT platform, establishing National Payments Corporation of India (NPCI) to act as an umbrella institution for all the retail payment systems, regulation and promotion of acceptance channels including ATMs, POS and payment gateway policy guidelines for issuance and operation of pre-paid payment instruments etc., issuance guidelines and security measures for all card transactions.



A snapshot of various payments instruments in India is given here:

- ▶ There are approximately 374 million debit cards in India as of October 2013. With more than 49 million debit cards issued in 2012-13 and a larger number expected to be issued in 2013-14, this rapid pace of growth is set to continue.
- ▶ Credit card spends are back on the upswing after a period of consolidation. More than 18 million cards are in circulation. However, banks have adopted a cautious approach to acquire new customers compared to the ad hoc approach adopted for fast growth during 2008-09. Credit card usage stands at 0.3% of total electronic transactions for public sector banks.
- ▶ Pre-paid cards have grown by almost 50% from FY10 to FY13. The pre-paid card market grew from INR200 billion to INR700 billion during this period.
- ▶ Debit cards (43%), credit cards (28%), internet banking (29%) all comprise a substantial percentage of the overall number of electronic transactions for private sector banks.
- ▶ Acceptance infrastructure such as ATMs grew at a CAGR of 24% during the period 2011-13 with 133,000 ATMs deployed currently. The presence of POS has also grown at a CAGR of 27% during FY13, with the deployment of 9.63 lakhs POS.



- ▶ Below is a snapshot of information on payments transactions from the industry and various participating banks.

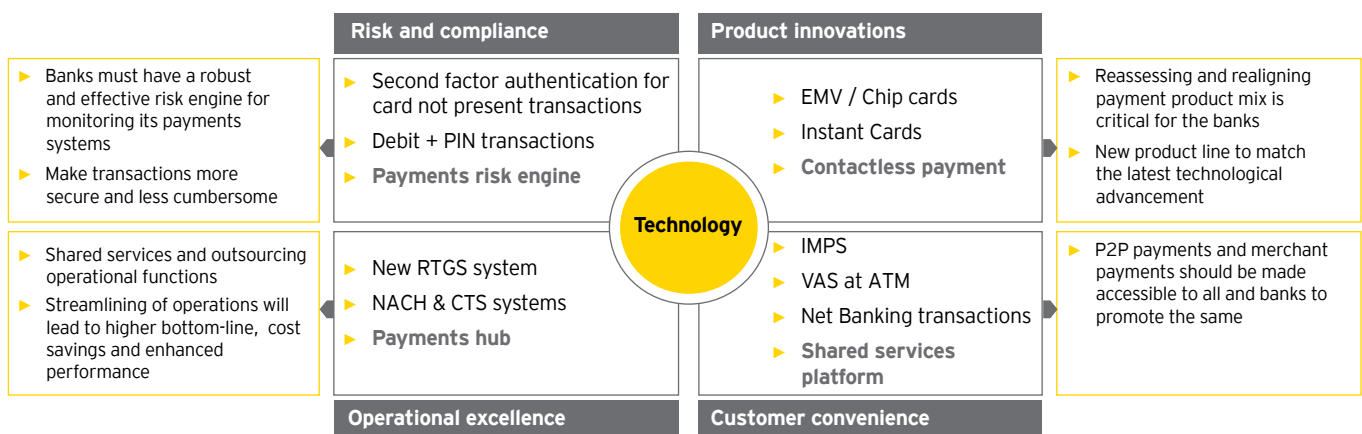
Metric	Overall Industry - 2012-13
Percentage of paper-based transactions	43%
Percentage of electronic transactions	57%
Percentage of funds transferred using paper based	9%
Percentage of funds transferred using electronic systems	91%

Percentage of electronic payment transactions

Payment method	Private	Public
Debit cards	43%	85%
Credit Card	28%	0.30%
Internet Banking	29%	14%

## Pathways to achieve excellence in payments

There are four key areas of focus for banks seeking success in the payment landscape. These focus areas can be construed as critical requirements that banks must implement to transform their current payment related activities with the help of the evolving technologies.





## Product innovations

In future, banks need to have an effective product strategy that fully captures opportunities in the market and reflects banks' aspirations. This is an essential part of managing payments. Technology plays a pivotal role in the development of new products.

