Where will Indian banking go in the next ten years? This explorative study endeavors to identify key growth drivers and opportunities that lie ahead.

Research partners: Dun & Bradstreet India
The Indian banking sector has evolved into a robust banking system, emerging as one of the strong pillars of stability and growth in the Indian economy over the past decade. The growth of the sector has been largely facilitated by higher disposable income and savings in financial assets by Indian households. While the growth in the sector has been healthy, the penetration of the banking industry in India has been relatively low, mostly in the low income clustered regions such as rural and semi-urban areas. As emerging technologies and innovative channels continue to transform the banking industry, our role as stakeholders in transformation will be to anticipate and gear up the banking system for future opportunities and challenges.

While under penetration will remain a key focus area of banks, a number of recent initiatives by RBI such as new licenses to private banks and savings rate deregulation is expected to increase competition in the industry. Thus, banks will have to address contrasting challenges of expanding their reach as well as rising competition in the coming decade for their share of the wallet.

Similarly, there is contrasting set of challenges for banks related to customer information. Banks will have to create segregated strategies to service customers based on advanced business analytics. On the other hand, banks will have to increase their customer base among rural customers and SME’s for which information access is low.

Creating interoperability across platforms and channels will emerge as another key challenge for banks. While innovation through channels such as mobile gain momentum in the coming years, interoperable systems will be needed to leverage technology through these channels where customers have savings account and mobile number portability.

Against this backdrop, Wipro and Dun & Bradstreet present “The Future Thought of Business for Banking”. This is an endeavour to highlight the potential that the Indian Banking sector holds in the coming decade, and to identify the key growth drivers that will enable the sector to leverage on the future opportunities.

I hope you enjoy reading this report and look forward to receiving your suggestions.

Anuj Vaid
General Manager and BFSI Vertical Head,
Client Relationship Group,
Wipro Limited
The coming decade is going to witness a major transformation in the Indian banking sector. Financial Inclusion is expected to emerge as a key catalyst for the next phase of growth in the banking sector. Government initiatives through the Unique Identification Authority of India (UIDAI) will provide impetus in improving financial access for rural population while innovations through the payment system and effective business models will be critical in achieving financial inclusion goals. The Future Thought of Business for Banking is an endeavour towards identifying and analyzing the key trends that will transform the banking sector in the near future.

Some of the key highlights from the study of future trends in the Indian banking industry are as follows.

- Financial inclusion and infrastructure spending will emerge as the two key growth drivers for Indian banks in the coming decade. The extent of financial exclusion among rural population is enormous with only 9.9% of the population having a loan account and 18.8% of the population having a debit card as on March 31, 2011. The increased thrust on infrastructure spending as per the Twelfth Five Year Plan will require savings as a proportion of gross domestic product (GDP) increasing to almost 38% by financial year 2017 (or FY17) from 33.7% as on FY10.

- A number of recent regulatory reforms pertaining to new licenses in the banking sector and savings rate deregulation by RBI are expected to improve the competitive scenario in Indian banking and provide further impetus to the industry growth. A proactive approach towards strengthening the risk management framework with focus towards liquidity risk management, financial conglomerates and systemically important financial institutions is expected to provide stability in the banking system as Basel III framework is implemented in the system.

- Improvement and innovation in payment system, as conduits for banking transactions, will be critical for the transformation of banking. India already has a dedicated body in National Payment Corporation of India (NPCI) for developing improved payment systems. Recent developments in payment system include next gen RTGS, inter-mobile payment system and Aadhar Enabled payment system. There are also a number of non-banking entities which have become part of developing payment system in India in the recent years. Certain telecom operators have also introduced mobile wallets in India.

- Customer segmentation will emerge as the key tool for product innovation and improved CRM in banking. Banks will have to segregate their product design and services based on income, location, age and preferences. The business needs of banks will have to be met with robust infrastructure for database warehousing and information security. Innovative channels such as TV banking and social media banking are also expected to improve customer interaction experience in banking in the coming years.

- There are also a number of key strategic initiatives needed to leverage technology as well as effectively transform the banking system. Interoperability across platforms and channels is one of the key steps that is needed to seamlessly conduct financial transaction across every platform and channel. Information security is another aspect which banks will need to focus on as banks migrate towards cloud computing and virtualisation.
Objective of the Study
The objective of The Future Thought of Business for banking report is to identify the future trends that are likely to emerge in the Indian banking sector in the coming decade, which would have a significant influence on the future of business. It is an initiative to serve as a strategic platform tool for the industry to understand and meet the challenges that would unfold in the future. Possible recommendations to address the issues so identified have also been detailed in the report.

Research design
The report has been developed based on quantitative and qualitative information. Data and information collection was conducted through secondary research and interviews with industry experts.

Methodology
1. Desk research
   A detailed review of relevant literature for the Indian banking sector was conducted at this stage.
2. Questionnaire development and industry interactions
   Findings of the desk research were used to develop appropriate questionnaires for interviews. Face-to-face and telephonic interviews were conducted with experts in the sector.
3. Collation and analysis of information
   All data and information gathered through secondary research and interviews was collated and analysed for the purpose of developing the report.
4. Report writing
   Finally, the analysis, results and key findings were written in the form of the current report.

Research Framework
How we went about taking a closer look at banking and the challenges the future presents.
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**Indian Banking Landscape**

*Where we are. And where we’re headed.*

The Indian banking sector has emerged as one of the major beneficiaries as well as beneficiaries of strong domestic economic fundamentals. While prudent policy measures ensured that demand in the domestic economy remained strong, critical reforms and initiatives in the banking sector have helped it to scale its operational capabilities to meet the increased credit demand during this period. As a result, credit penetration, measured by the overall bank credit to gross domestic product (GDP) ratio has increased substantially from 20% during 1991-2000 to 49.7% in 2009-11. Credit expansion also accelerated significantly over the last two decades. This was because the domestic economy gained momentum as non-food credit growth jumped 700 basis points (bps) to 22.4% during 2001-2010.

An increase in household savings is another critical aspect that has aided the growth of the Indian banking industry. Gross domestic savings in India are estimated to have been Rs 22.1 trillion in FY10, aggregating to 33.7% of the GDP. Household savings contributed 69.5% of the overall gross domestic saving, amounting to Rs 15.3 trillion. These savings were equally distributed between financial assets and physical assets, while financial saving data indicate that bank deposits form almost 42% of the gross domestic savings in financial assets during the period.

### Flow of money and credit in the Indian economy

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<tr>
<td>(Percentage change %)</td>
<td></td>
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<tr>
<td>Non-food Bank Credit</td>
<td>15.4</td>
<td>22.4</td>
<td>26.7</td>
<td>18.7</td>
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<tr>
<td>Investment in G-Secs</td>
<td>20.9</td>
<td>17.7</td>
<td>13.3</td>
<td>16.2</td>
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<tr>
<td>Credit-GDP Ratio</td>
<td>20.6</td>
<td>37.7</td>
<td>39.5</td>
<td>49.7</td>
</tr>
<tr>
<td>Broad Money-GDP Ratio</td>
<td>49.9</td>
<td>73.6</td>
<td>74.3</td>
<td>84.6</td>
</tr>
</tbody>
</table>

Source: RBI

### Trends in gross domestic savings in India

Source: RBI and D&B Research
Banks in India are classified into commercial banks (scheduled commercial banks or SCBs, and non-scheduled commercial banks) and co-operative credit institutions (that include various co-operative banks). The SCBs are further classified into public sector banks (PSBs), private banks, foreign banks and regional rural banks (RRBs).

Interestingly, Indian banks are concentrated in terms of number of banks and total business size. As can be seen in the charts above, although the RRBs and co-operative banks constitute 65% of the total number, they only cater to 5.6% of the total business. As against this, SCBs (excluding RRBs i.e. SBI and its associates, nationalised banks, private banks and foreign banks) form only 35% of the total number but cater to around 94% of the total business of banks. This implies the domination and pivotal role of SCBs excluding RRBs in the Indian banking sector.

RBI’s consolidation strengthens capital base since FY05

The RBI encourages and facilitates consolidation and emergence of strong entities as well as provides an avenue for non-disruptive exit of weak/insolvent entities in the banking sector. As per RBI, there are merits in mergers/amalgamations, especially if there is synergy in operations and technology, such as creation of stronger banks with a larger capital base, improved financial parameters, higher exposure thresholds, international acceptance and capacity to reap economies of scale and scope. Further, RBI recommends banks are neither too small (in which case they may lack scale efficiency) nor too large (in which case they may be unable to sustain, and thus fail).

With regard to mergers too the RBI has generally favoured a market-driven process. Over the years, there has been considerable progress in consolidation in India and mergers have occurred not only between weak and healthy banks but also between healthy and well-functioning banks. The RBI has been supportive of initiatives for consolidation and there have been no cases where merger approval has been denied by RBI, if the proposals have conformed to the RBI’s requirements and guidelines.

