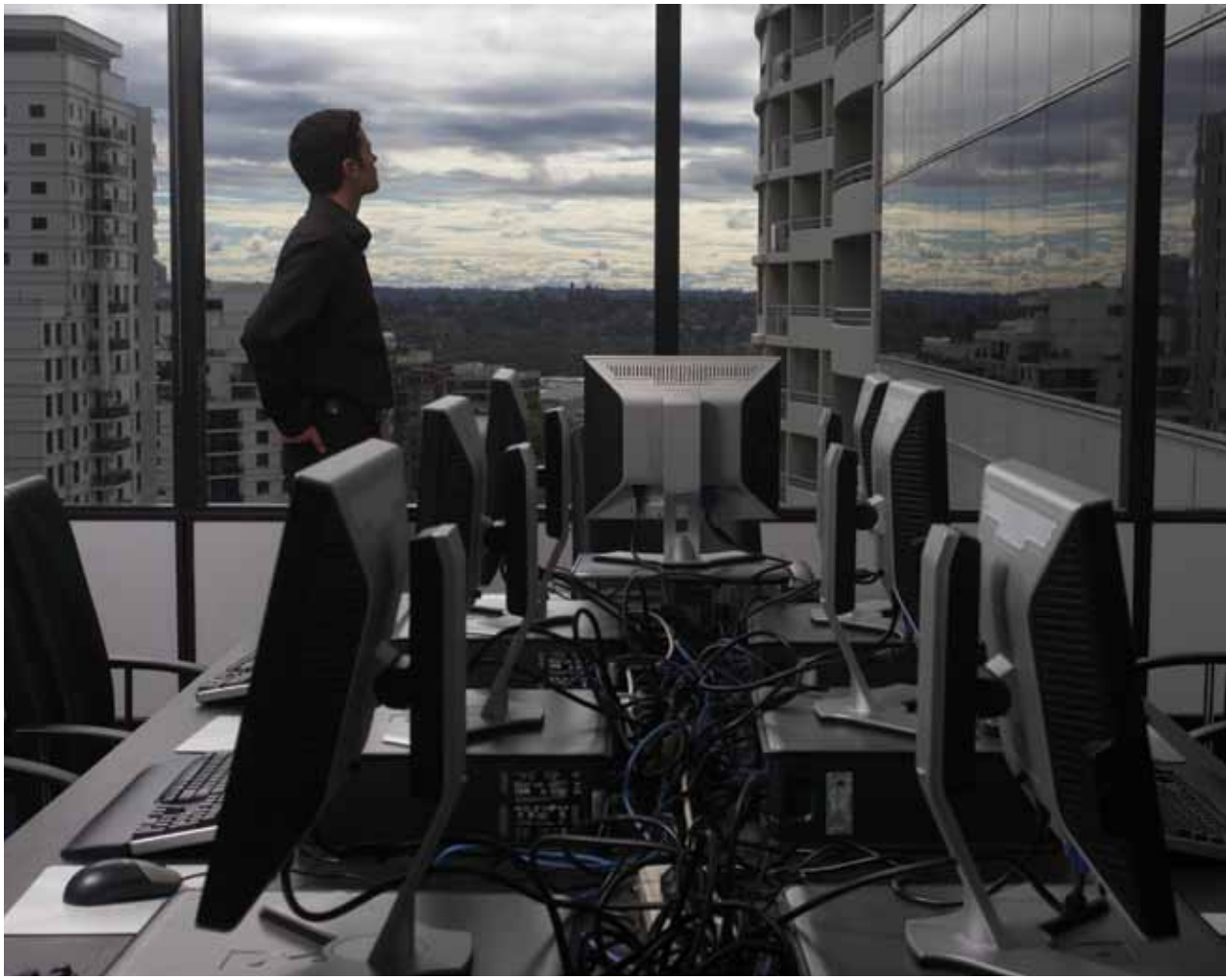
Confederation of Indian Industry

BANKingTECH Summit 2014

8th CII BANKing TECH Summit, 5th March 2014

Connecting the dots: Wiring business, technology and operations



pwc

www.pwc.in

Foreword

As we move into the 8th edition of the CII BANKing TECH Summit, it is interesting to note how the technology interface with banks has undergone a huge transformation. The way the banking community has adopted and deployed technology and used innovative measures to improve processes and drive value is commendable.

Technology has evolved from being a mere tool to enhance efficiency, reduce cost of operations to being a critical component of the strategy mix. Whether it is to scale up business, grow volumes, service customers, strengthen delivery channels or manage risk and compliance, IT is multi-faceted in providing solutions across these functions. In today's environment fraught with uncertainty and increasing complexity in the regulatory scenario, there is a need for a resilient and strong risk management architecture which can only be possible with the help of technology.

In the age of the social media boom, businesses and customers are making the most of this platform to be better connected and increase awareness. Since the younger generation spends a large amount of its time online on sites such as Facebook, Twitter, LinkedIn, etc, this has become a great way for banks to connect with customers and impart information on new products, features, service benefits, etc. Social media can also be used as a medium to address specific queries and grievances of customers and establish rapport. Analytics emerging out of this huge volume of data available on social media sites can additionally be useful in discovering new revenue streams and tapping into new opportunity. It will be interesting to see how banks manage to capitalise on this boom.

Banks have also been able to penetrate rural areas and reach out to the unbanked population of India with the help of technology. Piggy-backing on the reach and penetration of mobiles in the rural hinterland, banks have used mobile technology to reach out to this belt. Mobile technology has facilitated many functions such as payments, the transfer of funds, etc for those with small savings and the need to remit money on a periodic basis.

This report by CII-PwC captures some of the emerging trends in technology used by the banking fraternity today. PwC has met with and taken inputs from various stakeholders, for this survey, and has tried to encapsulate their views in this report. This report presents key insights which I hope will be useful to you.

Arun Jain
Chairman-CII BANKing TECH Summit 2014 and
Executive Chairman
Polaris Financial Technology Ltd.

Introduction

Technology today has become so essential that we find ourselves handicapped in its absence. As with other disruptive innovations, technology has taken mindbending leaps in its evolution over the past decade. Earlier, it was perceived as an expensive proposition which needed to be customised, it fulfilled only one objective at a time, one needed to network and synchronise it with various systems and processes at each step. Over time, technology has evolved to be the answer to all complex problems with well-integrated and embedded solutions for businesses. These tools help in informed decision-making and reduce the time required to market products and services. Technologies related to mobile, social, cloud and analytics are some of the leading innovations which have the potential to change the face of banking.

The business transformation driven by technology is impacting all industries in significant ways. Businesses are considering leveraging technology to optimise their IT, transform business operations; monetise differentiated services and engage their channels and communities.

The mass adoption of technology across various customer segments, owing to the emergence of smartphones, the wide availability of 3G and 4G networks, etc, have paved the way for increased customer expectations, complex product structures and alternate channels as emerging trends even in the banking industry.

As a result, banks are now required to deal with a varied set of customers, ranging from the tech-savvy new generation with ready information at their disposal, as also traditional customers who continue to form the majority and require a personalised approach to services and products.

With innovation becoming the key driver to create a competitive edge, banks envisage increasing dependence on technology.

In this report, PwC tries to discover the fast-changing ecosystem of the industry by focussing on changing paradigms of products and services with customer experience taking centrestage.

PwC outlook for 2015

While crystal ball gazing is a difficult task, we have been noticing traction in technology trends concomitant with key business issues which will shape the landscape of technology adoption in the banking industry.

Payments space heats up

The payments space will be characterised by differentiated service offerings, platform consolidation, and innovative point-of-sale solutions. Banks will invest in platforms such as integrated payment hubs which supplement existing core banking systems and provide a consolidated view across all payment channels. Retail and financial inclusion will be areas of significant action and banks will not only compete with each other but also with payment solution providers as well as telecom companies.

Big data use cases will mature

Big data has garnered much interest in the last few years and we predict that this year will see innovator banks testing and proving business use cases. These cases will lie in transaction heavy spaces such as payments or unstructured areas such as social media, customer care and internal communications for catching fraud. Some banks will also experiment with big data platforms for real-time analytics in order to support targeted offers and fraud and risk assessment.

Engagement is key

Leading banks have a mobile platform in place and this year we could witness innovation in this area especially in engagement. Banks will look outside towards internet companies for their innovation in UX and the engagement space. We are also likely to witness the increased use of mobile specific features such as geo-location, camera or scanning and voice identification (for authorisation).

