Technology in Banking
Towards Improving Business Performance and Customer Engagement

Institute for Development and Research in Banking Technology
(Established by Reserve Bank of India)
Foreword

Technology today has become synonymous with banking and Indian banks have put in place a fairly strong infrastructure to leverage its benefits. IT has made a visible difference in the functioning of banks and conduct of banking operations. Banks have benefitted immensely due to scaling up of business and growth in volumes, the journey has been beneficial for the customers too, with improvement in customer service quality. While for larger banks the IT capital expense to total IT expense ratio has stabilized to approximately 18%, smaller banks are increasing their capital expenditure to acquire IT infrastructure, with approximately 54% capital expenditure. Most banks have also put up a robust mechanism for governance and management of IT assets with board level committees and alignment of functional and technical teams for IT implementation.

In the future banks will have to focus on two major aspects – delivering customer satisfaction and driving business optimization. Banks today have built up significant database about the customer – demographics, transactions and behavioral data. However the key is to derive information from this data to deliver business impact. Information and technology will have to be separated with substantial focus on information. Banks will need to have a significant level of integration of data warehouses and analytical capability both in terms of people and tools to face this challenge. In addition banks will also need to have a robust customer life cycle management program to effectively utilize the information.

The second significant challenge is driving business optimization which broadly deals with highest level of revenues or returns given a particular level of resources. Specifically in terms of IT resources it would mean, given the level of IT resources have the revenues or returns achieved the maximum achievable levels. Banks will need to define metrics for performance of IT assets starting with productivity measures [ like Return on Investment (RoI) and marginal RoI] to efficiency measures (like cycle time, response time, utilization) and performance effectiveness measures (like coverage, outcome, quality, satisfaction etc). In achieving these objectives banks will have to integrate people, processes and technology to deliver superior customer service. Banks will have to focus on acquiring and retaining adequately skilled manpower. Banks should also pay enough attention to re-engineering their business processes to move to the next level of growth and effectiveness as economic enterprises.

As in the previous years, this report captures the developments in banking technology and the visible business impact of the initiatives. In future we expect banks to take substantial steps towards customer service and business optimization.
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Executive Summary

The IT capital expenditure of the surveyed banks shows an improvement of 23% in FY13 after a decline of 1% in FY12. Initiatives taken by banks have been in multiple areas both to augment business services as well as the control functions and include upgradation of core banking system, data center migration, incident management command center, upgrade of ATM switches and virtualization of servers among others. These initiatives will have a significant impact on the business of banking in the coming years.

Banks have made significant progress on the financial inclusion front with a growth of 41% in no-frill accounts increasing from approximately 69 million in FY12 to 98 million in FY13 with outstanding balance increasing from Rs. 4,459 crore to Rs. 7,317 crore respectively. While the ratio of active no-frill accounts (accounts with at least 4 transactions in last financial year) was only 15%, the number of no-frill accounts provided with overdraft increased by 441% from 1.5 lacs in FY12 to 8 lacs in FY13 with the outstanding balance increasing by 225% from Rs. 2,256 crore in FY12 to Rs. 7,322 crore in FY13. Furthermore the BCs and BC agent linked also shows a significant growth of 97% increasing to 1.47 lacs in FY13, while SHGs linked shows a marginal growth of 9% increasing to 23 lacs in FY13. The scale of progress augurs well for the financial inclusion agenda.

Mobile banking is starting to gain traction with approximately 55 million customers registered and average daily value of mobile fund transfers increasing from Rs. 3.7 crores in FY12 to Rs. 25.58 crores in FY13, a jump of 593%. Comfort, convenience and anytime transfer facility makes mobile banking a huge growth opportunity. Initiatives taken by banks on security front with two factor authentication and one time authentication have also helped. Customers accessing mobile banking through applications or apps have grown by 150% over the past year, though they are only 7% of the total customer base.

Electronic fund transfers have also grown at a steady pace increasing by 29% over the past year to Rs. 102,137 crore in FY13. Furthermore average daily value of debit, credit and internet banking fund transfers were Rs. 4,537 crore, Rs. 52 crore and Rs. 12,090 crore in FY13. However a majority of debit card transactions related to cash withdrawal at ATM’s rather than merchant payments.

Given the time-span of IT adoption most banks have put in place appropriate structures and policies for managing IT risk. While managing IT risk is a journey and always evolving with respect to changing environment, Indian banks have put in place an appropriate framework and review mechanism to manage IT risks.