Since FY05, the RRBs have seen heightened consolidation due to policy-driven mergers following the recommendations of the Committee on the “Flow of Credit to Agriculture and Related Activities”. Among SCBs, in FY08, State Bank of Saurashtra merged with State Bank of India (SBI), and Centurion Bank of Punjab was acquired by the Housing Development Finance Corporation (HDFC) Bank. Consequently, by December 2010, the number of SCBs (excluding RRBs) declined to 81 and RRBs declined to 82. As on FY11, total number of SCBs stood at 163.

Branches in the semi-urban area increased the most during FY06-11

While banks are consolidating for greater benefits, they are expanding their reach extensively to metro, urban, village and remote areas to increase market share. In March 2010, the total branch network of the 163 SCBs registered a five-year compound annual growth rate (CAGR) of 6.6% that resulted in 93,080 branches from 72,672 branches in FY06. During 2006-11, maximum branches were added in semi-urban areas (7,126 new branches added), whereas 5,924 and 4,676 branches were added in urban and metropolitan regions respectively. The growth in branch expansion in metros and urban areas is attributable to foreign banks setting up operations in India, primarily in urban regions.
The share of SBI and its associates and private banks in the total number of bank branches nationwide increased from FY05 to FY11. The branch network of private banks grew at a five-year CAGR of 10.4% followed by SBI and its associates with a CAGR of 5.4%.

A total of 4,877 branches were opened in FY11 (as against 5,022 in FY10), the maximum number being opened by nationalised banks which notched up a 41.5% share in the total number of new branches opened. Most branches in FY11 were opened in semi-urban areas followed by rural areas, highlighting the focus of banks towards financial inclusion.

**Payment System in Indian Banking**

Payment and settlement systems form the backbone of any economy. They are the conduits or arteries for conducting trade, commerce and other forms of economic activities including remittances in any country. An efficient payments system can be envisaged as the lubricant which speeds up liquidity flow in the economy, thereby creating the necessary impetus and momentum for economic growth. The payments process is a vital aspect of financial intermediation; it enables the creation and transfer of liquidity among different economic agents. A smooth, well-functioning and regulated payments system thus not only ensures efficient utilisation of scarce resources but also eliminates systemic risks. The payments and settlement system is, therefore, a crucial component of the financial infrastructure of any country and more so of a country like India.

The stage of payment system development in a country to a large extent depends upon the adoption of technology, introduction of new payment instruments and the confidence of the public in using these payment instruments. In India, cash still continues to be the predominant payment mode. This can be gauged from the fact that value of bank notes and coins in circulation as a percentage of narrow money is very high at 60.07% for the year FY10, when compared to other emerging economies like South Africa (18.51%), China (18.83%), Mexico (39.14%), Brazil comes close to India with 52.70% of the value of banknotes and coins in circulation as a percentage of narrow money. This is perhaps a pointer that India has been relatively slow in embracing cashless payment modes and using them as cash substitute. The pre-dominant use of cash could also be attributed to the fact that the process for adoption of non-cash mode of payments started relatively late in the country.

**Some of the reasons for low credit card usage are structural and include the lower acceptability of cards by merchants in India. The lower acceptability, especially in the smaller towns, are due to the pricing structure of these cards, the preference for immediate cash, and the reluctance to wait for settlement of dues.”**

$ Gopinath

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<thead>
<tr>
<th>Share in the total branch network</th>
<th>Rural</th>
<th>Semi-Urban</th>
<th>Urban</th>
<th>Metropolitan</th>
<th>Total</th>
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<tbody>
<tr>
<td>SBI &amp; its Associates</td>
<td>271</td>
<td>113</td>
<td>84</td>
<td>89</td>
<td>637</td>
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<tr>
<td>Nationalised Banks</td>
<td>509</td>
<td>1043</td>
<td>642</td>
<td>389</td>
<td>2383</td>
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<tr>
<td>Private Banks</td>
<td>137</td>
<td>712</td>
<td>285</td>
<td>415</td>
<td>1049</td>
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<td>Foreign Banks</td>
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<td>2</td>
<td>1</td>
<td>4</td>
<td>9</td>
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<td>Regional Rural Banks</td>
<td>45</td>
<td>73</td>
<td>56</td>
<td>13</td>
<td>294</td>
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<th>New branches opened during FY11</th>
<th>Rural</th>
<th>Semi-Urban</th>
<th>Urban</th>
<th>Metropolitan</th>
<th>Total</th>
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**Payment System in Indian Banking**

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<th></th>
<th>Volume (in million)</th>
<th>Value (Rs crore)</th>
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<tr>
<td></td>
<td>FY09</td>
<td>FY10</td>
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<tr>
<td>High Value Clearing</td>
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<tr>
<td>RTGS</td>
<td>1.4</td>
<td>3.2</td>
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<tr>
<td>Total</td>
<td>3.5</td>
<td>3.8</td>
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<tr>
<td>Retail Clearing</td>
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<td>ECS DR</td>
<td>160.1</td>
<td>149.3</td>
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<td>ECS CR</td>
<td>88.4</td>
<td>98.1</td>
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<tr>
<td>EFT/NEFT</td>
<td>32.2</td>
<td>66.3</td>
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<tr>
<td>Total</td>
<td>280.6</td>
<td>313.8</td>
</tr>
<tr>
<td>Cards</td>
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<tr>
<td>Credit Cards</td>
<td>259.6</td>
<td>234.2</td>
</tr>
<tr>
<td>Debit Cards</td>
<td>127.7</td>
<td>170.2</td>
</tr>
<tr>
<td>Total Cards</td>
<td>387.3</td>
<td>404.4</td>
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Majority of the transaction volume is through paper-based clearing

Paper-based clearing accounts for 59% of the total volume of transactions but represents only 10% of the total value of transactions. The RBI has taken a number of initiatives to promote efficiency in paper-based clearing such as widespread use of Magnetic Ink Character Recognition (MICR) technology at 66 major centres in the country. Simultaneously, the introduction of speed clearing in 2008 has facilitated collection of outstation cheques on a local basis leveraging on core-banking infrastructure of banks. Speed clearing is currently available in 240 centres across the country.

Electronic Payment Systems account for 41% of the total volume of transactions and represent 90% of the total value of transactions. The introduction of electronic payment products such as electronic clearing service and electronic funds transfer, which over the years have metamorphosed into National Electronic Clearing Service, National Electronic Fund Transfer and RTGS have ushered in new ways of payment processing. The use of electronic payment systems has gained significant traction over the past three years. RTGS transactions have witnessed over 90% CAGR growth in the past three years while their values have grown at an average of 22.6% during the same period. NEFT transactions have gained even more acceptance among retail customers growing at a three year CAGR of over 100% and 90% in terms of volume and value, respectively, during the same period.

Electronic Clearing Service (ECS) suite including NECS: the ECS suite of products enables bulk payments. The ECS suite consists of local ECS which has its jurisdiction limited to local clearing house branches, regional ECS (RECS) and national ECS (NECS). Both RECS and NECS facilitate straight-through-processing (STP)-based processing of bulk payments in a centralised manner in all core-banking enabled bank branches within their jurisdiction. Average monthly volumes are 8.05 million transactions (ECS credit: NECS, regional and local) and 13.40 million transactions (ECS debit: regional and local), while monthly values are averaging about Rs 26.43 billion and Rs 60.60 billion for ECS credit and ECS debit, respectively.

Real time gross settlement (RTGS): the RTGS system was introduced in March 2004 and now extends to 77,093 branches as at the end of June 2011. RTGS settles gross inter-bank and customer (two lakh rupees and above) transactions. On an average RTGS settles 1.8 lakh transactions valued at four trillion rupees, on a daily basis. Considering the importance of RTGS for settling large value payment systems, action has been initiated for putting in place a next generation RTGS.

National Electronic Fund Transfer (NEFT): introduced in November 2005, NEFT now covers 77,821 branches. One of the unique features of the system is a mandatory ‘Positive Confirmation’ to the originator confirming successful credit to the beneficiary’s account. Since its inception, the system has witnessed a surge in the volume and value of transactions with 1.4 million transactions settling on a single day which is the highest volume processed till date.

Electronic Clearing Service (ECS) suite including NECS: the ECS suite of products enables bulk payments. The ECS suite consists of local ECS which has its jurisdiction limited to local clearing house branches, regional ECS (RECS) and national ECS (NECS). Both RECS and NECS facilitate straight-through-processing (STP)-based processing of bulk payments in a centralised manner in all core-banking enabled bank branches within their jurisdiction. Average monthly volumes are 8.05 million transactions (ECS credit: NECS, regional and local) and 13.40 million transactions (ECS debit: regional and local), while monthly values are averaging about Rs 26.43 billion and Rs 60.60 billion for ECS credit and ECS debit, respectively.

