



# Emerging Trends in IT

From Business Enabler to Business Driver  
August 2007

KPMG IN INDIA

## Foreword



Pradeep Udhas  
Head - Markets  
KPMG in India



Sanjay Aggarwal  
National Industry Director  
Financial Services  
KPMG in India

We at KPMG are delighted to be associated as Knowledge Partners in the Banking Technology Conclave 2007 Conducted by The Economic Times in Mumbai on August 21, 2007.

The banking sector presently is at an inflexion point, technology has swiftly become a business driver rather than a business enabler. This growth spurt and heightened activity has ushered in its own spectrum of challenges for the banking sector. There is heightened competition in this sector because of the attractive opportunity it offers and this has resulted in the entry of many new banks and financial services companies. Banks must therefore offer new and innovative products to retain their competitive edge. Further, there is a large section of the populace, close to about 800 million Indians, who are the 'unbanked population', besides the large number of 'under-banked' customers. Banks must reach out to them and cater to their specific needs. Also banks have increasingly realised that the only way to stay ahead of competition is to provide customers with a differentiated and convenient banking experience.

In recent times, Banking and Financial Services Companies are fast realising the importance of technology to effectively address these challenges. Technology is helping efficiently banks to offer new and innovative products, drive operational excellence, lower costs and manage compliance and risk management functions. The conclave tries to address the key trends in the banking sector and how technology is at the forefront in all the initiatives being addressed in this sector.

The conclave provides for the right kind of forum for industry leaders to share their rich insights and collective experiences as to how technology has basically re-shaped their organisations, has help build innovative product offerings around information technology and the key trends in this sector going forward and how technology is going to shape things to come in future.

To throw some light on the changing role of technology in the banking arena and highlight key trends and developments in this sector, we have collated some articles. We hope that the collaborative deliberations in the conclave coupled with this handout would provide an enriching and thought provoking experience to all the delegates.

  
Pradeep Udhas

  
Sanjay Aggarwal



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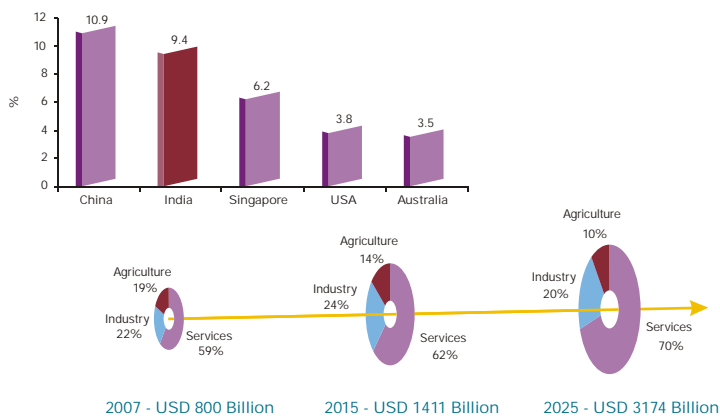
# Opportunity – Banking on 'IT'



## Preface

India is the world's second fastest-growing economy with a four year average of 8.6 percent (the fastest growth rate since independence). The past decade has witnessed fundamental changes in the Indian economy, government policy, outlook of business and industry and most importantly, in the Indian mindset.

### GDP Growth



Source: IMF World Economic Outlook, CIA World Handbook 2007, 'Dreaming with BRICS' – Paper no.99, Goldman Sachs, KPMG Analysis

The consumption-led boom in India has fuelled the robust demand for financial products in India. The attractive opportunities in this sector have augmented the entry of global majors in the burgeoning Indian economy. The aggressive plans of incumbents and increasing number of planned entrants is further expected to drive the growth of the economy.

Our analysis highlights that there are tremendous growth opportunities which focuses on rural/ semi urban areas and the entry of new players.

The increased focus on financial inclusion has also led to introduction of newer products such as 'no-frills banking accounts' and 'Kisan credit cards' to enhance the access to banking services for the rural and economically weaker sections of the population. Finance Minister in his budget for 2007-08 has announced the setting up of a fund called Financial Inclusion Technology Fund to meet cost of technology adoption, with a corpus of about \$ 125 million

Total disbursements in Indian consumer finance sector reached ~USD 51 billion in FY 2007, registering a robust CAGR of 29 percent between 2002 and 2007.

SME funding opportunity is estimated to be ~ USD 45 billion at present, excluding the benefits of cross-selling retail finance products.

Recent statistics show that globally, 15 to 22 percent of the overall non-interest expenditure of banks is on enhancing their Information Technology (IT).

Further under the Reserve Bank of India's (RBI) road map for the presence of foreign banks announced in February 2005, is expected to permit full fledged market access to global players post April 2009.