Cloud adoption to reach a tipping point

Banks will drive their cloud agenda depending on their size and maturity in technology adoption. We will witness more and more banks in the small to medium size space looking for entire core banking platforms as a service, while more established banks increase cloud adoption in non-core areas such as HR.

Consolidation in fraud management applications

Cobrapost has been a wake-up call and leading banks are considering platforms that integrate monitoring, early detection and fraud management for both internal and external threats across all product lines. There aren't many solutions in the market which provide an integrated view to banks, to push them to define right-fit architecture leveraging existing components they have and procuring the missing pieces.

Driving value through technology usage
Current trends

Indian banks have grown accustomed to using technology. However, we have now reached a point where technology needs to be used as a value lever to traverse a fast-paced growth trajectory. Innovation to help develop the product, process and service is the new mantra.

Increased customer awareness has mandated banks to align their strategies to provide an enhanced customer experience. The advent of social media, changing regulatory environments and other macro-economic factors are further strengthening the strategic role that technology plays in the industry.

Banking institutions are closely looking at the return on investment of major technological projects before they embark on the journey towards new-age banking systems. Ironically though, nearly 69% of the global financial organisations do not even have a standard process for measuring the return on investments for IT projects*.

Leading global institutions are therefore taking a phased approach to building a new IT universe that is aligned with the business, including the assessment of business objectives, designing a new organisational structure, transitioning to the new model and the provision of continual support and adaptation capacity as necessary.

Technology and innovation

Our survey reflected that a vast majority of banks felt that disruptive technologies such as SMAC (social media, mobility, analytics and cloud) will create a new path of innovation in banking technology, followed closely by managing customer experience.

Factors creating a new path of innovation

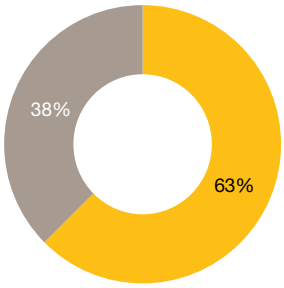
**Source: Forrester Research: Measuring BT Governance Outcomes through Balanced Scorecard*

SMAC is actually seen to be disrupting the banking industry since it sketches a 360-degree view of the customer. Data analytics of the bulk feeds from social media platforms such as Facebook, LinkedIn, Twitter, etc will actually serve as a key differentiator for any bank which strives to integrate their operational platforms with the stream of social media. For instance, social media analytics can help banks decipher where their customers spend most of their time and money and in due course roll out customised offerings for these target groups. In fact, the whole gambit of social media platforms provides a hunting ground for opportunity while serving as a good source of unsolicited customer feedback.

Banking is customer-centric and industry players need to re-think their strategies on customer experience management to stay ahead of their game. Riding on the digital wave, banks need to engage continuously with customers in order to build loyalty and give them an enhanced banking experience. Customer analytics solutions will help provide insights relating to customer needs and preferences, consequently tailoring the product and service to his or her requirement. An important aspect in this case is to provide the customer with an enhanced experience.

The role played by IT in each facet of banking is evolving rapidly. Traditionally, IT was perceived merely as a support function to keep systems and processes running. This perception however, has undergone a huge change as technology becomes integral to the strategic decision-making of the management.

Role of IT in an organisation



IT is seen as a strategic function helping your bank to meet strategic objectives in most areas of operations

IT is influential in bringing improvements in operating efficiency and reduction in costs

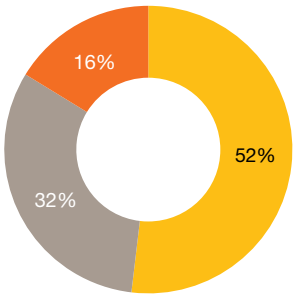
Sixty-three per cent of our respondents said that technology is seen as a critical pillar which helps meet the strategic objectives of the business.

By focussing on strategic initiatives and deploying technology, retail banks can position themselves for profitable growth. Once the bank has firmed up its plan, there is a need to create business plan and technology architecture to support the strategy and measure progress and improvement. In each area of bank operations, whether it is marketing using the social media and mobile platform, or putting in place tools for better risk assessment and compliance, provision of integrated operational platforms, roll-out of integrated product bundles as per customer needs, technology is centric to all decisions. Moreover, technology is seen to play a huge role in supporting and working horizontally with the marketing, sales and channel functions.

In an environment where there is constant cost and operational pressure, 38% of the banks felt that technology has played an important role in bringing improvements in operational efficiency.

In today's current scenario where technology is playing such a pivotal role, it will be interesting to map and analyse the budget allocation to each avenue.

IT budget allocation



Keeping the business running

Adding new products, product functionality or new features

New technology that will radically change business process

An interesting observation that the survey results revealed was around IT spend allocation. Most banks stated that they will allocate most of the budget for day-to-day operations. ***Fifty-two percent of the respondents felt that investments in technology will be primarily around regular maintenance and improvements in infrastructure.*** This finding is in line with a global PwC report, IT spending in banking: A global perspective which states that in 2013, of the total investment in IT, around 77.1% was allotted to maintenance. It also said that the IT spend in the Asia-Pacific region will grow by 5.8% in 2014 to reach 66.5 billion USD.

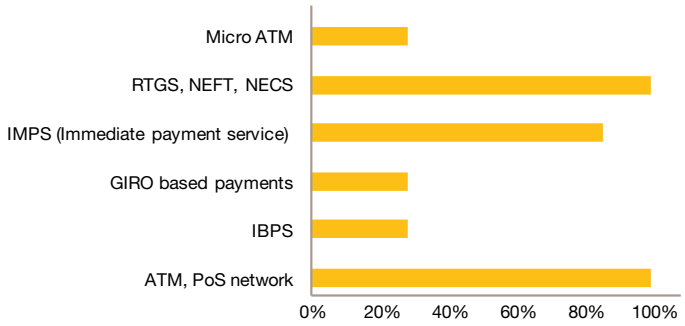
Several banks in India execute their daily transactions with obsolete and run-down technology architecture. There needs to be a considerable amount of investment in these systems and processes to improve the robustness of the technology platform.

Our survey shows that merely 16% of the banks were actually allocating funds towards new technology and systems which will pave the way for innovation. Some of this hesitation may be attributed to the uncertainty in the economic environment and also the fact that most of the investments are spent on maintenance which does not leave enough funds to direct towards fresh ideas. However some said that they were trying to re-organise their operations budgets so as to release more funds for new technologies.

Maturity of payment platforms and transactional banking

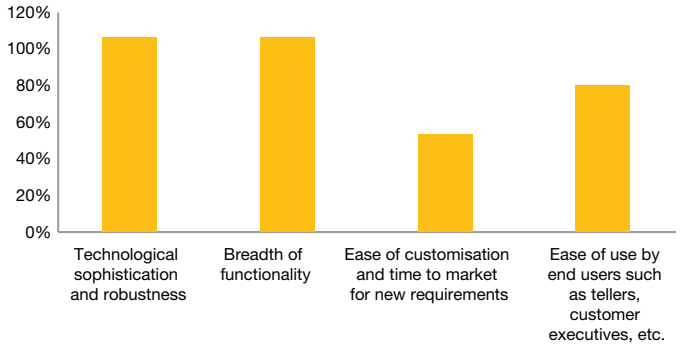
Out of all the payment platforms in use, ATM and real-time gross settlement (RTGS), nation electronic fund transfer (NEFT), national electronic clearing service (NECS) were found to be the most popular among the banking fraternity, with all the banks using these in great measure. The other platforms although in use by most banks, have been growing at a gradual pace.

Use of payment platforms



Most of the banks ranked high on technological sophistication and breadth of functionality. An expected outcome was the banks' ranking ease of customisation and time to market for new requirements the lowest.