There is significant ground to be covered by banks in use of IT for customer management, business optimization and business innovation and the near future may see substantial development on the front.
IDRBT Awards for Excellence in Banking Technology 2012-13

The process for the Ninth Edition of IDRBT Awards for Excellence in Banking Technology was initiated in March 2013 with a jury meeting to discuss and finalize the award categories. The jury for this year was chaired by Mr. K.V. Kamath, Chairman, ICICI Bank and comprised the following:

- Dr. R. B. Barman, Former Executive Director, RBI (Jury Member)
- Dr. K. Ramakrishnan, CEO, IBA (Jury Member)
- Prof. G. Sivakumar, IIT Mumbai (Jury Member)
- Dr. Santanu Paul, CEO, TalentSprint and Distinguished Fellow, IDRBT

The awards categories for the year were as follows:

1. Use of Technology for Financial Inclusion
2. Use of Technology in Mobile Banking
3. Electronic Payment Systems
4. Customer Management & Business Intelligence Initiatives
5. Use of IT for Business Optimization
6. Managing IT Risk
7. IT Innovation
8. Best IT Team
9. Best IT enabled Cooperative Bank (one award)

Three new categories were introduced this year – Use of IT for Business Optimization, IT Innovation and Best IT Team. Additionally to encourage the cooperative banks one award for Best IT enabled cooperative bank was also introduced. During evaluations the jury felt that banks had not provided substantial nominations for Use of IT for Business Optimization category and hence decided to drop the category for this year.

Evaluation process

A total of 34 banks including 23 large, 8 small and 3 cooperative banks participated in the awards process with 171 nominations across different categories. This is a significant increase from 138 nominations filed last year. Banks were classified as large and small based on the deposit size of Rs. 50,000 crore.
1. Introduction

Banks today have become synonymous with technology and have leveraged IT in all areas of governance, operations and control. Banks have put in place fairly robust ‘IT Strategy’ to support the vision and business objectives. The larger banks (both private and public) have also put in strong organization structures with alignment between technical and functional teams.

The total IT expenses of banks grew at 6% in FY13, less than half of 13% witnessed in FY12, for small banks the IT expenses grew by 39% as compared to 42% in FY12.

Figure 1

![Total IT spend (Rs.cr)](image)

Figure 2

![Growth in Total IT spend FY13](image)

Growth in overall IT spends shows smaller banks increasingly spending on acquiring IT infrastructure. A look at the ratio of capex to total IT spend shows that smaller banks are still in the process of IT adoption while larger banks are spending more in maintenance of the IT infrastructure.

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1 Based on a sample of 27 banks (19 large and 8 small) categorized as large and small based on deposit base above and below Rs.50,000 crores
2. IT for Financial Inclusion²

Leveraging technology is helping build economies of scale and bringing down transaction costs. In addition the governments’ support in terms of electronic transfer of benefits is also adding to viability of the initiatives. The financial inclusion initiatives of banks have gathered sufficient traction with approximately 41% growth in no-frill accounts opened, 97% growth in BC and BC agents and 9% growth in SHGs linked. There is also a substantial growth of 64% in no-frill balance outstanding. While a large part of the technology investments in FI is being done by the BC service providers, banks have also invested substantially in expanding transaction handling capability of the IT infrastructure.

- Business growth

With the business models more or less stabilized, banks have made tremendous progress in terms of no-frill accounts opened. As on March 2013 approximately 97.53 million no-frill accounts had been opened, an addition of approximately 30 million accounts for the year.

² Data based on the nominations submitted by 19 large and 6 small banks for the category
While the larger banks added the bulk, smaller banks contributed approximately 0.3 million accounts. On average banks added 1.15 million accounts each.

The balance outstanding has also increased significantly, growing from Rs. 4,459 crores in FY 12 to Rs. 7,317 crores in FY13, resulting in a growth rate of approximately 64%.

While the larger banks have grown substantially, smaller banks have been growing steadily with a better control on the quality of accounts as evidenced by the percentage of active accounts.