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Risk assessment of Indian Banks

Rising interest rates to affect asset quality, but systemic stability to remain

Risk management in the banking system has emerged as the most critical aspect for stability and growth post the global financial crisis period. Banking systems globally were affected by the financial crisis in 2008, which originated from the sub-prime lending market in the United States. Global banks were impacted largely because of significant exposure to complex financial products linked with the sub-prime market. Indian banks, on the other hand, emerged relatively resilient on the back of stringent regulation which minimized their exposure to complex derivative products. To further strengthen the stability of the banking system, the Government has set up the Financial Stability and Development Council (FSDC).

There are certain structural and regulatory features that make India’s financial system resilient to stress:

- Commercial banks are required to hold a significant proportion (currently 24%), of their assets as government paper;
- The RBI mandates a reserve requirement whereby banks are required to hold reserves with the central bank to the extent of the cash reserve ratio (CRR).

As per the Financial Stability Report released in Dec 2011, a series of stress tests in banks on credit, liquidity and interest rate risks showed that banks remained reasonably resilient though their profitability could be affected significantly. The RBI has suggested banks need to remain vigilant with regard to the prevailing inflation and interest rate situation, which may affect their asset quality, since changes in interest rate were found to have the most significant (negative) impact on the slippage ratio of the banks. It has also proposed further enhancement in provisioning to insulate banks from economic downturn shocks.

Here are some key points to consider:

- Commercial banks are well-capitalized; system-level capital to risk-weighted assets ratio (CRAR) under the Basel II norms stood at 13.2% as at the end of Sep 2011, well above the Indian regulatory minimum of 9%.

- India’s banking sector has exhibited resilience to the global financial crisis and has been better placed compared to global peers. This resilience is attributed to the country’s strong fundamentals and effective regulatory framework.

- The Indian banking sector has demonstrated resilience to various shocks, including the global financial crisis, due to its diversified asset and liability structures, strong capitalization, and effective risk management practices.
Minimum Capital Requirements
- Common Equity Tier 1 (CET1) capital must be at least 5.5% of risk-weighted assets (RWAs);
- Tier 1 capital must be at least 7% of RWAs; and
- Total capital must be at least 9% of RWAs.

Capital Conservation Buffer
- The capital conservation buffer in the form of Common Equity of 2.5% of RWAs.

Transitional Arrangements
- It is proposed that the implementation period of minimum capital requirements and deductions from Common Equity will begin from January 1, 2013 and be fully implemented as on March 31, 2017.
- Capital conservation buffer requirement is proposed to be implemented between March 31, 2014 and March 31, 2017.
- The implementation schedule indicated above will be finalized taking into account the feedback received on these guidelines.
- Instruments which no longer qualify as regulatory capital instruments will be phased out during the period beginning from January 1, 2013 to March 31, 2022.

Enhancing Risk Coverage
- For OTC derivatives, in addition to the capital charge for counterparty default risk under Current Exposure Method, banks will be required to compute an additional credit value adjustments (CVA) risk capital charge.

Leverage Ratio
- The parallel run for the leverage ratio will be from January 1, 2013 to January 1, 2017, during which banks would be expected to strive to operate at a minimum Tier 1 leverage ratio of 5%. The leverage ratio requirement will be finalized taking into account the final proposal of the Basel Committee.

Proactive measures to further strengthen risk management in Banks by RBI
Strong regulatory framework of RBI has helped Indian banks to be at a relatively comfortable position for transitioning towards Basel III. While rising asset quality and liquidity concerns prevail, RBI is working towards further strengthening of the risk framework of the banking system. Some of the recent developments have been as follows:

Guidelines for liquidity risk management: RBI announced draft guidelines for liquidity risk management to meet tighter Basel III requirements on Feb 2012. It has asked banks to file with it their liquidity returns under the Basel III framework from the quarter ending June 2012. The central bank’s guidelines are pursuant to the recent global financial crisis, which has underlined the importance of sound liquidity risk management framework to the functioning of financial institutions and markets. Banks are therefore expected to maintain “high-quality” liquid assets, both in cash and government bonds, which can be converted into cash to meet liquidity needs for a 30-day period under a stress situation.

Framework for financial conglomerates (FCs): Over the years, banks have set up subsidiaries in various non-banking financial areas such as Mutual Funds, Housing Finance, Insurance, NBFCs, etc. This, in turn, led to the development of some large and complex financial institutions in the country, which are commonly referred to as Financial Conglomerates (FCs). The emergence of FCs in India brought to the fore questions about the organisational structure of such entities, i.e. which should be the preferred corporate model for these entities. The issue acquired relevance from two distinct, though inter-related, perspectives – one, efficient corporate management within the groups addressing the growth and capital requirements of different entities; and two, the degree of regulatory comfort with different models, particularly in regard to the concerns relating to contagion risks. FCs in India, at present, are generally organised under the Bank Subsidiary Model (BSM) in which the bank is the parent of all the subsidiaries in the group. In contrast to this, a Holding Company Model (HCM), is one where commercial banking, insurance, investment banking, mutual fund, stock broking and other financial activities are conducted under the same corporate umbrella.

Convergence towards IFRS: In India, there are differences between the IFRS and current regulatory guidelines on classification and measurement of financial assets. IFRS focuses on the business model followed by banks as compared to the relatively rule-based approach being currently adopted. This poses significant challenges to banks as it requires judgement to be exercised by management, based on the principles enunciated in the standard. Further, application of fair values for transactions, where not much guidance is available in India in terms of market practices or benchmarks, has its own difficulties. Banks are also required to be prepared for changes in certain areas, such as measurement and recognition of financial liabilities, consolidation and de-recognition as also more and detailed disclosures. The IT systems as also the MS of banks would need to be changed to cater to the requirements of IFRS, RBI, on its part has already taken several measures to assess the situation, promote skill development, engage stakeholders and monitor developments. A working group to address implementation issues in IFRS is attempting to facilitate a smooth transition to an IFRS converged environment.

Proposed policy for Systemically Important financial institutions:
International policy initiatives in recent period have focused on developing a policy framework for Systemically Important Financial Institutions (SIFIs), especially Globally Systemically Important Bank (G-SIBs). The Financial Stability Board (FSB) and the Basel Committee have finalised a set of proposals for managing crises at SIFIs and reducing their impact. The policy measures include:
- A new international standard as a point of reference for reforms of national resolution regimes, to strengthen authorities’ powers to resolve failing financial firms in an orderly manner and without exposing the taxpayer to the risk of loss;
- Requirements for solvability assessments, recovery and resolution plans and institution-specific cross-border co-operation agreements for G-SIBs;
- Requirements for additional loss absorption capacity above the Basel III minimum for G-SIBs; and
- More intensive and effective supervision through stronger supervisory mandates and higher supervisory expectations for risk management functions; risk data aggregation capabilities; risk governance and internal controls.

The Framework for Advanced Approaches under Basel III
International regulatory guidelines in the advanced approaches framework are designed to enhance the role of risk models in financial institutions in measuring capital requirements for risk exposures. The Basel Committee on Banking Supervision (BCBS) had finalised advanced approaches for credit risk, market risk, operational risk and the overall capital framework under Basel III.

- The Basel Committee on Banking Supervision (BCBS) has finalised advanced approaches for credit risk, market risk, operational risk and the overall capital framework under Basel III.
- Advanced approaches are designed to align capital requirements more closely with risk-internal controls.
- BCBS has developed Basel II “Advanced Credit Risk”, “Advanced Market Risk”, “Basic Indicator Approach” and “Advanced Internal Ratings-Based Approach” approaches.
- Advanced approaches have been developed to address shortcomings in the standardised approach.
- The Basel Committee on Banking Supervision (BCBS) has finalised advanced approaches for credit risk, market risk, operational risk and the overall capital framework under Basel III.
- Advanced approaches are designed to enhance the role of risk models in financial institutions in measuring capital requirements for risk exposures.
- BCBS has developed Basel II “Advanced Credit Risk”, “Advanced Market Risk”, “Basic Indicator Approach” and “Advanced Internal Ratings-Based Approach” approaches.
- Advanced approaches have been developed to address shortcomings in the standardised approach.

Factors shaping the future of Indian Banking

Mapping the path ahead

The Planning Commission of India in its Twelfth Five Year Plan (2012-2017) has envisaged a GDP growth of 9.9.5%. The Government’s thrust on infrastructure development along with private sector investment will be one of the key drivers for accelerating investment demand. Assuming the existing incremental output ratio of 4.5 continues through the next Five Year Plan period, investment-to-GDP ratio will have to be at 49.5% to realize 9% growth in the economy. Gross domestic savings as a proportion of GDP will have to increase to 38-38.5% during the period, assuming that current account deficit does not rise significantly over the next five years. This growth in savings will have to be generated largely from the household sector, which provides majority contribution to the gross domestic savings. This provides immense growth opportunities for banks for tapping into increased per capita income of urban households, as well as the largely under penetrated rural and semi-urban population through financial inclusion.