Transactional banking system: Level of maturity

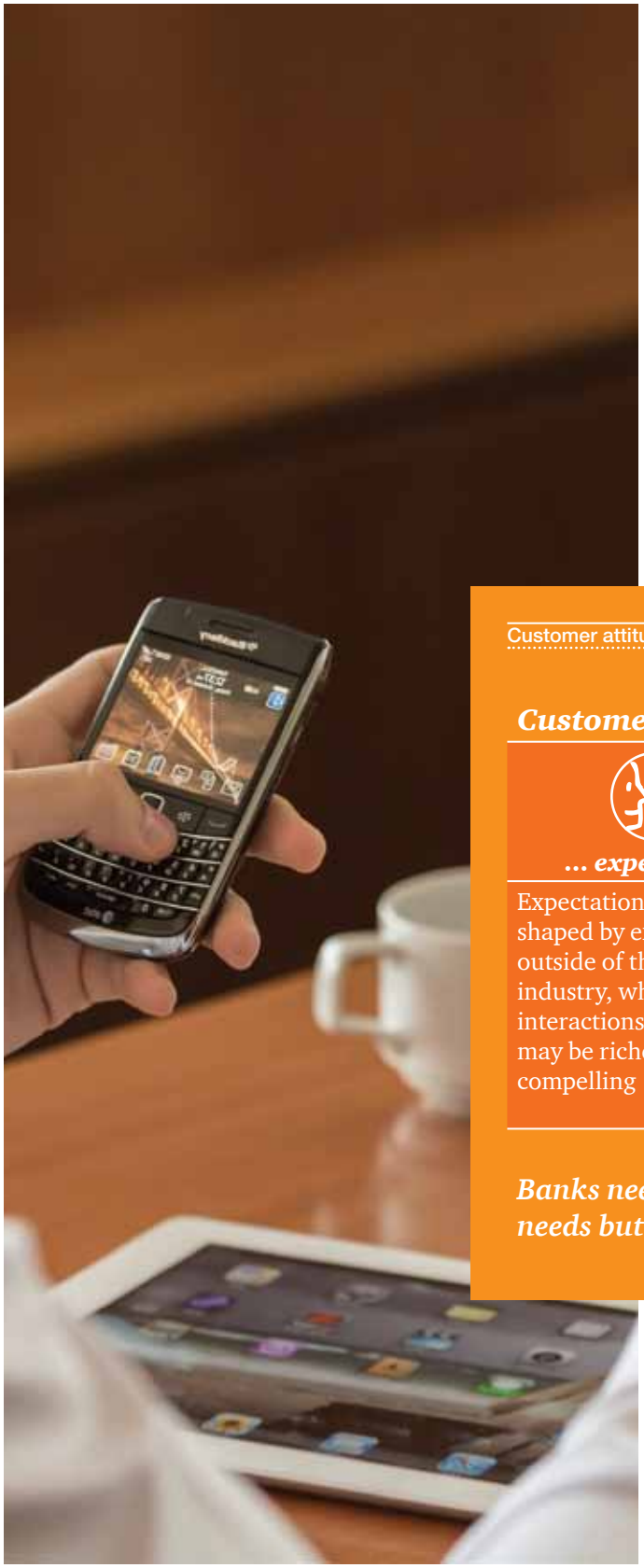


With the regulatory environment evolving at a fast clip, there is a short while for banks to respond to these changing market conditions and deploy adequate solutions. This needs to serve as an indication to product vendors to design more agile and versatile product modules capable of reducing the time to market for changing requirements.

In the prevailing circumstances, banks will have to go a step ahead of core banking solutions in order to stay ahead of the game. They need to realise that innovation is the key to unlock value in products, services and delivery channels. Using analytics and tools such as CRM will drive huge value in the banking sector, enabling banks to connect and engage with their customers more closely.

Most of the banks do not have any plans of revamping their transactional banking systems in the near future. Seventy-five per cent of the respondents said that they had no plans of overhauling their core banking systems. Only 13% of the respondents said that they will most likely start their revamp process sometime around 2014 or 2015.

Customer-centric banking technology



The banking industry is focussed on meeting the financial needs of the economy while delivering an enhanced consumer experience. With extensive levels of competition, it is customer centricity which is evolving to be a differentiating factor for banks. Technology is being deployed to aid and assist banks in providing the tools they can manoeuvre and combine with channels to reach out to customers and create a strong, sustainable client base. Platforms such as mobile and social media are being explored by banks to deliver value and build a long-lasting relationship with existing consumers while attracting new ones.

Financial services customers seek financial institutions to deliver a new level of service that includes bundled products, services and advice, institutions that build relationships instead of plainly pushing products, greater customisation and preference recognition, 24*7 cross-channel capabilities and consistent interaction.

Customer attitudes and expectations are changing...

Customers

... expect more	*... trust their peers*	*... are informed*
Expectations are being shaped by experiences outside of their own industry, where content, interactions and features may be richer and more compelling	Stickiness has been replaced by peer conversations and other social media interactions; those who fail to participate risk being sidelined	Easy access to research and peer performance data can mislead and enable comparison to your competitors; transparency and authenticity are required

Banks need to understand not just their customers' needs but also the underlying desired outcomes.

Financial institutions need to build an IT operating model and deliver technology solutions that enable customer centricity. Best practices adopted across industry to incorporate this vision include the following:

- Aligning IT and the business while funding horizontal, customer-centric capabilities rather than focussing on siloed business unit investments
- Expediting management decision cycles to respond to customer needs in a timely manner
- Developing a single view of the customer based on a centralised information repository and flexible technical architecture
- Linking IT 'people' strategies to the institution's overall business strategies

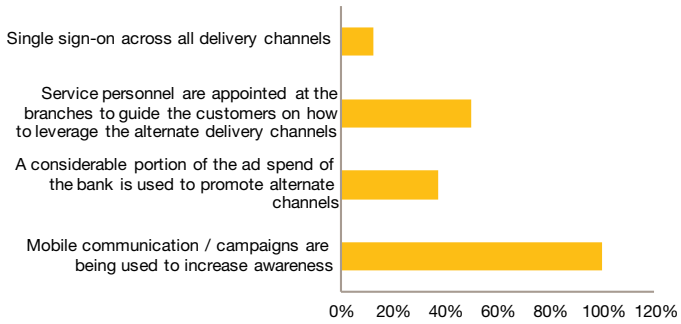
The digital platform can go a long way in achieving the goals of financial inclusion by using technology solutions to reach the rural population.

Customer awareness

Since there are so many alternate channels of delivery, it is the bank's responsibility to make the customer aware of these various channels and encourage their adoption.

Fifty-seven per cent of the respondents said that they were aware of various alternate delivery channels to reach customers. Out of all the channels, ATM was found to be the most popular, followed by internet banking. Although we are in the midst of a mobile revolution, the usage of mobile banking is seen to have a low penetration rate.

Initiatives undertaken for customer awareness



... have choices	... have a voice
Undifferentiated products and services, lack of loyalty, easy access to alternatives and low barriers to defection mandate extra effort to retain your customers	Vehicles for communicating experiences – both good and bad – are ubiquitous and free, and your customers are not shy about voicing them – Twitter, Facebook etc

Traditionally, customers have always preferred to go to the bank to purchase any product or avail a particular banking service. They will usually choose to meet a banking personnel or an investment expert to undertake key financial decisions. However, things are changing with the Gen Y being online savvy and prepared to invest time in researching online, sifting through information and taking an informed decision based on multiple data points available on the social media networks, websites, etc. They do not necessarily vie to visit the bank for any transaction or purchase. The mobile revolution has been largely responsible in changing mindset and encouraging customers to use alternate channels of banking other than the branch. ***The mobile channel is used heavily to communicate with customers and pass on information regarding new products, services, campaigns, etc.***

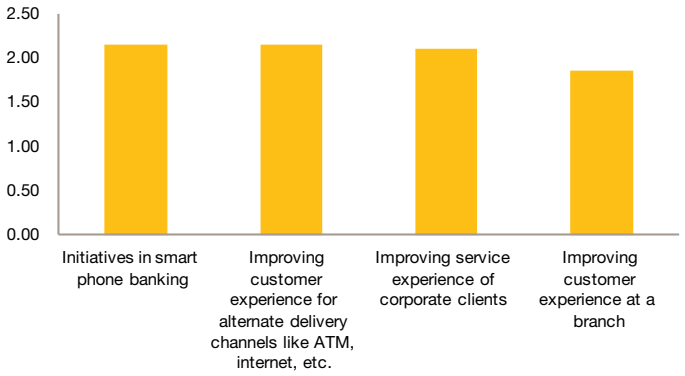
The alternate delivery channels maintain a perfect balance of customer convenience with low operational cost and profitability for the bank.

All respondents agreed that mobile communication was used the maximum to increase awareness. Fifty per cent of the respondents said that service personnel were appointed at branches to guide customers on how to leverage alternate channels.