Business and operating model

The enrollment of BCs has grown significantly with approximately 1.5 lac BC/BCAs enrolled, while the linkage of SHGs grew at a slower pace of approximately 9% (on a larger base) with 2.3 million SHGs credit linked. Other than these predominant models banks are also deploying other models like mobile vans, kiosks and ultra small branches.
• **Direct Benefit Transfer (DBT)**

DBT is expected to add to the viability of FI initiatives by providing the banks with a good amount of float and while multiple challenges remain in terms of operationalizing the scheme; these are expected to be smoothened out as the operations mature. The direct benefit transfer was launched on January 1, 2013 and currently covers schemes like National Child Labour Project, Student scholarship and LPG subsidy.
Banks across the spectrum, both public and private, have implemented the DBT scheme for transfer of funds to the beneficiaries. The banks have integrated with NPCI to provide the following services –

- National Automated Clearing House (NACH)
- Aadhaar Enabled Payment System (AEPS)
- Aadhaar Payment Bridge System (APBS)

Benefits under various government schemes are being credited to the beneficiaries’ accounts basing on Aadhaar number through NPCI payment gateway. The list of beneficiaries with Aadhaar numbers and respective amounts will be provided to the bank for disbursement of subsidies. Banks have developed in-house software to seed Aadhaar numbers and look-up the details of the beneficiary in the UIDAI database. Banks have been appointed as Authentication User Agencies (AUA) and use the UIDAI infrastructure for bio-metric authentication.

The initial kick-off of the LPG distribution has been fairly successful. The government has been able to undertake 2.28 million transactions impacting 1.25 million households across 18 districts. Reduction in leakage will ensure that the subsidy actually reaches the truly deserving classes of the Indian population. The next step will be implementing the DBT scheme for paying kerosene, fertilizer and food subsidies. Of these, while pilot programmes for kerosene are underway, the DBT of food subsidies is likely to begin in the Union territories in FY14, but the payment of the fertilizer subsidies will be the most difficult to implement.
3. Mobile Banking

Despite this rise in m-banking transactions in India, banks are yet to fully exploit this technology even for their existing customers. The current penetration is low compared to the number of bank accounts and the vast mobile subscriber base of more than 900 million. Some of the reasons for which consumers are not adopting mobile banking include the lack of adoption of mobile as a channel for banking, limitations of services on mobile banking, non-replication of mobile banking services in varied languages in India etc. Most mobile banking applications are designed for smart phones, which also limits the customer base, but with the introduction of USSD-based applications, this may change in coming years.

Mobile banking can be classified as follows:

![Figure 14](image)

In an environment which has a paucity of advanced technology and mobile handset capabilities a one-size-fits-all solution does not work. Therefore, there is a need for banks to make investments on mobile banking applications like custom applications, mobile browser, etc to offer mobile banking services to cater to various mobile / tablet platforms like iOS, Android etc which are available on high-end phones / tablet platforms with good processing capabilities while at the same time offer services like USSD to the low-end segment having java based phones with limited data processing capabilities.

There have been various developments over the past year in the mobile banking space including new strategic partnership models (like banks and telcos) and products / services (Inter Bank Mobile Payment System (IMPS), National Unified USSD Platform (NUUP), etc) emerging in the Indian markets. M-Banking has lowered some of the key barriers to financial inclusion in India by reducing start-up costs and service prices. Eko India Financial Services, as business correspondent provides bank accounts, deposit, withdrawal and remittance services, micro-insurance, and micro-finance facilities to its customers (nearly 80% of whom are migrants or the unbanked section of the population) through mobile banking.

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3 Data based on the nominations submitted by 22 banks (15 large and 7 small) for the category
Key developments and initiatives taken in mobile banking

The apex bank and NPCI are taking initiatives to develop solutions across the mobile banking space to reduce the burden on ATMs and other channels. Following are some initiatives taken:-

- **IMPS – An emerging, convenient remittance system**

  An IMPS is a mobile based remittance system which is inter-bank in nature and is owned and operated by the National Payment Corporation of India (NPCI). IMPS facilitate access to bank accounts and transfer of funds through mobile phones. The system, launched in November 2010, provides real time transfer of funds between the customers of different banks on a 24x7 basis. In other words, funds can be transferred any time to the beneficiary who receives the funds instantaneously, and both the sender and receiver get the confirmation of debit and credit respectively. IMPS enables mobile banking users a facility to make payment to merchants and enterprises, through various access channels such as Internet, mobile Internet, IVR, SMS, USSD. IMPS products includes IMPS fund transfer person to person (P2P), IMPS Funds Transfer through Account Number / IFSC, IMPS Merchant Payments.

- **NUUP**

  National Unified USSD Platform (NUUP), launched by National Payments Corporation of India (NPCI) and offered on a short code *99#, is a service which would take banking services to every common man in this country. The service was launched in November 2012. The service would allow every banking customer to access banking services with a single number across all banks – irrespective of the telecom service provider, mobile handset make or region.