IMPLICATIONS OF DEREGULATION OF SAVING BANK DEPOSIT ANNOUNCED BY RBI IN OCT 2011

Deregulation of saving bank deposits: Paradigm shift in banking
- Market driven rates to attract more customer towards banking
- Increased financial cost for banks to drive increased value proposition in products
- Banks will have to be more cost competitive, paving the way for low cost transaction costs
- Improved asset-liability management will be required to manage increased short-term deposits

While macro-economic factors provide ample avenues for growth in banking, the real challenge for the banking industry will be to leverage emerging trends and technologies.

The key drivers that will shape the future of banking are:
- Financial inclusion
- Enhancements and improvements in payment systems
- Internet and mobile banking.

“One of the basic requirements for increased penetration of banking in the rural areas is increased real sector activity. Mere undertaking of banking penetration without the concomitant real sector activity would be counterproductive.”

S S Tarapore

While financial inclusion is expected to transform existing business models for banks in the country, innovative channels, technologies as well as improved payment system will act as main pillars to make it sustainable in the coming decade.

Financial inclusion, better payment systems, internet and mobile systems—these are the paths that will take banking to its goals.
Financial Inclusion

Financial Inclusion will be the paramount focus in India from the perspective of growth in the economy as well as the banking Industry in this decade. Financial Inclusion can be defined as:

The process of ensuring access to appropriate financial products and services needed by all sections of the society in general and vulnerable groups such as weaker sections and low income groups in particular, at an affordable cost in a fair and transparent manner by regulated mainstream institutional players.

Financial Inclusion in India as compared to some major countries in 2010

<table>
<thead>
<tr>
<th>Country</th>
<th>India</th>
<th>Singapore</th>
<th>Japan</th>
<th>Brazil</th>
<th>Mauritius</th>
<th>United Kingdom</th>
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<tr>
<td>Access (%)</td>
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| Financial Access Survey 2010, IMF

India has been lagging behind major economies in achieving financial inclusion over the years. The extent of financial exclusion in low income dominated regions is even more staggering with only 30,000 habitations out of 600,000 habitations having access to financial services. This means that almost 95% of the habitations (which are largely based in the rural and semi-urban region) have limited or no access to adequate financial services. Primary sectors as well as micro, small and medium enterprises (MSMEs) provide enormous potential to strengthen the domestic economy. Limited access to financial assistance and basic banking services have acted as constraints to the growth of these sectors and unlocking their savings in the past.

Low banking penetration with minimal access to finance in rural areas

Though, the Indian banking system has made impressive strides in resource mobilization, geographical and functional reach, financial viability, profitability and competitiveness; vast segments of the population, especially the underprivileged sections of the society, still have no access to formal banking services. The extent of financial exclusion in India is significantly large, especially in low income dominated rural areas, with only 9.9% of the population having a loan account and 18.8% of the population having a debit card as on Mar 31, 2011. in 2010. Moreover, 61% of the population has access to a deposit account.

Increased regulatory support provides impetus to Financial Inclusion efforts of bank

The RBI has been undertaking financial inclusion initiatives in a mission mode through a combination of strategies ranging from provision of new products, relaxation of regulatory guidelines and other supportive measures to achieve sustainable and scalable financial inclusion.

Relaxation on know your customer (KYC) norms:

KYC requirements for opening bank accounts were earlier relaxed for small accounts, simplifying procedure by stipulating introduction by an account holder who has been subjected to full KYC process. This has now been further relaxed to include a job card issued by the National Rural Employment Guarantee Act (NREGA) or Aadhaar number provided by UIDAI.

Simplified branch authorisation:

SCBs can freely open branches in Tier 3 to Tier 6 centres with population of less than 50,000 under general permission, subject to reporting. In the north-eastern states and Sikkim, domestic scheduled commercial banks can now open branches in rural, semi-urban and urban centres without the need to take permission from RBI in each case, subject to reporting.

Pricing has been made free:

Banks have been given the freedom to price their advances. This will result in competitive and market driven lending rates among banks to augment credit growth.

Moreover, deregulation of saving bank deposit rates, especially in RRBs, is expected to promote financial savings among the lower penetrated regions.

Liberalization of business correspondent’s model:

In January 2006, RBI permitted banks to engage business facilitator and business correspondent (BC) as intermediaries for providing financial and banking services. The BC model allows banks to provide doorstep delivery of services especially ‘cash in-cash out’ transactions at a location much closer to the rural population, thus addressing the last mile problem. The list of eligible individuals/entities who can be engaged as BCs is being enlarged from time to time. For-profit companies have also been allowed to be engaged as BCs. This model has been highly successful so far. As on March 31, 2011, domestic commercial banks have reported deploying 58,361 BCs, providing banking services in 76,081 villages.

The BC model currently used by banks is still in its early days and will improve as banks increasingly implement it to service new customers. Hence, changes in the business correspondence model will happen in the coming years but it will be a gradual process.”

Sonu Bhasin
Opening of branches in unbanked rural centres: To further step-up the opening of branches in rural areas so as to improve banking penetration and financial inclusion rapidly, the need for opening of more brick and mortar branches, besides the use of BCs, was felt. Accordingly, banks have been mandated to allocate at least 25% of the total number of branches to be opened per year in unbanked rural centres.

Financial inclusion plan for banks: In an effort to achieve sustained, planned and structured financial inclusion in January 2010, all public and private sector banks were advised to put in place a Board approved three-year Financial Inclusion Plan (FIP) and submit the same to RBI by March 2010. These banks prepared and submitted their FIPs containing targets for March 2011, 2012 and 2013.

Despite the healthy progress made through the FIP, banks will have to quickly move towards a more universal FIP in order to reach all six lakh villages in India. The approach of banks towards financial inclusion will have to change from being a regulatory requirement to a sustainable business model. Business models will have to be recast from being cost-centric to revenue generating, which can provide quality basic banking services.

Role and scope of UIDAI in promoting financial inclusion

The UIDAI through its UID number and Aadhaar enabled payment system (AEPS) offers a cost-effective and efficient payment solution for promoting financial inclusion in India. The AEPS is a bank-led model which allows online financial inclusion transaction at PoS (Micro ATM using handheld device) through the business correspondent of a bank using the Aadhaar authentication. At present AEPS service can be availed by customers at their respective bank business correspondent outlets. AEPS will support four types of banking services viz. balance enquiry, cash withdrawal, cash deposit and Aadhaar to Aadhaar fund transfers. The benefits of UID-enabled micropayment systems are discussed below.

**UID KYR for KYC details:** banks in India are required to follow customer identification procedures while opening new accounts, to reduce the risk of fraud and money laundering. The strong authentication that the UID will offer, combined with its KYR standards, can remove the need for such individual KYC by banks for basic, no-frills accounts. It will thus vastly reduce the documentation the poor are required to produce for a bank account, and significantly bring down KYC costs for banks.

**Ubiquitous BC network and choice of BCs:** the UID’s clear authentication and verification processes will allow banks to network with village-based BCs such as self-help groups and kirana/grocery stores. Customers will be able to withdraw money and make deposits at the local BC. Multiple BCs at the local level will also give customers a choice of BCs. This will make customers, particularly in villages, less vulnerable to local power structures, and lower the risk of being exploited by BCs.

**Cost-effective approach:** the UID will mitigate the high customer acquisition costs, high transaction costs and fixed IT costs that we now face in bringing bank accounts to the poor.

**Electronic Transaction:** The UID’s authentication processes will allow banks to verify poor residents both in person and remotely. Rural residents will be able to transact electronically with each other as well as with individuals and firms outside the village. This will reduce their dependence on cash, and lower costs for transactions. Once a general purpose UID-enabled micropayments system is in place, a variety of other financial instruments such as micro-credit, micro-insurance, micro-pensions, and micro-mutual funds can be implemented on top of this payments system.

This system also envisages the creation of an Aadhaar Enabled Payment Bridge (AEPSB) which would facilitate direct disbursement of government benefits to the beneficiary by credit to their bank accounts using Aadhaar. The Finance Ministry recently announced that AEPSB will be used for direct transfer of subsidies on kerosene, liquefied petroleum gas (LPG) and fertilizers. Stored value cards provide another opportunity to leverage AEPSB for building database as well as making low cost payments in the model of oyster cards used in London.
Enhancements and improvements in Payment Systems

As per the Capgemini’s World Payment Report 2011, India is the eleventh largest non-cash payment market in the world. While majority of the volume of transactions currently are paper based, non-cash and electronic transactions are steadily gaining prominence. For instance, reliance on cheques in the B2B sphere has kept cheque usage high, but it is declining (to 65% of all transactions in 2009 from 93% in 2001). The market share of cards has increased during that time (from six to 19%). Payment system infrastructure have expanded steadily over the past few years with emergence of new payment system, growing acceptance of new delivery channels, increased number of ATMs (80,000+) and augmentation of payment processing infrastructure. The use of services provided by payment service facilitators such as intermediaries, technology solution providers and merchant acquirers gained ground in the industry during this period.