Meanwhile, Global players have been evaluating and pursuing the Non-Banking Finance Company (NBFC) route as a means to tap opportunities in consumer finance.

The sub-sectors that show tremendous opportunities for growth include Consumer finance, Small and Medium Enterprise (SME) finance, agriculture and rural finance and factoring. The consumer finance sector in India has witnessed rapid growth due to rising consumerism and an increasing focus on this sector by leading banks and NBFC. Banking penetration in rural India remains significantly lower than urban India, making rural India an attractive segment for players to gain an early mover advantage. There is also great potential for agri- financing in India, due to the increased focus on financial inclusion and the promotion of agriculture

The SME finance sector is witnessing strong growth due to the stellar performance of the buoyant SME sector and increasing focus from banks due to the higher profitability. The burgeoning SME sector has also led to an increased focus on factoring services for working capital management and other advisory services.

Most Banks and Financial Services companies are combating margin pressures by constantly innovating and targeting attractive consumer segments. This sector is not only expected to witness consolidation but a significant increase in the use of modern technology.

The increased penetration of technology is also bringing newer challenges and risks. In the age of 'Anytime - Anywhere' banking the risk emanating from use of technology can have grave consequences to the reputation and the operations of the bank.

It is therefore necessary for banks to adopt technology that makes them flexible, resilient and reduce time to value realisation.

## Technology – Managing the Inflexion Point

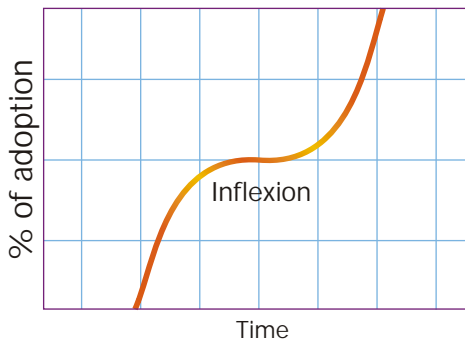


Fig.1: Pictorial representation of typical technology adoption rate

The inflexion point is a function of variables such as capital spends, operating expenditure, human capital, time and complexity

With the help of business-enabling technology, companies across the globe are adopting innovative methods to discover new opportunities, convert perceived gains and seal deals. These novel methods result in a triad of benefits – cost reduction, transaction efficiency, and automation.

Over the past five years, the Core Banking Solution and electronic channels have replaced traditional banking processes and given new meaning to transaction processing in banks. In developing countries such as the BRIC economies, i.e. Brazil, Russia, India and China, IT expenditure in the banking sector has been steadily increasing.

Nonetheless, the technology adoption rate is bound to plateau, due to the presumption that a saturation point has been reached due to a large quantum of automation technology being introduced into a semi-automated environment. This plateau is similar to an inflexion point. The inflexion point is a function of variables such as capital spends, operating expenditure, human capital, effort expended and complexity. At present, banks are trying to regulate investment in ventures which may be seen as capable of deriving benefits in the long term with a hallmark of technologies such as CRM, Web 2.0, and Service Oriented Architecture, etc.

Indian banks must continue to scale up their technology investments since their peers abroad are not slackening pace; a pace that has been set decades ago when the leading American and European financial institutions transitioned from branch-based banking to technology-centric collaborative techniques. These techniques not only provide better customer service but also increase the efficiency of operations.

In order to remain competitive, Indian banks must concentrate on three core aspects:

- Differentiation on the outside through innovative products and technology enabled service channels
- Simplification on the inside through technology convergence
- Execution mastery through strategic thinking and day-to-day excellence in operations

The Indian banking sector has seen phenomenal growth in terms of technology infusion and adoption in the recent past, however; it is the virtual inflexion point that must be managed well by the local financial institutions, both public as well as private.

## Imperatives – Indian Banks should remain IT invested

What do you think your greatest success with customers over the past year has been?

“The opening of new branches” (Australia)

“The introduction of Internet banking.” (Netherlands)

“The Internet and the development of a multi-channel concept from an operational and commercial perspective. 24/7 access to all our services” (Spain)

What have been the main problem areas within your bank over the last year which would have had a direct impact on customers?

“We were very late with the introduction of Internet banking.” (Netherlands)

“We had problems with the speed of the Internet access. The quality of user interface, it was not as user friendly.” (Switzerland)

“We did experience some issues with an upgrade of one of our online banking sites and, regrettably, a number of our customers were impacted by this. However, the bank pro-actively contacted those affected customers to remedy the situation.” (Australia)

“The readiness of the online banking tools was appalling. The download times were too long.” (Germany)

Source: KPMG International, interview quotes

The only true success measure of a bank’s business strategy is a satisfied customer. If a bank is able to provide services to customers using optimal technology platforms in a non-intrusive manner, the bank would be meeting its objectives of meeting customer expectations, cut costs and manage competition.