  A common platform for all banks instead of each bank having to develop a platform is a strategic move by NPCI to help banks and let them focus on customers to enable this service while NPCI manages the technology behind the platform.

  One of the main features of the service is that it works on all GSM phones irrespective of handset make, cost, operating system or even the telecom service provider. Also, it does not require a GPRS connection and works on basic voice connectivity. Currently the service is live with 23 banks and two telcos viz. BSNL and MTNL.

  The maximum limit of fund transfer per customer on NUUP is Rs.5000/- per day. However, banks may prescribe a lower limit as per their individual policy.

  Benefits of NUUP to the customers:

  - Works on basic voice connectivity – unlike an application, GPRS connectivity is not required
  - The customer need not download any application on the phone
  - Question and answer driven interaction – easy to understand
Benefits of NUUP to the Bank:

- *99# service can be used at BC POS terminals to serve the rural populace
- Access to all telecom service providers through a single integration with NPCI
- Easier adoption of mobile banking due to simpler process of using the service and technology
- Easier to promote a single code *99# for banking services across all banks

**M-KCC- Mobile based Kisan Credit Card**

The smart card linked, mobile based and Aadhaar enabled KCC, popularly known as m-KCC, was launched in July 2012 and is seen as an example of harnessing the latest technology for user friendly applications for Financial Inclusion of farmers.

A mobile linked Kisan Credit Card (m-KCC) was launched by NABARD on a pilot basis on October 2, 2011 in Villupuram district of Tamil Nadu for farmers having KCC accounts with the Pallavan Grama Bank (an RRB sponsored by the Indian Bank).

The m-KCC using mobile technology enables farmers to carry out purchase of agricultural inputs in cash-less manner. All transactions are carried out through mobile phones of farmers and vendors registered with the bank and the technical service provider (TSP). The transaction is performed through a combination of a secured SIM card and a PIN using an interactive voice recording/SMS system. This enables the farmers to buy agriculture inputs by initiating transactions through a mobile phone enabled system linked to the bank’s CBS. NABARD is encouraging banks, particularly RRBs, to use this pilot for extending mobile based KCCs to farmers.

The mobile user base has grown at a fast clip, increasing by 41% over last year; specially smaller banks almost doubled their customer base.

The average daily volume and value of mobile funds transfers have grown very sharply as a result of growing customer confidence. The average daily volume grew by 125% and the value grew by 593%
in FY13. While in absolute terms the average daily value may be small it is expected to become substantial in the near future.

Figure 17

<table>
<thead>
<tr>
<th>Avg daily no. of mobile fund transfers</th>
<th>Growth in no. of fund transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY12 68,167 All Banks 67,947 Large Banks 220 Small Banks 1,114</td>
<td>All Banks 500% Large Banks 406% Small Banks 126%</td>
</tr>
<tr>
<td>FY13 154,043 All Banks 152,929 Large Banks 1,114</td>
<td></td>
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</tbody>
</table>

Figure 18

<table>
<thead>
<tr>
<th>Avg daily value of mobile fund transfers (Rs. cr)</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY12 3.69 All Banks 3.64 Large Banks 0.05 Small Banks 0.16</td>
<td>All Banks 593% Large Banks 598%</td>
</tr>
<tr>
<td>FY13 25.58 All Banks 25.42 Large Banks 0.16</td>
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The Indian market for mobile payments and transfers is set to witness several interesting and possibly unique business models and consumer propositions. Furthermore, with the introduction of 4G services, a host of value added products and services could be launched

- Mobile banking is the sustainable model for the future because of its cost effectiveness and ability to reach out to customers in remote areas. It’s likely to take 5-6 years for the model to mature.
- In US and Europe, phones with NFC (near field communication) have entered the market. NFC operates through a chip embedded in a phone enabling the phone to interact with a point of sale terminal (with this, phone can act as a virtual credit card). This provides ample opportunities to make transactions simpler for the customers through a mobile handset, something which might gradually evolve in the Indian market.
Banks are likely to approve and give loans via mobile banking within the next five years. This will further reduce the need to go to a branch.

- A mobile application that provides a suite of customizable banking services to the users is likely to emerge in the coming years.
- Mobile enabled credit card applications are likely to evolve gradually once the credit card market matures in India.

It will, however, be crucial for banks to ensure that their mobile payment systems are robust enough to adapt to potential evolutions in mobile operating technology.