Growth in delivery channels

The growth of technology at such an accelerated pace is broadening the eco-system for delivery channels, suggesting that technology spend needs to be undertaken judiciously for each avenue. Banks are keen to ride on the mobile wave and invest in increased measures towards smartphone banking. Most of the surveyed banks offer mobile banking apps on the iOS and Android platforms. With time, mobile banking has moved up the maturity curve to offer unique services and offerings. Smartphone banking enables customers to carry out transactions on the go, make payments, check balances and acquire latest updates from banks.

Initiatives supported by technology



Improving customer experience for alternate delivery channels like ATM and internet scored the highest in our survey, followed closely by initiatives in smart phone banking.

Some banks have managed to create a differentiated service offering by launching tablets or handheld device based banking applications to improve the customer experience and enhance service quality. Such banking facilities typically lends the customer the option to open an account from any place. Tab banking enables the bank executive to do the customer KYC immediately and open an account in a day's time.

Although providing an enhanced customer experience is a key focus area for banks, there are challenges which remain to be dealt with:

- Lack of consistent, yet personalised services across multiple channels
- Lack of smart customer-segmentation to increase the cross-selling and up-selling abilities
- Inability to increase the wallet share of existing customers
- Optimising the initial stages of customer interaction
- Lack of a robust mechanism for customer grievance and query resolution
- Inadequate training to staff on how to provide a rich holistic experience
- Low focus on providing the service experience to smaller retail clients

The mobile platform

While mobile operators, financial services firms, and retailers have been evaluating the feasibility of mobile payments since early 2000, recent developments on both the supply and demand sides are prompting key players in the value chain to seriously examine the potential. The mobile is bringing changes to commerce that will inevitably impact the transaction path as we know it today; creating both opportunities and threats.

The ubiquity of mobile payments is becoming a reality and is threatening the financial institutions' control of payments. Financial institutions need to recognise opportunities and threats to craft strategies that will defend and grow their current value streams.

For financial institutions to succeed, there are organisational changes that will be required to deliver the right operating model. This will enable them to play new roles and deliver new services in an open, collaborative and fast-paced ecosystem.

Micro ATM: A doorstep banking system to promote financial inclusion

By combining a low-power bluetooth thermal printer with an inexpensive mobile communication device, a team at Yes Bank has created a full-blown yet portable ATM that provides the convenience of 'doorstep banking' to the rural. The concept of micro-ATMs is finding widespread acceptance as an alternative to conventional ATMs and a viable method for reaching out to the unbanked.

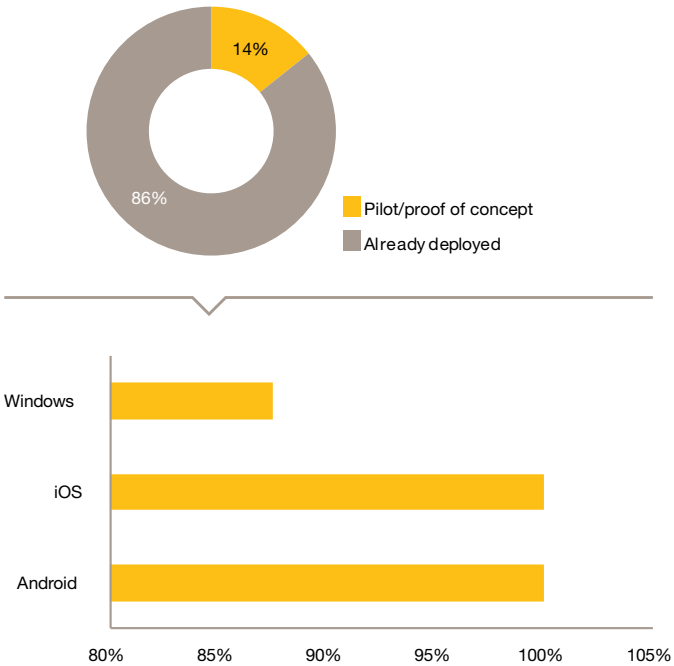
Mobile money for financial inclusion: M-Pesa

In Kenya, mobile remittances have surged in popularity with low-fee services like M-Pesa. Launched by the cell phone service providers Safaricom and Vodacom, M-Pesa operates independently from the banking system and allows users to pay bills and transfer money in an easy manner. Small retail partners, such as coffee shops and grocery stores, serve as cash points for deposits and withdrawals.

Wildly successful, M-Pesa has attracted 14.9 million subscribers since its launch in 2007 which is almost 70% of the country's adult population.

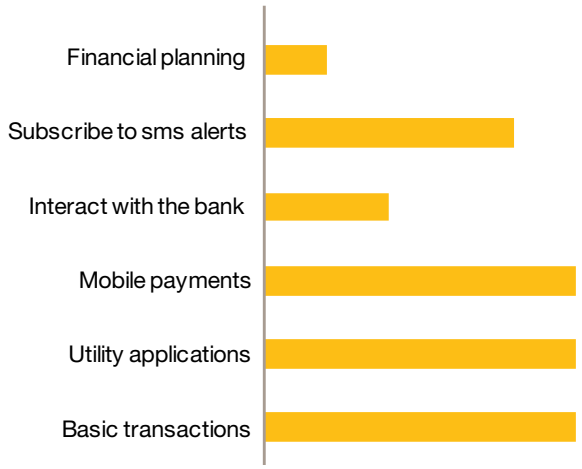
A large majority of banks, around 86%, said that they had already deployed mobile banking. Only 14% said that they were still in the initial stages of the launch.

Adoption stage of mobile technology



Mobile telephony has become ubiquitous, with a penetration of around three quarters of the population of the country#. It is a well acknowledged fact that the mobile platform is being used to a large extent by customers. All banks agreed that the maximum usage of this channel was to view account details such as account balance, mini statement, cheque status, etc. This is followed by other transactions such as money transfers, utility payments, mobile payments, etc.

Usage trend of services offered by the mobile platform



#Source: 'Maximising mobile' World bank report 2012

Currently, around 78 banks in India offer mobile banking services*. The use of smartphones and tablets has also helped increase the traffic on mobile banking transactions. However, there still remains scope for growth.

Some challenges associated with the adoption of mobile technology are lack of awareness and change in mindset, inability to sync the mobile number with the account number, features of the handset and inconsistent revenue-sharing models.

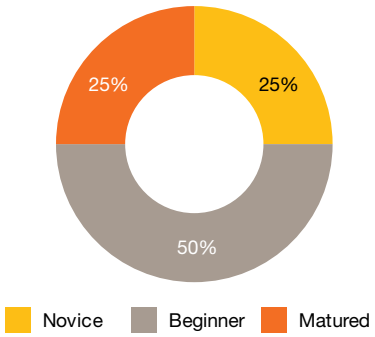
Social media

The digital space is an acknowledged doubleedged sword and is fast disappearing as an option, coming forth, renewed as a necessity. The 19 billion USD valued acquisition of the messaging app, 'Whatsapp' is a case in point of how important the smartphone space is. Medium sized entrepreneurs, for instance heavily depend on the synergies of Facebook and Whatsapp to reach new customers and then serve them. This is a revolution and since the virtual space is limitless the opportunities are beyond ones comprehension.

From a banking perspective, this space hence goes beyond gauging the needs of individuals. Delving deeper into the demographics, banks can separate the grain from the chaff and provide customised products to such SMEs and independent entrepreneurs. In a consolidated business environment, such new avenues need to identified and mined, consequently balance poor asset quality.

Customer confidence is crucial to a stable banking system. Hence a bank needs to ensure a through damage control process in place to tackle any eventuality which is likely to go viral on the social space. Such eventualities need a strong virtual presence which can respond to 'reputation disasters' in the most optimal way possible. Harnessing the potential of social media is still a relatively new concept with many banks still trying to grasp the nuances to understand value which can be driven through this platform.

Social media: Stage of growth



Most banks that have deployed social media categorised themselves as beginners. Fifty per cent of the respondents assessed themselves at a beginner level, while only 25% felt that they had reached a level of maturity on the social media curve.