Recent developments in the payment system landscape

The payment system landscape in India is in the process of continuous evolution. The emergences of innovative payment systems as well as integration of technology with various channels are continuously focused in providing efficient, secure and low-cost payment transactions. Some of the developments in the payment system landscape are discussed below.

NextGen RTGS: Steps have been initiated to replace the existing RTGS system with the Next Generation Real Time Gross Settlement (NG-RTGS) by adopting the latest technology and emerging business processes. Some of the new features proposed to be implemented in the NG-RTGS system are advanced liquidity management facility; extensible markup language (XML) based messaging system conforming to ISO 20022; and real time information and transaction monitoring and control systems.

Inter-bank mobile payment system: The Inter-bank mobile payment system (IMPS) isa service operated by NPCI which provides an instant, 24X7, interbank electronic fund transfer service through mobile phones. Publicly launched on November 22, 2010 this system facilitates customers registered with their banks for this service to use mobile instruments as a channel for interbank fund transfers in a secured manner with immediate confirmation features. This service is in consonance with the Mobile Payment Guidelines 2008 issued by RBI which stress on interoperability both across banks and mobile operators in a safe and secured manner.

RRBs included in the payment system fold: The Report of the Working Group on technology upgradation of Regional Rural Banks, set up by RBI in 2008, recommended that as a matter of policy, all RRBs should begin moving towards CBS and achieve 100% coverage by September 2011. Currently, 45 out of 82 RRBs have achieved 100% CBS status, and the remaining are in various stages of implementation. CBS-enabled RRB opens up immense possibilities in terms of products and services. As a first step, the sponsor banks would need to integrate the CBS of RRBs with their own Core Banking. This would enable the customers of RRBs to enjoy the same benefits of anywhere and anytime banking and the use of multiple payment delivery channels such as RTGS, NEFT, ECS, ATMs, internet, tele-banking, mobile and SMS banking.

RBI’s core banking solution (CBS): RBI is in the process of implementing a core banking solution. The CBS once implemented will bring significant benefits to all the key stakeholders like government, banks, primary dealers, FIs and the common citizens. CBS in RBI will enable anywhere banking (especially payments) to government departments, treasuries, sub-treasuries through online access and use of e-payment models/ delivery channels. In other words, it would facilitate government to use RTGS, NEFT, NECS and other electronic delivery channels for making all its payments through a single bank resulting in reconciliation being that much easier. Banks and financial institutions will benefit from system of having a centralised account for funds and securities and an on-line transaction tracking mechanism linking funds and security legs. CBS is also intended to provide limited functionality of RTGS in case the RTGS services are not available.

Entry of non-banks in payment systems: Payment systems in India till recently have been the domain of banks. With the legislation of Payment and Settlement System Act, 2007 (PSS Act) the arena has been opened up for entry of non-bank entities. Currently 31 non-bank entities have been permitted to operate payment systems such as issuance of pre-paid payment instruments, providing cross-border in-bound money transfer, cards payment network and ATM networks. The entry of non-bank entities has the potential to change the payment system landscape as these entities can leverage on their product offerings with latest technological features to cater to a wide segment of the market. Of course the RBI has laid down appropriate guidelines and safeguards to protect the customers’ financial and other interest and promote orderly growth in the markets. Entry of non-bank entities will promote competition and thereby provide more choice to customers.

“...The RBI is replacing the existing RTGS with the NG-RTGS system which would be using the latest technology and several new features such as advanced liquidity management facility; extensible markup language, and real time information and transaction monitoring and control system. The major benefit would be liquidity management as banks would not need to hold high levels of cash.”

S Gopinath
Domestic card scheme (RuPay): The need for a domestic payment card the “RuPay” card is on account of two factors: (a) the high cost borne by the Indian banks for affiliation with international card associations in the absence of a domestic price setter and (b) the connection with international card associations resulting in the need for routing even domestic transactions, which account for more than 90% of the total, through a switch located outside the country. NPCI has since been granted approval to launch the “RuPay” affiliated cards for use at ATMs and Micro ATMs. NPCI has been advised to ensure that the use of these cards under the Aadhaar Enabled Payment System (AEPS) is in strict compliance with the DBOD guidelines on BCs. Four banks have started using the RuPay card. These include: Kashi Gomati Gramin Bank; Bank of India DhanAdhaar Card; The Gopinath Patil Parsik Janata Sahakari Bank Ltd; NKGSB Urban Co Op Bank Ltd.

Mobile Wallet: Mobile wallet applications allow the use of mobile handsets as a financial tool mainly for the purpose of making payments. This innovative payment system was pioneered by Google through its Google Wallet application. It leverages the Near Field Communication (NFC) technology in mobile handsets to purchase a range of products using credit card information which can be stored in the handset using the application. This payment mechanism also has a prepaid card feature. Mobile wallets enable non-bank entities to handle funds for retail purchases and thus have the potential to be in direct competition with banks in the coming years. In India, mobile wallet services have been launched by telecom operators such as Airtel by the name of Airtel Money. Other mobile payment service providers too provide such services. The RBI has enhanced the limit of virtual money that a user can load on a cell phone under the semi-closed mobile wallet facility from Rs. 5,000 to Rs. 50,000 in a bid to relax the norms for making payments through mobile phones.

Internet and mobile banking

Internet users in rural areas and mobile internet using population to witness robust growth

Among rural villages as of March 2011, there are 18 million claimed internet users and 14.3 million active internet users and the total internet users in India is estimated to be 121 mn by 2011 as per Internet and Mobile Association of India (IAMAI) study. It is expected that the growth in the rural villages will be higher compared to urban cities. Wireless subscribers (GSM and CDMA) in India also witnessed robust growth over the past few years and have reached 858.37 million as on September 2011. An IAMAI study on mobile internet in India reveals that there are 16.4 million mobile internet users, out of which only 1.96 million use mobile banking.

The growth of internet users, particularly in the rural areas, provides banks with a cost-effective channel such as internet to cater rural customers. The growth of e-commerce and the focus of banks towards internet security have already initiated transformation of internet banking services. Banks will have to further innovate towards wider and customized offerings, secure payment systems using internet platforms. Mobile banking is at a nascent stage in India currently. As the smartphone market gets more competitive, the mobile internet user population is expected to increase substantially. The development in mobile payment system, payment security and integration of technology such as Near Field Communication is expected to drive mobile banking in India in the coming years.

As more people get connected, mobile banking represents a significant developing opportunity.
Emerging Trends in Indian Banking

Technology innovation will provide the edge

The banking system in India is set to undergo significant transformation in the coming years driven by financial inclusion, innovation in payment systems, and the emergence of new channels such as mobile banking. Technology will emerge as the main differentiator as competition in the banking space increases. Banks will have to become increasingly agile to adopt as well as adapt to innovations in technology. They will have to strategise the role of branches as part of the cost-effective business models. Banking services will witness significant innovation towards customer-centric and low-cost product while effective CRM strategies will provide the competitive edge for customer acquisition in the near future.

Emerging business models in branchless banking

As financial inclusion gains traction, banks will have to increasingly adopt branchless banking models owing to their low infrastructure cost as compared to running physical branches. While branchless banking per se, cannot act as a panacea to the several challenges faced by banks to achieve last mile connectivity, setting strategic priorities and customised business models using branchless banking can be more effective.

A study by CGAP has identified four main business models to better understand the choices the industry faces in pursuit of viable models in branchless banking: money service provider, mobile bank, agent-based acquirer, and m-wallet aggregator.

These models reflect different strategic priorities of the businesses involved. First, all of these businesses need a network of agent locations for customers to cash-in or cash-out. The cash-in/out network, as a result, sets the floor on the cost structure for all the models. At scale, in all models, agent commissions become the principal component.

Agent-based acquirers can offer a valuable proposition to any of the other three businesses to reach customers who live in predominantly cash economies. Agent acquirers may be attractive to banks developing an agent channel or a Mobile Network Operator (MNO) pursuing a money service provider model.

Second, the mobile bank business model is advantageous because it makes it easier to allocate profits between the MNO and the bank. Banks and mobile operators could enter into a joint-venture to pursue such a model, or, where regulation permits it, enter into even closer partnerships. If the bank and the mobile operators are under a single ownership.
structure (for example, Easy Paisa and Ban XO) then there are certain unique cost advantages in the form of legal cost and income sharing has been made free: Banks have been given the freedom to price their advances. This will result in competitive and market driven lending rates among banks to augment credit growth.

In early 2007, the leading mobile operator in Kenya, Safaricom (part of the Vodafone Group) launched one of the most successful implementations of a mobile money transfer service, M-PESA. The product is called M-PESA since “Pesa” is the Swahili word for money and the “M” is for mobile. The service has grown rapidly since launch, and is currently used by over 8 million subscribers. M-PESA is a SMS-based system that enables users to deposit, send, and withdraw funds using their mobile phone. Customers do not need to have a bank account and can transact at any of the country’s over 11,000 agent outlets. Registration and deposits are free and most other transactions are priced based on a tiered structure to allow even the poorest users to be able to use the system at a reasonable cost. Transaction values are typically small, ranging from USD 5 to USD 30.