The mobile payments ecosystem is still at a nascent stage and hence, acceptance among merchants and customers is currently low but is bound to increase over a period of time. Banks need to take a deep look into the mobile usage patterns among their target customers and enable their mobile services on a technology with reaches out to the majority of their customers. There is also a need to generate awareness about mobile banking so that more and more people use it for their benefit.

Mobile application based banking is poised to be the next major step in the evolution of banking. Mobile financial inclusion can serve as a major catalyst for financial inclusion in India and can drive financial transactions at the bottom of the pyramid. Government welfare pay-outs to unbanked residents can vastly benefit from mobile money. With welfare payments being routed through electronic channels and banks trying to achieve financial inclusion, mobile money or banking through mobiles is likely to emerge as the major channel for banking and might see emergence of multiple stakeholders offering products and services that cater primarily to unbanked segments.
4. Electronic Payments\textsuperscript{4}

The Indian payment system, which is primarily cash dominant, is now at a faster pace transforming from paper to electronic. The share of electronic payments in non-cash payments has shown an upward trend. The electronic payment system primarily comprises Real Time Gross Settlement (RTGS), Electronic clearing services (ECS), credit and debit payments and electronic fund transfers (EFTs) / National Electronic Funds Transfer (NEFT). India is currently the 13th largest non-cash payments market in the world, but has the potential to grow significantly. Electronic payment volumes have been growing by more than 10% a year as Reserve Bank of India (RBI) and National Payments Corporation of India (NPCI) continue to drive infrastructure improvements and development of regulations for cost effective and efficient electronic payment instruments (e.g. m-payments, the RuPay domestic cards scheme, and a biometric authentication card system that is currently being rolled out).

Although non-cash payments growth in India is behind that in the other BRIC nations, it may gradually pick up as the awareness and popularity of the payment innovations (m-payments, biometric authentication, etc.) spread. Thus far, however, the long-time reliance on cheques in the B2B sphere and the use of cash in commerce has kept cheque and cash usage high.

Key Trends/Opportunities for Electronic payments

- C2G (Consumer to Government) & G2C (Government to Consumer) Payments remain the focus area for the regulator and government alike, both to drive inclusion and increase efficiencies in payment processing and collections. It is estimated that government subsidies alone constitute more than Rs. 2.93 trillion and if these payments are effected electronically, it may translate to 4.13 billion\textsuperscript{5} electronic transactions in a year.
- One of the recent initiatives taken by the regulators has been the decision to permit non-bank entities to launch the White Label ATMs (WLAs), thereby increasing ATM penetration across the country. The sponsor bank will be responsible for cash management and customer grievance redressal. WLA is set to boost electronic payments with penetration in rural and semi urban areas.
- The e-commerce and m-commerce platforms are poised for a big stride in coming years. To promote electronic payments for mass audiences, NPCI has launched RuPay PaySecure solution for RuPay cardholders to make online payments for various services such as reservations, booking, ticketing, shopping, utility bill payments etc. in a secured manner.
- With financial inclusion gaining pace and the number of bank accounts increasing at a sustained pace, the number of transactions is likely to increase further as citizens start using the banking channel as well as the payment and settlement infrastructure. This ‘bottom and the middle of the pyramid’ presents a large untapped market.
- Unstructured supplementary services data (USSD) that is being attempted for fund transfer through IMPS across mobile network operators (MNOs) by NPCI will help in penetrating the untapped segment and boost electronic payments.

\textsuperscript{4} Data based on the nominations submitted by 23 banks (15 large and 8 small) for the category
\textsuperscript{5} RBI Payment System Vision Document (2012-15)
The concept of a “payment hub” which is evolving will allow consolidation of multiple payment systems into one centrally managed mid-office payment system. This would necessitate putting in a streamlined IT architecture which would eliminate point to point interfaces for various payment products. Such a “payment hub” with the latest technology would result in facilitating faster and smoother electronic payment transfers compare to the current system of individual interfaces being responsible for inputting electronic payment instructions into various systems.

The concept of linking cards on mobile and transacting, by using mobile as a payment channel is emerging. Many banks are partnering with mobile payments companies to offer such services. The service enables payment card holders to pay bills, recharge prepaid airtime and buy cinema tickets from their mobile phone, anywhere and anytime. These services are accessed either through a menu-based USSD mobile technology, or an Interactive Voice Response (IVR) in multiple languages.