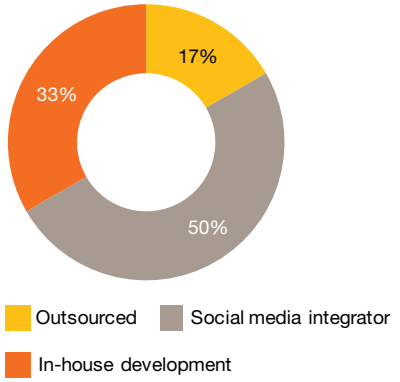
*Source: RBI, Financial stability report

As compared to public sector banks, private sector and foreign banks have adopted social media more openly and integrated it as a part of their strategy. It is regarded not only as a means to reach out to customers, but also to engage with them on a continual basis by providing the latest updates, offers, campaigns, facilitate transactions such as booking movie tickets, fund transfers, addressing grievances, etc. The social media gambit is targeted towards the youth who are found to be spending a large amount of time online. Consequently, banks find it a great way to increase their visibility.

There is a lot of opportunity in the social media universe to target customers, garner their interest and cater to their specific requirements. It will be interesting to see how banks use creative strategies to tap this channel and use it to expand their business.

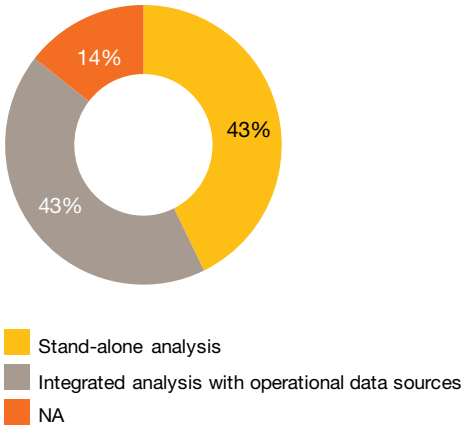
Considering the huge volume of data that is actually available across these sites, there is a need to segregate and filter it all to gain an insight into customer behaviour trends and preferences. ***Fifty per cent of the respondents said that they were using social media aggregators to help interpret this unstructured data.***

Analysis of the social data



In-house development is bound to be more time-consuming and incur additional cost, which is why only 33% of the respondents said that they aggregate and analyse the data from social media on their own.

Leveraging social media data



Forty three per cent of the respondents said that they were doing an integrated analysis with operational data sources, while another 43% said that they were doing a stand-alone analysis.

For CIOs today, it has become critical to have effective analytics tools and technologies in place, stemming from data mining and predictive analytics. This plethora of data or information which is freely available when translated to meaningful insights using analytics holds the key to drive higher levels of efficiency and profits for the bank. To analyse real-time data quickly will achieve optimum efficiency for the bank.

Sixty-three per cent of the respondents confirmed that their bank used the social media campaigns quite frequently to get new leads.

This implies that social media has the power to garner new business and attract new customers. As a first step, the bank could address customer queries; listen to what the customer actually wants and provide a relevant solution to the customer with the bank's product or service. This platform is a useful way to form a good rapport with customers and build the trust factor. Another component which the banks need to consider is their content across these platforms needs to attract enough attention to get adequate visibility and create brand value.

Social media strategies need to be developed in a way that it can be easily integrated into the service delivery channel and will eventually lead to strengthening the quality of service or product. Currently, the industry is in a state of experimenting and learning through new experiences by tapping into the various pools that these platforms offer. It will be interesting to witness each individual player use this medium to its advantage.

Banks leverage on their online presence extensively to build brand equity.

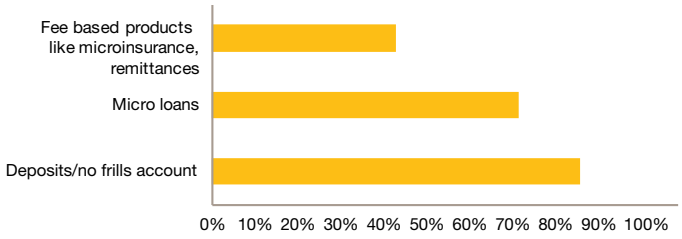
Banks are seen experimenting with various social media channels to build their brand equity, gauge which stream will actually yield more visibility and help promote the organisations' image. Another medium which is extensively used by the banks is the website, where banks provide substantial information on products, services, special offers, attractive schemes, etc in the hope to cater to the all the queries which a customer browsing the bank's site may have. The survey showed that blogs however have been slow to catch on and garner as much interest.

Although social media strategies are being aggressively pursued by the banking fraternity, the survey indicated that these technologies were not being used and leveraged by the bank employees internally. Only 29% of the respondents said that they deployed social media network technologies within bank employees.

Financial inclusion: Bridging the gap

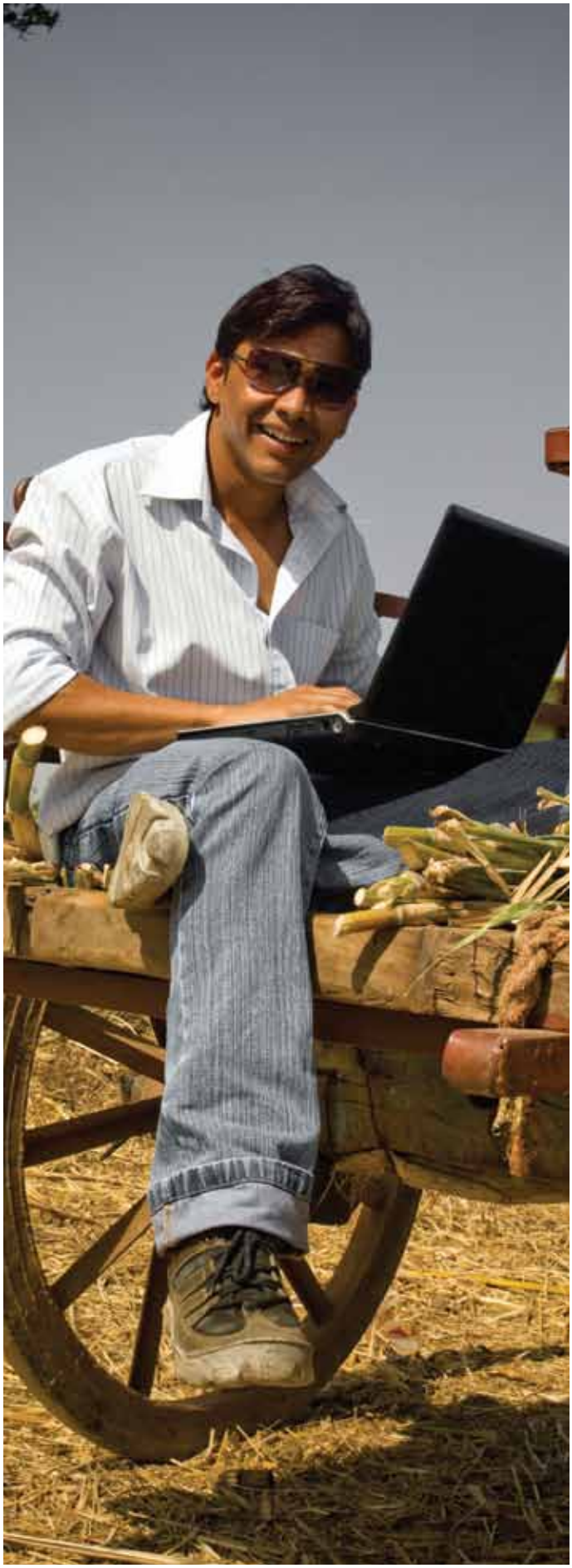
Financial inclusion is a focus area for all banks in India, striving to reach the unbanked population and provide them with a basic bank account. Driven by a regulatory mandate, banks are leveraging all channels and partnerships available to piggyback on the existing infrastructure in the rural belt. Banks are not just looking at opening branches and increasing accessibility through a brick-and-mortar business model. Multiple options such as tying up with self-help groups, micro-finance institutions, the hub-and-spoke model, tie-ups with telecom vendors for better penetration, concept of the 'branch on wheels', etc are being actively explored by banks.

Financial inclusion: Products on offer



Most of our respondents said that deposit accounts or no-frills accounts were being rolled out to these customers. Seventy-one percent of the banks said that they offered products such as micro-loans and 43% of the banks said that they offered fee-based products such as micro-insurance and remittances.

Banks need to realise that products rolled out to the rural population need to be tailored to suit their wants and be flexible enough to allow for quick withdrawals, deposit of small savings, etc. Furthermore, there is a need for simplicity in products so that it is easy for these customers to understand and invest. The products being offered to the urban areas cannot be sold to this belt of the population.