The service was initially developed by the Vodafone Group which owns a 40% stake in Safaricom and the 6 month pilot phase of the project was partly funded by the UK Department for International Development.

The current arrangement between Safaricom and Vodafone Group is a revenue share model where Safaricom controls the on-the-ground operation of the product and Vodafone Group manages the development and delivery of the technical service. An M-PESA Holding Company Limited was registered for the launch of the service and is controlled by directors that are independent of Safaricom Limited. This company acts as a trustee for M-PESA customers and holds all funds from the M-PESA business in trust to ensure that those funds are safeguarded at all times. M-PESA was the first product of its kind to be introduced in Kenya and is generally viewed as a successful implementation that should be used as a model for other developing countries.

Success Factors

Anchor Product or Product: National remittance is the main product offering of M-PESA. Safaricom positioned the product as a fast, safe and easy way to ‘send money home’. The service also enables airtime purchase, bill payment, ATM withdrawal and purchase of goods and services.

Mobile Phone Penetration: Medium – by the end of 2008, mobile penetration in Kenya was 39% or over 15 million subscribers. The mobile penetration was partly funded by the UK Department for International Development.

Ecosystem: Safaricom has developed an extensive agent network nationwide. Currently, there are over 1,000 active cash-in/cash-out points servicing M-PESA. Several large institutions such as Kenya Power and Light Commission (KPLC), Kenya Airways, and Nakumatt Supermarkets also support the product. Safaricom is now carefully extending its agent network with a focus on underserved or high volume locations.

Competitive Environment: Low – M-PESA was the first mobile money transfer service to be launched in Kenya. The lack of competition enabled Safaricom to capture the market and lead the way. Safaricom’s main competitor, Zain, launched Zap in early 2009 as a competitive response to M-PESA.
Role of branches will be re-engineered as focus on branchless banking increases

As banks pursue cost-effective models for providing banking services, the role of branches as touch points to provide basic banking services to the customer will diminish. Increased focus towards electronic payment systems and non-cash payments (debit cards, credit cards) will render transactions through branches irrelevant in the future. Banks will have to reinvent the branch format in the future to make branches part of their viable business model. This can be achieved by containing cost of operating a branch as well as increased revenue generating capabilities through a branch. Cost control can be achieved in a variety of ways including shrinking the physical size of branches to cut real estate costs; thereby reducing infrastructure costs, capital and running expenses; more automation and integration by enabling self-service or assisted self-service; and having fewer tellers to save on people costs. Higher revenue generations can be achieved by cross-selling financial products and integrating business intelligence with branch-level and customer relationship management (CRM) solutions. Several global banks have tested reinventing the branch format, some of which are stated below:

- The Spanish banking group Banco Bilbao Vizcaya Argentaria has launched a “more humanized” full self-service branch based on next-generation, advanced teller machines to replace the conventional “Cold ATM” functionality.
- The Dutch ABN Amro Bank has experimented with a “teleportal” branch that is an unstaffed videoconferencing facility.
- Germany’s Deutsche Bank innovated way back in 2005 with its Q110 branch in Berlin, which contains lounge and self-service areas, along with tangible product displays that allow customers to pick up a package and pay for it at a counter.
- Others include Citibank’s “Branch of the Future” in Hong Kong, Singapore and New York City, and BNP Paribas’s “Opera Concept Store,” a boutique branch in Paris.

Sonu Bhasin

 TRANSFORMATION TOWARDS CUSTOMISED SERVICES AND COST EFFECTIVE OPERATIONS

The landscape for banking products and services is expected to undergo a major overhaul in the future as various factors such as increased competition, financial inclusion, growth in high net worth individuals (HNIs) transform the entire spectrum of banking products and services. While technology is expected to help banks lower transaction costs, innovation in products and services which can be integrated with technology will be the focus of banks in the future. Banks will have to face the challenge of building viable customer-centric models keeping in mind the diversity in customer demography in the country.

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<tr>
<th>Services</th>
<th>Low-Complex Originations</th>
<th>High-Complex Originations</th>
<th>Low-Tech - High Value</th>
<th>Assisted Self-service</th>
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<td>Sales</td>
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<td>Servicing Resolutions</td>
<td>Complaints Exceptions</td>
<td>Branch Call Center</td>
<td>Low-Tech - Low Value</td>
<td>Assisted</td>
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Source: Sriram Srinivasan, senior vice president and global head of banking and financial services business, Wipro Technologies.
Retail banking: Retail banking in India has immense scope for product innovation and diversification. While cross-selling of products provides a cost-effective alternative for customer acquisition, banks will have to adopt Customer Relationship Management (CRM) aggressively in pursuit of a cost-effective model. Mortgage products are also witnessing a steady growth in the retail portfolio. They contribute about 10% of the bank advances and have further potential to increase their share in the retail bank portfolio. Wealth management is another key financial service which is expected to grow significantly in the near future. According to World Wealth Report, the total number of HNIs in India increased by 21% to 1,53,000 in 2010. The robust growth in HNIs provides significant opportunity for the growth of the private banking segment.

The product development has to be customer-centric and banks should keep the needs of the customer in mind. The banks need to adopt a technology-driven banking. The younger generation looks at fast-paced solutions driven by technology whereas middle aged & older people need a different set of solutions. Younger people do not like to visit the banks branches and want to take care of all their banking transactions sitting at their Desktop/Laptop/IPad/Mobile. There should be some incentive for not coming to the branch and carrying out transactions in the electronic mode. Pensioners on the other hand prefer to visit banks personally, hence they need not be charged for coming to the bank and should be handled in the most cordial manner.

MSME banking

The growth of the micro, small and medium enterprises (MSME) segment is extremely critical from the perspective of inclusive growth and the financial inclusion plan of banks. Banking access towards the MSME segment has been very low with almost 95% of them not under any financial institution. Another hurdle in extending credit to MSMEs has been the availability to financial information and credit information of the companies in this segment. The RBI as well as the banks have realized the need for MSME banking and have taken a number of steps in improving credit to MSMEs. Some of these steps taken are as follows:

- Including Micro and Small companies as part of the priority sector lending targets
- Mandating banks to achieve at least 20% annual growth in MSME credit.
- Banks have also setup specialized branches for MSME banking to provide customized services.

Geographical segmentation

Certain products have appeals based on geographies for example, investment products have huge appeal in the State of Gujarat while there is huge appeal for gold loans in Tamil Nadu. Banks need to take in account the geographical factors so as to increase the appeal of the products. The areas where the income levels are lower should be targeted with financial products with increased focus on availability of the term insurance component in the banking product offering. Banks must also consider that the needs of the rural populace differ from their urban counterparts. They need money on seasonal basis and KCC is a very good mechanism for satisfying the financial needs of the farmers and the middle van-based banking model and business correspond model are suitable for covering a number of villages under the banking ambit with Biometric ATM installed on the van. Some banks have already identified the potential of the rural customers and have started reaching out to the rural customers by way of mobile vans.

Demographical segmentation

The preferences of the people should be given prime importance while designing the financial product. There should be an extensive research before a product is launched in the market after determining the needs and preferences of the people. The ‘one size fits all’ approach will not work in the technology-driven future banking.

Wholesale banking

The most important growth driver in the wholesale banking segment will be infrastructure financing. The mammoth infrastructure spend envisaged in the coming years can significantly boost revenues through wholesale banking through lending, debt syndication, capital raising, and secondary markets. Banks must be willing to innovate, potentially becoming active developers in addition to operating through third parties, and they must also embrace more sophisticated products, such as project financing, through a mix of syndicated lending in foreign currencies, non-traditional structured trade-finance instruments, and securitization of cash flows. Recent reforms in the financial market, such as introduction of Credit Default Swaps (CDS), are likely to provide further impetus to lending in the corporate sector.
Leveraging technology beyond core banking solution

The role of technology in the banking industry has evolved from being a facilitator to one of the key strategic pillars for growth and innovation. The advent of core banking solutions (CBS) was envisaged to improve customer access to banking services, information management, provide better customer service and enable robust risk management. However, the evolving dynamics in the industry will require further innovations in CBS. Banks are likely to scale up their activities on this front and the focus of technology adoption will be customers-centric rather than vendor or employee focused – as it largely is currently. The focus of technology in the coming years is expected to centre on cost effectiveness, providing customer-centric and enhanced services, implement innovative strategies identify niche businesses and capture new market opportunities. While reforms, globalization and diverse business models are expected to make Indian banking industry more complex, the challenge for technology will be to make it simple and more customer-friendly. Steps like back-office centralization, business process re-engineering would significantly reduce the branch workload which would enable the branches to function as sale and service points.