## Current trends

New payment products such as Prepaid for Transit payments, toll collection and financial inclusion present a growing opportunity. Many initiatives have been undertaken by the banks, which have led to an increase in new products in the payments market:

- ▶ Banks have been issuing EMV/chip cards according to the directive of the RBI for enhanced security and safety. The banks have also made changes at their end to prompt for PIN for all debit card transactions. This has helped banks to curb fraudulent transactions.
- ▶ Adoption of integrated Debit Card Management System (DCMS) has helped banks to manage the issuance and processing of debit cards and debit card transactions. The DCMS system, in turn, is linked to internet banking and few private sector banks have been offering hot listing of debit card through internet banking.

- ▶ Banks have innovated card issuance through the means of "Instant Card". These cards reduced the time taken for card issuance and result in faster adoption. Most leading private sector banks have a similar product on offer.
- ▶ Bank's focus has been on issuance of multi-currency travel prepaid cards for customer convenience while traveling to various countries.
- ▶ Many banks have developed mobile banking applications in-house or through third party vendors that offers multiple features and transaction options.

## The way ahead

Focus on product innovations in both retail and corporate segment should be a major area for banks to consider as under:

- ▶ According to EY banks must build partnerships with leading technology companies and payment companies in the non-banking space, focusing on both B2C and B2B payments to build a leadership and first-mover advantage.
- ▶ EY believes that the opportunity for contactless payments will emerge in the future; however, consumer awareness, merchant awareness, and the POS infrastructure are all required, to build a successful business case.

## Customer convenience

The traditional focus of banks on payments cards has been on acquiring new customers. However, banks also need to focus on retaining these customers. Banks have been increasingly trying to reach out to customers through various means and channels. The technological advancement in acceptance infrastructure and customer convenience has played a major role in driving customers to activate and use their cards for various payment purposes.

## Current trends

- ▶ The bank's initiatives to drive value-added services through the ATM channel have led to increased customer convenience. Banks offered services such as mobile top-up, services payment, funds transfer, bill payments etc.
- ▶ The emergence of aggregators such as Billdesk, CC Avenue etc., started a new phase in e-commerce

transactions. These aggregators have tied up with banks to provide access to internet banking to its customers for undertaking transactions on merchant websites.

- ▶ The Interbank Mobile Payments Service (IMPS), launched by NPCI, has been a key initiative in the mobile payments space that has led to customer convenience for undertaking payment transactions.
- ▶ Banks have launched USSD-based mobile banking service for those customers who do not have a smart phone.
- ▶ Most of the banks have launched their mobile banking services for various platform and provide a host of banking services.

## The way ahead

Ensuring customer retention through technological advancements and ensuring convenience for customers will be the key in the near future. Banks have to focus on ring fencing the customer by leveraging on technology to fulfil all their payments needs. Banks need to focus on shared services to reduce their overall costs and increase customer convenience as under:

- ▶ Shared infrastructure and interoperable platform
  - ▶ Establishment of a centralized bill payment system will enhance customer experience, increase usage and bring all billers/payees together on a single common platform that can then be used by any issuing entity.
  - ▶ Centralized ATM contracts, along with white label ATMs, will lead to a deeper penetration in rural and semi-urban areas leading to an increased number of people with access to financial infrastructure.
  - ▶ With an increasing spate of mobile payments, it is increasingly becoming a necessity for every e-commerce operator to provide gateways that are compliant with m-commerce.

## Operational excellence

Banks must outsource operational functions that provide a strategic advantage to a bank, e.g., cost savings, enhanced performance and new product innovation. At the same time, it is also incumbent upon banks to identify their risk exposure to different vendor types, create business continuity plans, and have adequate risk mitigation and audit plans in place. The new age technology has helped

banks in reducing operational inefficiencies and streamlining their processes.