Navigating risk and regulatory complexity

The current environment is that of uncertainty and continuously changing regulations and compliance requirements. Stemming from global regulations, the Indian banking sector is also subject to frequent modifications in risk and regulatory requirements, tilting towards increased compliance and risk assessment. In fact, the industry is now under constant pressure to meet the governance procedures and risk requirements. Regulations change so frequently that it is difficult to adapt to them swiftly and put the required practices in place. A few regulations such as Foreign Account Tax Compliance Act (FATCA) and anti money laundering (AML), are currently doing the rounds and it is essential for banks to understand the implications on their operations and take the necessary measures to mitigate risk.

It is thus evident that banks will heavily depend upon technology to ease complexities in compliance procedures, help cull out data from the bank systems and assess and monitor risk effectively. Banks which do not use technological assistance are likely to find themselves surrounded by numerous procedures and complicated requirements which need to be met in an interconnected financial world.

The system, process, people readiness in the bank is key to meet the ever-changing compliance requirement of local regulations as well as global regulations.

While most banks have reached a level of maturity in terms of data availability and reliability, the information requirements, both regulatory and management, continue to be archaic and reporting-driven to a large extent, across banks in different segments. Information is present in silos, and there is a lack of agility caused by low levels of automation and integration across systems. Additionally, due to the multiple source systems and lack of initial planned investments, banks continue to struggle with information on single customer-view or entire banks or departments-view on-the-fly.

The RBI mandate on non-performing assets automation and to achieve a common end-state of automated data flow from banks to the RBI has increased focus on consistent, correct, transparent reporting without manual intervention by the banks.

Moreover, the information sought by the RBI on ad hoc basis is increasing along with the range of diverse and wholesome information that is sought. For instance, the risk based supervision framework of the RBI requires information on the credit and investment portfolio, internal processes framework and policies including internal and external frauds, compliance reporting, directional information on various risks, bank profiles including balance sheet and profit and loss information, supplemented by a bunch of annexure.

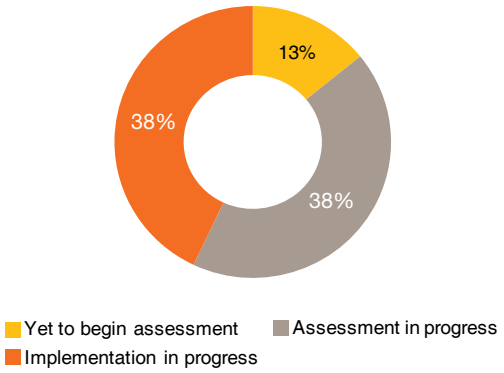
These frameworks will fundamentally require transforming business models of many banks. It will lead banks to re-think their IT spend on core transactional systems, data warehouse and reporting engines. It will also require effective integration of technology into all systems and processes, with re-engineering of some processes rather than automating broken processes.

The existing information landscape for the banks is undergoing a revamp and gearing up for addressing both regulatory and competitive pressures; therein also lie the hidden benefit of increased efficiency and productivity in the long-term.

Risk-based supervision (RBS)

Indian banks have been advised by the regulator to move to the RBS model from the CAMELS (capital adequacy, asset quality, management, earnings, liquidity and sensitivity to financial risks) framework, which was more of a transaction based testing approach.

Current state of RBS



Most of our respondents said that they were well aware of the RBS framework mandated by the RBI and were currently in the stage of implementation or assessment. Around 38% of the respondents said that either they were in a stage of assessment or in a stage of implementation. Only 13% of the bank respondents said that they were yet to begin assessment.

The banks said that they are assessing and evaluating gaps which exist in their system and the roadblocks that they need to deal with before they shift to the RBS framework. Majority of the banking staff are still trying to understand the implications of migration and enhancing their skills on the subject.

Aligned to global best practices, the RBS framework enables risk assessment on a real-time basis. It ensures continuous monitoring of risk by putting in place the essential checks and balances in the system. The whole idea is to move towards uniformity in reporting rather than have each bank adopt and follow its own reporting model.

The RBS model is believed to have an impact across the banking spectrum, be it strategic operations, finance, capital management, risk and regulatory compliance, internal audit, IT infrastructure and network security.

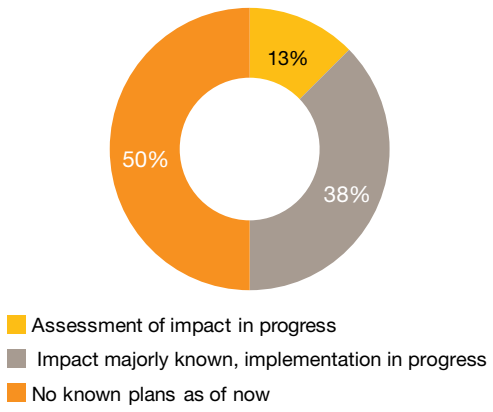
Some of the banks which were in a stage of implementation commented on the gaps which were existing in terms of data availability, risk management procedures, governance, skill sets of staff, lack of training on the subject, etc.

FATCA implementation

The purpose of FATCA is to detect, deter and discourage offshore tax evasion by US citizens or residents. The intent is to create greater transparency by strengthening information reporting and compliance with respect to US accounts. In case of non-compliance with FATCA, there will be a 30% withholding tax on 'with-holdable' and 'foreign pass-through' payments made to non-compliant parties.

FATCA is not just about tax compliance, it will impact all dimensions of the banking business ranging from operations, technology, governance, reporting, KYC customers, etc. Banks need to start thinking about being FATCA compliant and understand the criticality of the impact that it will have on their processes and transactions.

FATCA implementation



The US FATCA regulation is currently a sleeping volcano which will erupt at any given moment. Banks need to start gearing up and prepare themselves to deal with strong repercussions if they are not FATCA compliant in due course of time. A majority of the respondent banks revealed that they had no immediate plans for a FATCA assessment and will act only once a mandate is in place. Only a minority of the respondents said that assessment of impact was in progress, while about a third of the respondents commented that implementation was in progress.

Most of the banks also said that the FATCA initiative was led by their global counterpart, which could be another reason why they were not up to speed with what was happening on this front.

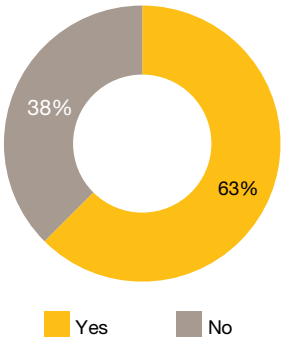
The India update on FATCA

- A draft inter-government agreement (IGA 1A) for FATCA application to India is currently under consideration and discussion with the Internal Revenue Services (IRS).
- The Finance Ministry has already incorporated views from the RBI, SEBI and other key stakeholders on the proposed IGA.

Other regulatory initiatives

The automated data flow (ADF) process has been ongoing, with most of the banks having embraced this initiative.

ADF compliance



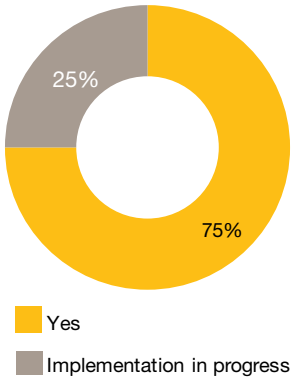
The ADF mandate by the RBI was initiated to strengthen the regulatory reporting model. The mandate was to complete automation of data flow from bank to the RBI in a way to enhance data accuracy and reliability. The data from multiple sources and systems will be stored in a central repository in a structured and organised manner. The bank will then generate a report and submit it to the regulator based on this data collected.

The ADF initiative ensures a seamless flow of data from the bank to the regulator at periodic intervals, with improved data quality and accuracy, thus enabling the regulator to flag a concern or area of risk immediately. Transparency in the reporting system is the underlying thought in this key initiative to undertake better decision-making and regulatory compliance.