Initiatives taken by NPCI to boost e - payments

To promote electronic payment, NPCI which functions as a hub in all electronic retail payment systems has launched multiple products and services

- **Inter Bank Mobile Payment System (IMPS)**
  IMPS, an instant 24X7 mobile payment system launched in 2010 by NPCI, is an interbank electronic fund transfer service through mobile phones. IMPS facilitates customers to use mobile instruments as a channel for accessing their bank accounts and carry out interbank fund transfers in a secured manner with immediate confirmation features. This facility is provided by NPCI through its existing NFS switch. At present there are 58 banks which are providing IMPS services. For IMPS, unstructured supplementary services data (USSD)-based transfers, attempted across mobile network operators (MNOs) by NPCI, will help in enabling mobile banking to customers. IMPS is being extended to accept merchant payments, using the bank account and Aadhaar number.

- **National Automated Clearing House**
  National Automated Clearing House (NACH) operated by NPCI is similar to the ECS payment service enabling pan-India processing of bulk payments and receipts. The system has just been operationalized towards the end of December 2012. It also has the capacity to electronically manage Debit mandates and holds great promise for substituting the cheque system.

- **Aadhaar Enabled Payments System**
  Aadhaar Enabled Payments System (AEPS) is a bank led model which allows online interoperable financial inclusion transactions at PoS (MicroATM) through the Business Correspondent of any bank using the Aadhaar authentication. At present there are 18 member banks which are in production. AEPS allows balance inquiry, cash withdrawal, cash deposit and Aadhaar to Aadhaar funds transfer.
• Aadhaar Payment Bridge

Direct Benefit Transfer program of Government aims to transfer subsidies directly to the people living below poverty line. Thus for all government disbursals; NPCI has created a centralised electronic benefit transfer system to undertake direct mandates from respective sponsor or accredited bank attached to various government departments for the purpose of disbursing entitlements using Aadhaar numbers. There are 85 participant banks on this platform.

• Creation of 24 X 7 Remittance system

NPCI plans to set-up a 24 X 7 real time remittance system which would be available to customers through retail and alternate facilities round the clock for making payments or transferring payments both inside and outside India. This new system will be known as “India Money Line (IML) System” and would replace the current NEFT payment in India. Customers will be able to use this new system to make remittances through Internet, Mobile, Point of Sale (POS), ATM etc.

The average daily value of the electronic fund transfers by 30% to reach Rs. 144,720 in FY13 but more importantly the ratio of electronic to total fund transfers have remained static at 59% for past couple of years.

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<th>Figure 21</th>
<th>Figure 22</th>
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<tr>
<td>Avg daily value of paper based fund transfers (Rs. cr)</td>
<td>Avg daily value of electronic fund transfers (Rs. cr)</td>
</tr>
<tr>
<td>FY12</td>
<td>FY13</td>
</tr>
<tr>
<td>78,997</td>
<td>102,137</td>
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<tr>
<td>72,309</td>
<td>94,417</td>
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<td>6,689</td>
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<td>All Banks</td>
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<td>Large Banks</td>
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<td>Small Banks</td>
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<tr>
<td>FY12</td>
<td>FY13</td>
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<tr>
<td>112,066</td>
<td>144,720</td>
</tr>
<tr>
<td>100,314</td>
<td>131,666</td>
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The average daily value of payments through debit and credit cards showed a growth of 23% and 14% respectively, while Internet banking payments grew by 59% for FY13. However a large proportion of the debit card transactions consisted of cash withdrawals rather than merchant payments.
The electronic payment sector is witnessing telecom players entering into strategic tie up with banks to develop a scalable model in mobile wallet and financial inclusion (by acting as business correspondents) space. Competition, technology, increased customer demand for comfort and convenience and regulatory initiatives have resulted in introduction of several payment products and channels over a period of time. It is crucial that banks take advantage of the platform offered by regulatory bodies and migrate customers from paper-based payments to electronic payments. Banks should review their existing infrastructure and migrate to an enterprise-wide payment processing system or payment hub that could integrate all payment instruments while interfacing with the core banking solution.

A combination of positive regulatory intent and growing market demand is leading to a burst of entrepreneurial activity in the country’s electronic payments sector. A number of new ventures offering innovative cashless payment methods are coming up as investors step up to fund and support them. The growth potential is huge as India is a cash-based economy. There is a need for multiple stakeholders to come together and create robust architectural framework that enables quicker migration from cash to electronic payments.
5. Customer Management and Business Intelligence
- from CRM to Customer Experience Engineering

The past 2 decades has seen global financial institutions invest heavily in large CRM projects – however, most of these monolithic CRM projects were characterized by inside out thinking and IT driven – thus doomed to sub optimal ROI. In parallel customers have – with increasing rapidity – moved on and embraced the newer age technologies like web, mobility and of course social media. Thus the power shifted from the bank to customers – who now collaborated, commented and consolidated their product/brand choice even before stepping into the branch. Hyper competition in various industries (including banking) led to an increasingly demanding customer on one side and mature market driven organizations which were aware that with brand differentiation tending to zero – Customer Experience was now the new brand / differentiator.