Information access: Improvement in information access will be one of the key focus areas where banks can leverage technology, especially from the perspective of financial inclusion. Banks currently have limited access to information pertaining to unbanked customers, defaulter’s list, customer spending pattern, financial details of MSME companies and their credit ratings. Such information will be critical for banks to formulate customer-centric business models and improve financial access in the rural areas.

Use of data analytics (business intelligence): Business intelligence helps a bank decide on various business strategies including customer segments, product mix, channel mix etc. A good data warehouse can also enable call centre technologies like outbound dialling to be used for active marketing and sales channels and not just for transactions.

Treasury systems: As a key component of a bank’s activities, treasury needs to be accorded adequate attention in terms of technology solutions. Integrated platforms for dealing with the broad range of assets including foreign exchange, money market, fixed income and derivatives would be of great value. Such systems may cover the range of functionalities including pricing, booking, risk management, value at risk, limit control, confirmation, payment and accounting. More efficient treasury operations and better controls would be the key outcomes of such systems.

TV banking: Television is one of the ubiquitous medium through which banks can reach out to their customers in India. Few banks such as ICICI have already initiated TV banking in association with DTH operators in India providing information regarding financial products. Innovation in technology can empower customers with access to added services in banking.

Social media banking: The growth of social media provides another innovative channel for banking to leverage in the future. The increasing number of people active in social networks and emerging business opportunities through social media provides banks with an ideal platform to expand their capabilities. Some of the key opportunities that social media provides the banking sector are:

- Building customer-base as well as enhancing brand value
- Building social communities around their product and focusing on customer-centric services
- Using social media as a medium for product research and education

Data Warehousing

The warehouse infrastructure can support a wide range of applications and reports to meet exact business needs. Some of the applications for banking system are below:

Risk management: In banking, the most important of data warehousing is building Risk Management Systems. A Risk Management System will identify the risks associated with a given set of assets. This helps in understanding the way in which the market is likely to move in the future, based on past performance. The key measure here is volatility, but there are many others, and this is highly complex and technical area. One of the applications of Risk Management is Asset and Liability Management (ALM), and the entire system can be implemented with Data Warehousing.

Campaign Analysis: Accurately targeting customers in campaigns and promotions and analysing their responses to promotion episodes are the keys to enabling the transition from mass marketing to mass customisation. Most organisations launch many different kinds of promotional campaigns for many different products using various media. This application enhances the organisation’s understanding of the entire process from selecting customers to be targeted to analysing how they responded. Campaign Analysis allows you to measure the responsiveness of households and individual customers to campaigns. It provides the ability to measure the effectiveness of individual campaigns and different media and offers the ability to conduct cost-benefit analyses of campaigns.

Customer Profile Analysis: Customer profiling allows organisations to distinguish, in the mass of customers, the many microsegments that make up the whole. Increasingly, customer segmentation is forming an essential element of marketing strategy as markets become more fragmented especially where customer segments exhibit distinct and different characteristics. The profiling and segmentation of customers facilitate the building of genuine customer relationships in an era of one-to-one marketing. Profiling customer behaviour aims at extracting patterns of their activities from transactional data, and using these patterns to provide for service provisioning, trend analysis, abnormal behaviour discovery, etc. It has becoming increasingly important in a variety of application domains such as fraud detection or commercial promotion.

Loyalty Analysis: One of the keys to profitability in any enterprise is customer loyalty. Yet very few organisations measure customer loyalty in a structured way or seek to understand the underlying causes of customer attrition. The Loyalty Analysis application allows you to measure customer loyalty from different viewpoints such as duration of relationship, range of services and products consumed, and the demographic, psycho-graphic and geographic influences on customer attrition. By itself, the Loyalty Analysis application measures and monitors customer loyalty and facilitates the development of customer retention programmes. The loyalty of customers can be assessed in the context of their value, their contact history, the segments they belong to and the transaction events that may influence their loyalty.

Customer Care Analysis: Customers interact with organisations in many ways using different touch points to initiate inquiries, provide feedback or make suggestions. This information provides valuable insight into the behaviour of customers and the track records of the organisations serving customers. The likely level of satisfaction or dissatisfaction of a customer can be determined by their customer contact history. Analysing customer contacts is an essential ingredient in maintaining and nurturing customer relationships and preserving the loyalty of customers into the future.

Business Performance Analysis: Business Performance Analysis application for banking exploits the industry specific, transaction-level data in a typical retail banking enterprise. Analyzing a bank’s business performance requires an understanding of customer behaviour, including usage patterns of the different services the bank offers. It facilitates
analysis of product performance, branch and ATM activity and utilisation. It also provides the business intelligence information most needed by sales and marketing executives, as well as strategic planners in banks everywhere. The atomic data stored in this key portion of the warehouse becomes the engine that powers the entire solution and, when combined with the related applications, will revolutionize the way a bank manages and satisfies its customers.

Sales Analysis: The Sales Analysis application allows analysis of sales from a variety of viewpoints such as sales by channel, outlet or organisational unit; sales by product, product category or group; and sales by region and by season. This application offers organisations an integrated perspective on sales results and enables sales managers to understand the underlying trends and patterns in their sales data.

Profitability Analysis: In any organisation, it is essential to understand profitability in order to determine pricing, award discounts, allocate resources or develop strategy. But profitability is a many-faceted concept and can be considered in the context of an organisation, a channel, a product, a product category, a brand, a customer or a customer segment. And most organisations will also wish to measure gross profits, net profits and margins. Customer profitability is a key measurement to manage the business effectively in the retail banking industry. Customer profitability is influenced by a range of factors that includes the volume and type of business conducted, the range of products purchased and the utilisation by the customer of automated transaction facilities. The capability to measure and analyze profitability from many different viewpoints and by many different dimensions is the objective of this application.

Convergence among products, channels and payment system

Competition, technology, increased customer demand for comfort and convenience and regulatory initiatives have resulted in introduction of several payment products and channels over the time. However, banks have built these products and channels into separate silos and verticals.

For instance, in some banks the Core Banking System is usually different from the card processing system. Other issues that arise from disparate payment infrastructure for banks include duplicity in work, lack of scalability, and increase in the cost of payment processing.

If analysed from a customer’s perspective, they maintain multiple payment instruments and multiple channels for different payment needs. The challenge for banks will be to bring all these payment instruments in a single instrument i.e. a single card acting as a debit card, credit card, pre-paid card and all purpose smart card. Similarly, banks will have to work towards convergence of channels where mobile phones, given their ubiquitous nature, replace payment channels and serve as portable device for all banking and financial service needs.

“"The way forward for payment systems will be for banks to seamlessly work with telecom providers and other relevant stakeholders and create an interoperable platform to provide access to RRBs, co-operative banks and primary societies while ensuring safety and integrity of the system."

Usha Thorat

S Gopinath

"The products would have to be tailored to the needs of the rural people like no frills credit cards, supply chain financing for agriculture, cross-selling of products etc. Reputational risk is a major risk in the rural areas as loss of confidence would destroy product acceptability and thus banks would have to be very conscious regarding this."

S Gopinath
Customer Relationship Management (CRM) will play a significant role in establishing and retaining a customer by providing better value in the future. Banks routinely calculate customer value based on factors such as account average balances, account activity, services usage, branch visits and other variables. CRM solutions which are based on CBS inputs, however, offer end-to-end functionality to effectively address the needs of the complete cycle of marketing, sales and service for banking products, resulting in customer retention as well. Banks will now have to focus towards improving their service delivery levels and exploit the large information base effectively to design segment specific products. This can enable them to offer the appropriate bundle of products and services to the customers and also help them to communicate product availability to the potential clientele. Appropriate use of CRM analytics arms banks with the technology muscle to increase their reach through effective marketing campaigns. It helps in making the service product and delivery levels scalable enough to meet the needs of growing banks. It also enhances capabilities to explore cross selling options for efficient and cost-effective marketing. Technology is expected to be the core differentiator among banks in the near future and the bank equipped with better and sophisticated technology but simple to operate financial services would garner higher share of customer business. Thus, effective CRM along with improved technology will be critical for the growth of the banking industry.

The use of technology in customer relationship strategies will help create differentiators and close the gap between banks and their customers.
Strategic Focus for Indian Banking

Technology transformation, presents opportunities for growth

The Indian banking industry is provided with a number of opportunities as well as challenges for the coming decade. Changes in the banking system in the form of improvement, transformation or by innovation will require planned and focussed effort to optimise the derived benefits to the industry as well as the economy. Hence, a strategic approach to strengthen various platform, information security and participation of non-bank entities needs to be contemplated and implemented in the coming years.

Need for interoperability across platforms and channels in the payment system

As payment channels and platforms continue to grow, the need for payment system to be interoperable across them will become increasingly significant. The benefits of interoperability across platforms, agents using mobile banking are given in the table below.