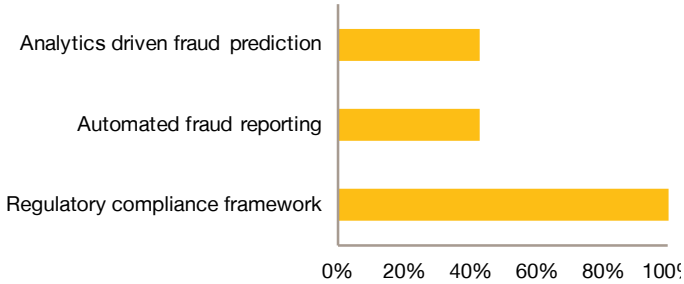
Sixty-three per cent of the respondents said that their bank was fully compliant with the ADF requirement and had their implementation plans in place.

The banking industry is struggling to deal with the nuances of low asset quality and the steady rise in NPAs. Banks are increasing their provision for NPAs and also undertaking the exercise of restructuring loans in order to deal with low asset quality. A low NPA is actually an indicator of a strong balance sheet and banks need to strive to keep this at a minimum.

NPA automation



Measures against fraud



Technology, through 'predictive analysis' is used to assess the credit quality of customers based on their behavioural patterns, past history, demographic parameters. Scores based on this kind of assessment guides the bank on whether a particular asset is to be sold to the customer. The NPA data collated by systems is then reported to the regulator as part of the regulatory requirement.

Banks have faced some operational challenges in their NPA automation process. There is a problem of multiple sources and the same customer may have purchased several products from the bank, so obtaining such data points in a single view and performing an NPA calculation poses to be a challenge. Data integration for a single customer is required to monitor loan repayment. Default in the case of one asset class may have an impact on other products purchased by that customer. NPA automation also implies that its calculation is automated and is equipped to handle large volumes of data and various products simultaneously. Automation will lead to accuracy in estimation of NPAs and provisioning thereby. It can also provide key insights towards asset quality management for initiating some best practices in the future.

Largely, 75% of the respondents said that they had the NPA automation implementation in progress.

The Indian banking fraternity seems to be well-prepared and equipped to deal with fraudulent cases, taking suitable measures and initiatives to secure themselves from risk. All the respondents said that they had a strong and resilient regulatory compliance framework and majority of the respondents confirmed that they had in place an analytics driven fraud prediction and automated fraud reporting system.

Dedicated forensic technology systems and processes have gone a long way in driving intelligence around gathering data and further investigation. Technology has helped to immediately raise an alarm bell with fraud detection in a proactive way and determining the weak links in the risk management framework. Intelligent analytics tools play a huge role in picking up subtle signals of fraudulent transactions before they have a chance to turn into a huge incident.

Challenges that banks face pertaining to fraud detection are related to huge volumes of data aggregation and integration to cull out the relevant data. The survey pleasantly surprises us by indicating that most banks considered their systems and processes to be superior by way of technology to tackle risk.

Sixty-three per cent of the respondents ranked their bank as '4' on their technology preparedness to tackle risk and compliance requirements, which implies that most of their checks and balances are in place. A small number of 13% said that they were not very technologically savvy and prepared to tackle risk.

Achieving business growth through enhanced insights

Business growth can be accelerated by unlocking the value that business intelligence or analytics can provide to the management. The whole universe of retail banks deals with huge volumes of data and it is very critical for them to sensibly utilise this information and drive home some key insights for the management to engage in effective decision-making.

Data mining, tracking customer behaviour and monitoring regulatory compliance are some of the things which analytics can facilitate on a real-time basis. Banks can harness analytics to reduce time, save cost, improve efficiency, all the while strengthening the risk and regulatory framework.

Analytics can also be leveraged to predict outcomes and assess business environment in a market where decision cycles are turning short with a quick response to market trends. It can be spread across the spectrum of the banking domain with customer insights, financial insights, marketing analytics, risk analytics, spend analytics and distribution analytics.

The digital era in this century is pushing the envelope for financial institutions on many fronts; including customer data, capacity, risk measure, market expectations and operational efficiencies. As we see it, the exponential advancement of social media, mobile, and cloud in today's world, combined with relentlessly escalating regulatory pressure around the globe, is in turn pressing financial institutions to rethink the way they do business. Before they can succeed in gaining a competitive edge in today's dynamic, digital and global marketplace, institutions need to evolve into data-centric organisations.

Thus investments on data availability, data cleansing, quality and data analytics now are likely to give exponential benefits in the future for organisations, and will serve as a key differentiator in fierce competition.

Using analytics to get the right information, to identify the right markets and customers at the right time enables institutions to make the right strategic decisions; this is the key to modern-day success. We see institutions seeking new ways to leverage technology and analytics for customer acquisition or segmentation and marketing, cross-sell opportunities, risk monitoring, predictive analysis and forecasting and incident-alert generations.

There has been increased focus on CRM in banks than ever before. CRM enables banks to provide differentiating experiences for customers based on their demographics, income group and transactional behaviour.

The analytical and transactional system enables banks to sell, offer complete services and market other products as well.

However to draw increased revenues from the customers, it is necessary that banks utilise available customer information across multiple digital channels to sell product suites across segments. The bank's CRM architecture needs to be aligned such that customer information and feedback helps them improve business processes and drive efficiency.

Data analytics

With the rise of digital and social media, the traditional data management practices such as data warehousing, business intelligence and master data management have failed to handle the traditional 3V's (volume, velocity and variety) of data. Thus banks are increasingly looking to leverage on big data to generate meaningful insights in real-time, tap the available opportunity leading to faster growth.

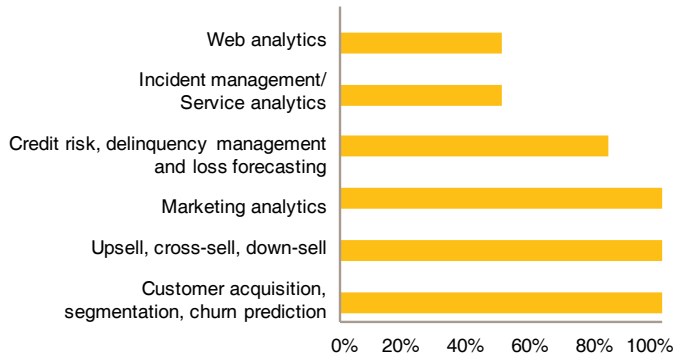
The big data market stood at 5.1 billion USD in 2012 however is expected to grow multi-fold to 32.1 billion USD by 2015-and further to 53.4billion USD by 2017*.

Majority of the banks have started using analytics solutions to extract data and put it to operational use.

Quite a few of the respondents said that they had plans to use analytics solutions within the next six months to one year. Fifty per cent of the banks were already using some kind of analytics solution to help them arrive at key business decisions, while 25% said that they were planning to invest within six months to a year. Some of the products which are popularly being used by banks are SAS, IBM SPSS modeller, UNICA.

Analytics although useful across all functions of banking, seem to be particularly popular in some of the areas, namely credit risk, marketing analytics, up-sell, cross-sell and down-sell and customer acquisition, segmentation and churn prediction.

Areas of analytics

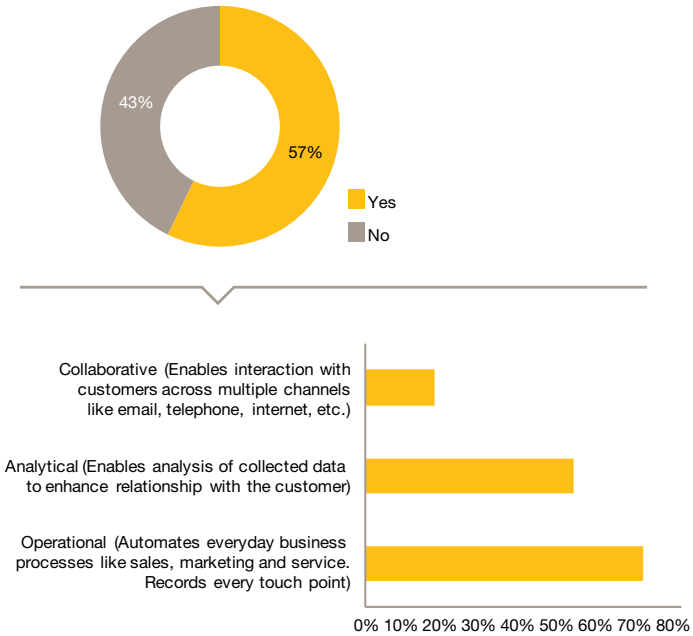


Customer analytics can be used in banks to help increase wallet share. Identifying cross-sell opportunities, creating customised products, establishing a better pricing structure are all steps towards sophisticated customer insights. Customer behaviour analytics helps identify trends, segment customers into target groups and create tailor made products and services. Huge data volumes is culled out of multiple data sources like savings deposits, credit card, various social media sites, etc and converted into meaningful takeaways.