Having understood the above reality most banks are today attempting to define their “Customer Experience” initiatives – however most of them are incorrectly starting the journey with an inside out thinking of how do I fix my processes, people skills or technology initiatives to deliver maximum value to the customer. Thus the concept of “single customer view which was earlier considered to be the holy grail of marketing by most banks while valuable, is just data rather than insight. Thus while the 360° view helps track customer interactions across different departments in today’s customer driven eco system it is merely a prerequisite since the customer is now carrying out his business decisions and conversations without involving the bank.

Customer experience thus is aimed at Customer Engagement rather than Customer Management and therefore necessarily involves right brain thinking around customer emotions, thoughts, likes and dislikes as a starting point before we get into left brain areas like processes and technology. The next few sections will help us understand better the components of Customer Experience and how best it can be attempted within the Bank.

Customer Experience Components

1. Understanding Customer Needs

Insight driven actions
The Customer Experience journey starts with identifying customer needs. Structured & Unstructured Data Sources: In the past bank marketers used multiple tools like primary and secondary research reports, CRM & IVR data, NPS and customer satisfaction surveys etc. to gain insights into customer behaviour and brand preferences. This was then converted into actionable knowledge by way of newer products and solution offerings, communication strategies, and process improvements. However, today there are tools and technologies which make it possible for us to analyse unstructured “Big” data be it blogs, reviews, customer comments in various social media fore etc. This unstructured data if carefully “listened to” will provide insights to a bank on the actual Voice of the customer.
Analytics & Segmentation

Considering the vast quantum of data that is today available within the banks database and also the analytics investments that the bank may have made it is relatively easy to identify what constitutes

a. our current customer base (profitable, loyal, new etc.) that we would like to retain
b. our “aspirational customer segments” that we wish to target and grow
c. customers to harvest that may be low value or low margin

Customer / Business Intelligence tools today enable the bank to identify the 3 segments above basis various demographic and psychographic parameters - however slotting today’s customer into neat segments is becoming increasingly difficult as the lines are blurred and communication options multiply. In a recent EY global study on consumer behaviour (This time it’s personal: from consumer to co-creator) involving “25000 customers across 34 countries the number one insight was

“The chameleon customer: 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”

Also always keep in mind how you deal with the 3rd segment – remember the power now has shifted to the customer and the customers with whom you may have parted ways with today have huge power over their “peers” who may actually belong to the “retain and grow segment”. Thus it may be a better strategy to identify the experience that you wish to provide them rather than just letting them go.

2. Aligning the Channels of Communication and Distribution

Having identified key segments that the bank would like to target for each of its product offerings it now becomes imperative that we identify the role and relative importance of each channel to that particular segment. This analysis would need to be done for all 3 stages of the customer lifecycle

- Pre purchase (marketing)
- During purchase (sales)
- Post the purchase (service)

Delivering a consistent multi-channel experience across all channels is essential. Consumers demand consistency in pricing, quality and branding across the network, whether virtual or branch. As organizations develop their online capability, they must be wary of neglecting the face-to-face experience. The bank branch will remain core to consumers’ preferred contact point depending on product and process complexity. At no point should the bank trade-off between the “cost to serve” and “opportunity to delight” equation. In fact forcing customers to lower cost channels for example from branch to web or call center will become a huge negative in the customer experience. At the same time not providing these channels will also be an equally big negative.
An important insight to keep in mind is the customer’s view of himself when he goes online to look for “deals” - in the brick and mortar world “shopping around” and looking for deals was considered a negative and not something you wanted the world to know – however the same behaviour online is considered to be “cool” – a recent study found that 60% of customers felt that shopping is competitive and getting a better price/deal than their peers makes them feel like winners.