Many banks in India already provide platform interoperability through mobile and ATM. As per RBI’s long-term operative guidelines on mobile payments, the long-term goal of mobile payment framework in India would be to enable funds transfer from account in one bank to any other account in the same or any other bank on a real time basis irrespective of the mobile network a customer has subscribed to. This would require interoperability between mobile payments service providers and banks and development of a host of message formats. The scope of interoperability will increase further as m-commerce business grows along with additional mobile payment avenues using NFC technology.

<table>
<thead>
<tr>
<th>Platform not interoperable</th>
<th>Platform interoperable</th>
</tr>
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<tbody>
<tr>
<td>Platform</td>
<td>A customer with an account from one service provider can only send or receive money to or from the account of a customer with the same service provider or engage in off-network transactions.</td>
</tr>
<tr>
<td>Exclusive agents</td>
<td>Non-Exclusive agents</td>
</tr>
<tr>
<td>Agent</td>
<td>A customer can only withdraw or deposit money at the agents of their own service provider.</td>
</tr>
</tbody>
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Technology can turn banks into well oiled machines, ready to capitalize on opportunities as they arise.

“"The way forward for payment systems will be for banks to seamlessly work with telecom providers and other relevant stakeholders and create an interoperable platform to provide access to RRB’s, co-operative banks and primary societies.”

Usha Thorat
Role of non-banks in the payment system

The evolving payment systems scenario offers new challenges and opportunities to all segments of this industry. The new evolving landscape, especially in the retail payments area provide interesting challenges in harnessing the potential of technology amongst different stakeholders such as banks, system providers and other technology partners. These challenges encompass the search for new business models, which are now cost effective and wider in their scope and reach in terms of both geographical and customer coverage. Therefore the evolving payment ecosystem not only would encompass banks and the technology in use but would also have as critical stakeholder’s non-bank technology solution providers and system operators. Some of the important non-bank entities which will have an important role in developing the payment systems in the coming years would be telecom operators, mobile payment service companies working on NFC technology as well as Business Correspondents.

Outsourcing

The outsourcing industry is gradually moving towards BPO 3.0 which focuses on improved value proposition as compared to only cost competitiveness. India is the global leader in the outsourcing industry with large employment base of skilled knowledge professionals. The scope of outsourcing in Indian banks has been growing with increased IT adoption and need for skilled manpower to manage specialized banking operation. While banks have already begun outsourcing services such as that of ATMs for cost saving, they will need to focus on outsourcing for improving efficiency and enhancing product value. As per the Khandelwal report on HR planning, the committee has recommended outsourcing of non-core banking operations in a time bound manner. As per the report, core operations include all management functions, decision making functions, compliance functions and internal audit functions.

Banks should nonetheless ensure that outsourcing does not result in abdication of providing efficient services to the customer nor should it result in dilution of risk management practices and standards including the concentration risk of relying on few specialised entities.

Holistic technology management key to optimise overall innovation in the banking system

Banks are on a spree to introduce and upgrade technology to cater to the increasing customer base and needs. However, the issue the technology adoption and absorption in banks will need to take a closer look whether it is holistic in nature or it is in disjointed and disarray mode. One of the challenges that was discussed earlier is the convergence of products and channels.

Another challenge for banks would be how to address the technology obsolescence through continuous technology upgradation. Apart from cost, upgradation poses significant challenges for banks in terms of replication across all technology assets and building awareness of end users and customers. Preparedness of banks in terms of transaction processing to handle spurt in transactions on account of increased in customer base, product lines and increased usage of non-cash payments without compromising the safety and efficiency will also be another technological challenge. A few banks find it difficult to maintain the same level of efficiency and speed in all the payment channels on high volume and quarter ends.

Finally, competition, changing customer preference for low-cost payment alternatives, introduction of innovative payment instruments and payment channels and burgeoning transaction volumes and above all regulatory requirements are forcing banks to review their existing infrastructure and migrate to an enterprise payment processing system or payment hub that could integrate all payment instruments, interfaces with the core banking solution. However, migration to payment hub should be carried out in a well thought out manner so that the potential benefits in terms of efficiency, cost reduction, improved customer service and transparency in payment processing could be maximised.

Strengthening information security for data processed through cloud or virtualised network

Banking as a business involves the management of risks based on a repository of trust extended by the customers. If this objective has to be accomplished, it becomes imperative for all security concerns especially customer sensitive data to be addressed in an effective way so as to ensure that the trust levels are well-preserved and information assets perform their roles. Innovative channels through technology have increased the risk of fraud or information threat for banks. While adequate systems have been set in place to ensure information safety, some emerging technologies are expected to pose additional challenges for the information security of banks in the coming years.

Cloud computing: Cloud computing is a technology that uses internet and central remote servers to maintain data and applications. Cloud computing allows consumers and businesses to use applications without installation and access their personal files at any computer with internet access. This technology allows for much more efficient computing by centralising storage, memory, processing and bandwidth. Information security systems and relevant policies will have to be modified for critical data of banks as well as that of customers stored in a cloud network.

Virtualisation: Virtualisation is the creation of a virtual environment of the server, operating system, storage, network resources and desktops. Virtualisation technology enables us to move towards server consolidation wherein many small physical servers are replaced by one large physical server, which is partitioned into several virtual servers to increase the utilisation of costly hardware resources such as CPU and memory. Nonetheless, compatibility issues or hardware failure risk affecting the entire network, are some of the major information security risks for banks.

RBI has also set up guidelines to strengthen security in banks. Under these guidelines banks are required to have their IT Security policy in place, framed by a CIO and are required to have them reviewed annually. The working group also felt the need for a forum of CISOs to interact, so that they can get to have knowledge transfer on security threats. On cloud computing, the group asked banks to review security threats involved in relation to cloud computing before considering hosting data on the cloud.

S Tanapare
Conclusion

The transformation in the Indian banking sector in the coming decade will be defined by the steps taken to achieve financial inclusion. Banks will focus on re-engineering their services as well as branches to gain strong foothold in low-income dominated regions such as rural areas and lower tier cities. The banking industry will also witness tremendous innovations in the form of low-cost products and services, delivery channels and new technologies that will enable banks to make banking a viable business model in these regions. Payment systems are expected to largely migrate towards electronic platforms as internet banking and mobile banking gain prominence in India. Nonetheless, the banking system will require robust infrastructure to implement emerging payment systems. Government initiatives towards building the Aadhaar Enabled Payment System is expected to boost the efforts of banks in achieving their financial inclusion goals. Besides financial inclusion, the banking sector will witness significant innovations in banking products and services catering to MSMEs, corporates and HNIs.

Leveraging existing and new technologies will be critical for the transformation of the banking sector. While innovations through emerging channels such as internet and mobile is gaining traction, future development of banking technology using channels such as TV and social networking provide large potential for growth of the sector. Banking services are also expected to become more customised and specialised with banks increasingly stressing upon effective CRM strategies amidst increasing competition. Banking operations will also need to become cost effective as the focus towards low cost products and services along with newer technology adoption will impact their profitability. While the banking sector will need to make rapid strides to achieve the goals set for the coming decade, the role of non-bank entities, Government as well as RBI in facilitating its growth will also be critical.

The Way Forward

Effective transformation is going to emerge as the key mantra for banks as they move ahead to achieve their financial inclusion goals in the coming years. The task at hand for India to achieve inclusive growth is enormous and banks will require significant support from the government, RBI and the non-bank entities to transform banking that can cater to the diverse customer demography and expand their reach to achieve last mile connectivity.

Increased efforts towards achieving inclusive economic growth necessary for achieving financial inclusion by banks

The benefits of economic development in India have been largely clustered with many parts of the country unable to realize them. While a number of policies and reforms focused towards alleviation of the standard of living of low income population have been put in place, the disparity in income levels remain significant. Hence, the role of the government to expedite reforms and set policies focused towards inclusive growth becomes critical for the financial inclusion plan for banks. Higher savings, better literacy, employment and improved infrastructure are some of the key benefits that can allow banks to effectively adopt technology and expand their reach in rural areas and other low-income clustered regions.

Strengthening corporate governance in the banking system

Sound corporate governance in banks is pertinent for the stability of the entire system as well as the economy. It instils customer confidence in the system which is paramount in an industry such as banking. While RBI, on its part as a regulator, has been ensuring that the Indian banking system meets required corporate standards, the point to recognise is that effective regulation is a necessary, but not a sufficient condition for good corporate governance. Banks will have to ensure equal and best quality services as well as non-discriminatory loan pricing across various income strata. Recent initiatives such as bank licenses to non-bank entities will require further strengthening of laws to govern the banking system.

Financial market reforms essential for diversification of financial products

Reforms in the financial sector will be another key aspect for the growth as well as stability in the banking system in the near future. Financial market reforms are also critical to bring more and more sizeable banks into the realm of investment banking in India. Recent initiatives such as introduction of Credit Default Swaps (CDS) and setting up of Infrastructure Debt Fund (IDFs) provide banks with the flexibility to diversify their financial products portfolio. As the risk management system continues to evolve, innovation of existing products to match customer needs as well as appropriate regulatory requirements will be the focus of banks.

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