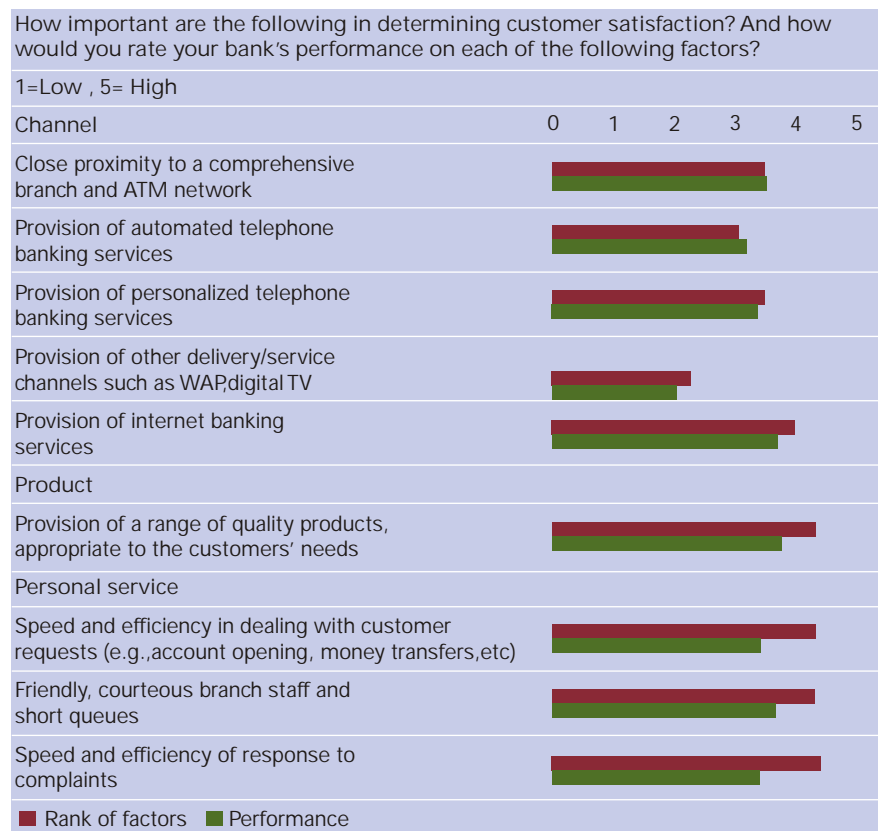


Fig5. Cuce Factors Feedback received from banking professionals (Source: KPMG International 2005<sup>1</sup>)

There is an increase in the competition in the sector, because of the advent of new players (including MNC banks) in a scenario where the differential service offerings are fast diminishing. Technology makes it simple for new-comers to overcome entry barriers and offer competitive services. For example, NBFCs entering the space have a leaner and more scalable structure that cannot be replicated by legacy banks.

<sup>1</sup>‘Customer Satisfaction: At What Price?’ KPMG FS Publication

Banks also must effectively leverage upon the RBI initiative of IT enabling of systematically important aspects like fund management, payment and settlement. The central bank is proactively driving capability expansion and adoption of Electronic Clearing Services (ECS), Electronic Funds Transfer (EFT), Cheque Truncation, Real Time Gross Settlement (RTGS), Negotiated Dealing System (NDS) and Structured Financial Messaging System (SFMS) and Centralized Funds Management System (CFM).

The dynamic market forces coupled with the initiatives of the central bank have made it imperative for the banking industry to use IT to sustain growth and advance full-steam ahead. In the new age, banks must view technology as a 'business driver' and not a 'business enabler'. Banks need to stay IT invested and maximise the benefits of upcoming technologies to maintain their competitive edge.

Banks have to focus on:

- Cost Reduction
- Product Differentiation
- Maximising the product offering per customer

This can only happen through business process re-engineering and automation using Information Technology.

# Banking – The Technology Paradigm

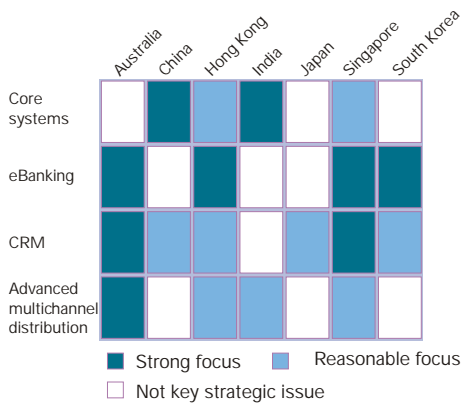


Fig 4. Level of focus on key solution areas  
(Source: Datamonitor)

Customer service would have to commence from the moment the prospective customer sees value in engaging the bank's services.