These are important trends that we need to keep in mind as we look to assess our channel maturity through the lens of the Customer

3. Mapping the Customer Lifecycle

Mapping the customer lifecycle is the next step in our CE framework. The figure below shows how the bank needs to start considering the role of various channels & touch points at each stage of the lifecycle:

Figure 25

Things to remember are:
- Customer behaviour and needs will drive the lifecycle
- Customer journeys need to be defined at each stage
- Different segments could have different journeys
- Identify in each journey the Key “moment of truth” which we need to address

4. Mapping the Customer Journey

As discussed above for each stage in the customer journey the bank needs to address 5 key areas. The following example illustrates the key areas:

i. Event
   - The customer is travelling internationally and as he is checking out of the hotel realizes that he has lost his card

ii. Customer Mind Set / Feelings
   - Extremely vulnerable & worried – not sure where his card is? Is it being misused?
   - Rushed – has a flight to catch
   - Confused – how do I settle my hotel bill quickly, inform the bank as regards lost card etc.
iii. Is this a moment of truth?
   - Yes

iv. Is there an opportunity to delight/dismay the customer?
   - Depending on the response (process, people and technology) of the bank this is actually a
defining moment for the customer in his relationship

v. Defined Customer Experience by the bank
   - How do we delight the customer when he is faced with the above situation?

5. Aligning the organization

Once the bank has defined that a particular event is a Moment of Truth it needs to ensure that it
aligns the complete organization into providing a superlative experience to the customer across:-

   Process
   • to validate that there is no fraud involved.
   • to provide alternate card at new location
   • to provide telephonic approval till new card arrives

   People
   • Senior resources to deal with customer when faced with above issue
   • Authority and responsibility for taking decisions depending on customer needs
   • Specially trained to put the customer at ease

   Technology
   • Immediate access to a “person” as compared to IVR etc.
   • Dedicated call center and IVR integration

- To succeed in CRM, Business Intelligence initiatives and for relevant and timely analytics on
customer oriented data, banks must focus on building the necessary skill sets within the
bank like data miners, data architects, data stewards, data quality managers, segmentation
managers. In fact, investments in human resources shall precede investments in technology
related to Data Warehousing and Data Mining, to make them really effective and fruitful.

Considering the importance and direct correlation that CE has to creating customer advocates many
service oriented organizations today have created a new role “Customer Experience Officer” within
the organization reporting directly to the CEO. The greatest challenge faced by the Customer
Experience officer in most organizations is to embed CE culture within the organization and to
deliver a unified experience to the customer. Banks which master this art will eventually become the
leaders in the sector and be able to deliver superlative value to their stakeholders.
6. IT for business optimization

Optimization typically seeks to assign values to a set of variables that leads to an optimal value of a function. It seeks to find an alternative with the most cost effective or highest achievable performance under the given constraints. IT assets and resources in the near future will have to answer the question whether they are delivering optimal level of performance, given the estimated Rs. 18-20,000 crore worth of IT capital expenditure over the last 12-13 years.

While it is difficult to measure the direct impact, banks will have to think of ways of defining and tracking performance metrics. The metrics will have to start with measuring productivity of IT assets such as Return on Investment (RoI) and marginal RoI to efficiency measures (like cycle time, response time, utilization) and performance effectiveness measures (like coverage, outcome, quality, satisfaction etc). In achieving these objectives banks will have to integrate people, processes and technology to deliver superior customer service.

While most of the initiatives for this category were related to aspects like workflow tools and process simplification, the impact measurement and improvement criteria are not defined. The framework will need to be defined in a top down approach with performance effectiveness measures defined first leading to efficiency and productivity metrics.
7. Looking ahead

IT today has become integral to the business of banking; it is difficult to envision one without the other. However as with other resources it has costs attached to it and with substantial investments in IT infrastructure business leaders will have to seek answers to whether the infrastructure is being used optimally. The overall and marginal value that IT delivers in terms of business impact, be it growth or profitability or any other parameter, will become increasingly important.

Technology should be customer centric to derive optimal benefits and banks will have to equally focus on customer retention and increasing share of wallet rather than only acquisition. For most of banking customers going back to their primary bank for any other new relationship is a major challenge. This is due to the insufficiency of CRM and BI solutions. Data integration of customer interaction through multiple channels is still not available to front end branch personnel.

With increased use technology also comes increased risk of security breaches. Banks will have to on their toes with real time alert systems and governance policies to manage the threats for early detection and damage control. In addition banks will also need to focus on operational performance improvement including training, workflow automations and business process re-engineering to simplify process flows for increased return from technology.

The future IT vision and strategy of banks will have to balance value delivered to the firm. It will need to be aligned to the strategic objectives of the firm and be accountable for the delivering desired value.

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