Sixty-seven per cent of the respondents also agreed to having measured the ROI of their analytics initiatives, which will quite obviously be an important measure of the cost-benefit analysis of having analytics solutions in the first place.

CRM solutions have gained tremendous importance in today's times, with the banking business being totally customer-centric.

CRM solution



** Source: Kyle Alspach, 'Big data' center hack/reduce getting big buzz," November 8, 2012, www.factiva.com, accessed February 5, 2013*

Today's customer interaction with the bank has multiple facets and touch points. He may be purchasing a number of products from the bank and availing services at different windows. In such cases, it is important for banks to get a single unified view of the customer. The data needs to be well-structured and synchronised for the bank to extract any actionable insight.

Obtaining a 360-degree view of the customer helps banks serve him or her better, with an enhanced customer experience; increases channel collaboration, reduce cost of operations, increase efficiency with automation and strengthen the cross-sell framework. CRM solution also focuses on customer acquisition by targeting the relevant product to the identified customer segment. A focussed approach in selling will thus encourage more leads to get converted into business.

Fifty-seven per cent of the respondents said that they had put a CRM solution in place to extract maximum benefits.

Some of the popular tools in demand are UNICA, Siebel on demand, Talisma. Some banks have their own in-house developed CRM tool.

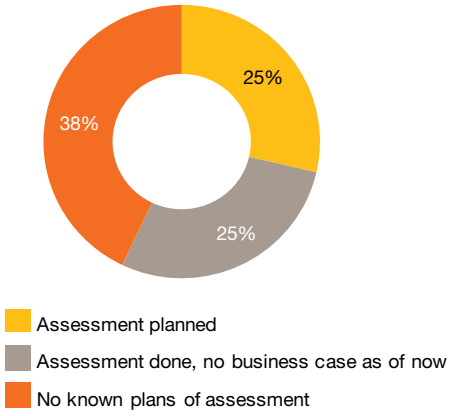
Most respondents said that they used operational and analytical tools in greater measure as compared to collaborative tools.

Big data

Internet companies were pioneers in the use of big data, applying it to reshape their business models, and in many cases, to upend the competitive landscape of entire industries. Today, companies in a broad range of industries are applying Big data to generate better business results.

Big data has huge potential to drive analytics and result in increased revenue generation. However, banks in India are still making an effort to understand the trends around big data and how it can be leveraged in the bank to bring about increased value. Today there is a huge volume of unstructured data which is available from multiple sources and systems and it will be interesting to see how this is sifted through and translated into growth.

Big data usage



Quite a large number of respondents, 38% said that there were no known plans of using big data to drive business insights and analytics. Twenty-five per cent said that they had done some kind of assessment or were planning some kind of an assessment. Only 13% said that they had actually undertaken assessment and implementation process was underway.

Enabling cross-domain analytics through big data analytics

A global investment bank migrated its middle and back- office operations to a big data architecture solution. This enabled them to reduce application build time on system integration, enhancing cross product and cross function analytics and providing one view of operations across all functions.

It has been a common phenomenon to see various departments working in silos and not sharing and collaborating with each other for data. Analytics promises to break down these silos, help transform the traditional approach to data and information, develop a robust customer-centric model and facilitating a 360 degree view of the customer.

Some illustrations of how big data has helped banks globally:

- ***A leading global bank reduced loan default calculation time from a few days to a few hours across its portfolio of over 10 million mortgages, enabling the bank to identify high-risk accounts much more quickly and allowing risk forecasts to be more accurate and hedged as necessary.***
- ***Leveraging big data and related analytical techniques, an Asia Pacific bank analysed a portfolio of 30 million complex cash flow instruments across 50,000 different scenarios in less than eight hours.***

Organisations that delay starting the big data journey risk being leap-frogged by more data-savvy competitors.

Survey methodology and approach

The sample population:
While selecting banks for the survey, the following factors were considered:

- **Type of bank**
  1. Indian Public Sector
  2. Indian Private Sector
  3. Foreign Banks
  4. Co-operative Banks
- **Asset size of banks**
- **Deposit size of banks**

An initial cut-off was done to removed banks that had very low assets and deposit value from each of the bank types. In the next step of selection, the short-listed banks were divided into three further categories.

- High asset
- Medium asset
- Low asset

The aim of the final list was to have two banks from each type and from each asset class in the survey; a sample size of 24 which provides a good snapshot of the entire sector.However, in several cases, survey results were not obtained.

Survey confidentiality
The survey results are distributed on no-name basis. Each institution's individual opinion is strictly confidential and responses are presented in a way that will not allow identification of any specific institution.


MOBILE BANKING

Conclusion

The views expressed in the report are derived from secondary research and views expressed by the CIOs of banking institutions in India.

The analysis of the market survey further strengthens our viewpoint that even though the banking institutions in India have a long way to go on the technology curve, it is rapidly becoming a strategic enabler. The role of technology is no longer limited to supporting business albeit it is becoming a major driver for creating a sustainable differential advantage.

Increasing customer expectations owing to emergence of new information and service channels is driving a paradigm shift in the banking ecosystem. This in turn is driving the adoption of new innovative solutions in the industry at a rapid pace. Coupled with increased regulatory norms and mounting focus on fraud management, technology is now a key building block supporting the business processes at all stages of the customer life cycle.

However, most of the banks are running on architectures that are a conglomeration of archaic systems barely able to sustain the evolving needs. Therefore, the banks should strive to drive a new wave of technological innovation and aligning the technology components with changing ecosystem needs of the industry.

About CII

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

CII is a non-government, not-for-profit, industry-led and industry-managed organization, playing a proactive role in India's development process. Founded in 1895, India's premier business association has over 7100 members, from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 90,000 enterprises from around 257 national and regional sectoral industry bodies.

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

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

The CII Theme for 2013-14 is **Accelerating Economic Growth through Innovation, Transformation, Inclusion and Governance.** Towards this, CII advocacy will accord top priority to stepping up the growth trajectory of the nation, while retaining a strong focus on accountability, transparency and measurement in the corporate and social eco-system, building a knowledge economy, and broad-basing development to help deliver the fruits of progress to all.

With 63 offices, including 9 Centres of Excellence, in India, and 7 overseas offices in Australia, China, Egypt, France, Singapore, UK, and USA, as well as institutional partnerships with 224 counterpart organizations in 90 countries, CII serves as a reference point for Indian industry and the international business community.

Contacts

Confederation of Indian Industry (CII)
Western Region
105, Kakad Chambers
132 Dr Annie Besant Road, Worli
Mumbai-400 018, Maharashtra

Phone: +91- 22-2493 1790
Fax: +91-22-2493 9463/ 2494 5831
Email: ciiwr@cii.in
Website: www.cii.in

About PwC

PwC helps organisations and individuals create the value they're looking for. We're a network of firms in 157 countries with more than 184,000 people who are committed to delivering quality in Assurance, Tax and Advisory services. Tell us what matters to you and find out more by visiting us at www.pwc.com.

In India, PwC has offices in these cities: Ahmedabad, Bangalore, Chennai, Delhi NCR, Hyderabad, Kolkata, Mumbai and Pune. For more information about PwC India's service offerings, visit www.pwc.in

PwC refers to the PwC network and / or one or more of its member firms, each of which is a separate legal entity. Please see www.pwc.com/structure for further details.

You can connect with us on:

facebook.com/PwCIndia

twitter.com/PwC_IN

linkedin.com/company/pwc-india

youtube.com/pwc

Contacts

Debdas Sen
Leader, Technology Consulting
Tel: + 91-33-4404 6404
Mobile: + 91 983 013 9584
debdas.sen@in.pwc.com

Manoj K Kashyap
Leader, Financial Services
Tel: +91-22-6669 1888
Mobile: + 91 976 982 9936
Email: manoj.k.kashyap@in.pwc.com

Vivek Belgavi
Leader, FS Technology Consulting
Tel: + 91-22-6669 1754
Mobile: + 91 982 028 0199
vivek.belgavi@in.pwc.com

pwc.in

NJ 166 - Feb 2013 Banking Tech.indd
Designed by Brand and Communication, India