## Current trends

- ▶ The new RTGS system has been operationalized with effect from October 2013 and the RTGS Business Regulations, 2013 have come into effect from that date. The new RTGS system is based on ISO 20022 standard messaging formats for standardization of specifications and formats
- ▶ NPCI has launched the National Automated Clearing House, cheque truncation system and Aadhaar-enabled payment system, which are next generation payments systems, to reduce overall manual intervention and lead to operational excellence.
- ▶ Most branches are enabled to initiate NEFT and RTGS transactions. The internet banking channel is also equipped for NEFT and RTGS funds transfer.
- ▶ Many private sector banks have adopted straight through processing for NEFT and RTGS transactions. However, PSU banks need to follow the same and improve operational efficiency of payment transaction processes

## The way ahead

To achieve operational excellence, banks must look to automate its manual processes and build a central integrated systems and straight-through processing

- ▶ Straight-through processing (STP) in payments business: STP helps banks to improve the visibility of their payment value chain, and thereby, reduce the time and cost of payment processing. It also helps to improve their risk management functions and optimize their working capital by framing appropriate SLAs with intermediaries. Some action points for banks:
  - ▶ Identify information silos to enable centralized enforcement of payment standards, rules, routing preferences and customer-processing preferences.
  - ▶ Identify problem areas with respect to exceptions in payment and process workflows to implement a centralized straight-through processing payment solution.
  - ▶ Streamline the process by automating as many points as possible in banks' current payment systems to witness an increase in payment volumes and sub-optimal STP rates.

- ▶ Integrated payments hub
  - ▶ Integrated payments hub (IPH) integrates different payment systems, channels and core systems of banks to achieve benefits related to increased efficiency, increased revenue potential and improved return on investment.
  - ▶ According to banks must implement a payments hub to improve the visibility of payment processes by reducing the time and cost of detecting fraud, risk management and compliance by applying these in a centralized manner across lines of businesses and payments.

## Risk and compliance

There will be an increased requirement to forecast payment-related risks, monitoring and real-time tracking of payment processing by customers as number of banks, customers, merchants and the pace of technology increases. To achieve the twin imperatives of regulatory compliance and operational efficiency, it is vital for banks to focus rigorously on risk management functions such as detection of fraud, liquidity management and monitoring of business activity.

## Current trends

- ▶ Banks have been issuing EMV/chip cards according to the directive of the RBI for enhanced security and safety. Banks have also made changes at their end to prompt for PIN for all Debit card transactions. This has helped the banks to curb fraudulent transactions.
- ▶ Many banks and third party service providers have upgraded their switch functionality for remote monitoring of ATMs and managing the security of ATMs through CCTV monitoring.
- ▶ The POS machines, which were earlier capable of processing magnetic stripe cards only, were upgraded to process EMV/chip cards as well.
- ▶ The most significant change in the online space was the implementation of second factor authentication for all card-not present transactions. Banks adopted the "Verified by Visa/MasterCard SecureCode" for all e-commerce transactions. Few PSU banks have also adopted the debit and PIN method to drive e-commerce transactions for example on the IRCTC website.

## The way ahead

Banks must develop a robust risk and compliance system with a well-documented compliance policy of the bank, role and set up of the compliance department, composition of its staff and their specific responsibilities. For the compliance policy to be effective, it is important that the policy is driven by the risk profile and appetite of the payments businesses in the bank.

- ▶ While the RBI has been introducing many regulations for both card present and card not present transactions including mobile transactions, it is imperative for banks to implement dedicated payments risk engines to monitor daily transactions effectively on a real-time basis.
- ▶ The influx of mobile card acceptance solutions and devices that convert smartphones to payment terminals have effectively entered the marketplace, enabling private individuals to be card payment acceptors. Therefore, the task of risk management for these new merchants is increasingly becoming important and critical.
- ▶ According to EY banks need to educate its customers through constant awareness programs on the potential financial, legal and security-related risks arising from using these payment instruments, including virtual currencies.

There have been significant changes in the payments industry in the past decade and technology has played a vital role in its progress. While cash still dominates the payments industry, the entire industry is focusing their energy to move customers from using cash to an electronic mode of payment. Banks have been introducing new products with varied features for customer convenience as well as internal operational efficiency. The industry has seen technological changes such as electronic funds transfer, secured card transactions and mobile payments. However, the biggest challenge faced by banks is the adoption and usage of new age technologies.

The way ahead in the payments industry in India will be innovations and adoption of mobile and contactless payments along with focused risk and compliance measures to provide customers a risk-free and secured transaction. Banks have been investing considerably in new technologies to provide its customer world class banking facilities. They should continue their effort in future to compete at the global level and provide Indian customers an international experience with cutting-edge technology in payments.

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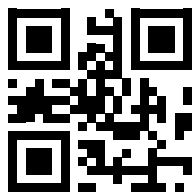
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