The most critical success factor to impact a bank's performance would be the customer. Customer service would have to commence from the moment the prospective customer sees value in engaging the bank's services.

Nowadays, various IT systems collaborate to create a uniquely satisfying customer experience. Amongst these systems, is the much vaunted Core Banking Solution (CBS) integrating retail banking, corporate banking, finance, operations, branch automation and administration. In addition to these, Enterprise Resource Planning (ERP) systems are being implemented to effectively manage general ledger reporting and the various attendant activities. In India, between September 1999 and March 2006, public sector banks incurred an expenditure of INR 10,676 crore (approx. USD 2.5 billion) on the computerisation and development of communication networks<sup>2</sup>. Further, between 2005 and 2006, the number of public sector bank branches using CBS increased from 11 percent to 28.9 percent.

Going forward, banks need to focus on data and process management technology solutions to retain the competitive edge.

Enterprise Content Management solutions are being implemented to manage knowledge. The retention of knowledge for future use is an important requirement for institutions that are on the fast-track to achieving a pre-eminent position amongst their peers. Web Content Management is another important area that banks are focusing on, because of the increasing popularity of the Internet as a platform for conducting business. Customers should feel as welcome on a website, as they would at a branch.

Customer Relationship Management (CRM) has touted as an effective method for reducing time-to-market, cross sell initiatives such as instant loans. CRM provides deep insights into operational performance, analytical information and customer preferences. In order to be successful CRM requires bank-wide view through a data-warehousing and data mining solution.

Business Process Management (BPM) systems are being used to effectively translate business strategy into the business process through visual modelling tools. BPM systems assist in conceptualising business processes as a flow of system activities rather than point-to-point inter-system dependencies, thus optimising business flows.

Risk Management systems are an important part of a bank's IT portfolio that helps it comply with various governance requirements such as Basel II. Another solution that falls in the same category, is the bank's Treasury solution used for its treasury and capital markets requirements, and pricing trades.

<sup>2</sup>'Trend and Progress of Banking' RBI Report, November 2006

## Software-as-a-Service – Moving away from perpetual licenses



SaaS could well play the role of the catalyst in the transition to the 'Lean Banking' world of tomorrow.

A new attractive option, which is being explored by banks, is 'Software-as-a-service' (SaaS) model, which has both a recurring subscription fee and a 'pay-as-you-go' model for procuring software licenses. This allows Chief Financial Officers (CFO) to forego the requirement of sourcing considerable capital expenses to buy perpetual licenses (for deploying IT systems that handle functions such as CRM and ERP) thus allowing them to conserve cash for other critical functions. Other advantages of SaaS that might lure companies are faster time-to-market and flexibility.

SaaS is a good case for disruptive technology, which is making customers take a hard look at traditional software deployment. SaaS is a component of Business Process Outsourcing and not a stepping stone towards it. Technologies such as Service-Oriented-Architecture and Web-Services permit SaaS to be deployed in accordance with usage levels

SaaS typically works on a web-based, multi-tenant model. It is distinct from the Application Service Provider (ASP) model, as their IT architecture is quite different. While ASP works on a client server model, SaaS is dependent on the internet as a channel of delivery.

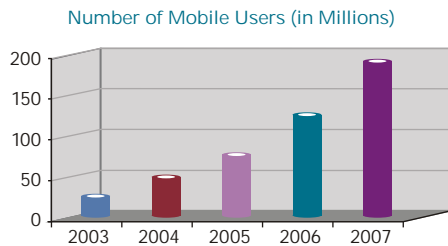
SaaS has been spearheaded by Salesforce.com's CRM, sales force automation applications, and NetSuite's 'net-native' enterprise resource planning applications. In the U.S., Wachovia Bank and Bank of America deploy software from Taleo.com, a pure-play vendor of the Talent Management Software based on a SaaS model.

In India too, the On-Demand ERP solution from Ramco Systems is available on a SaaS platform. Oracle Corp. offers database and middleware technology on SaaS. Misys Banking Systems already has treasury management software for managing working capital and liquidity, available for commercial deployment on a pay-per-use SaaS basis<sup>3</sup>.

In the banking world of the future, partnerships are crucial, especially partnering for technology. Leveraging optimal processes onto optimal technology will help create value. SaaS could well play the role of the catalyst in the transition to the 'Lean Banking' world of tomorrow.

<sup>3</sup>Misys Banking Systems, Press Release

# Mobile Banking – The Changing face of Banking



Steady growth in the mobile phone industry has made it a good avenue to carry out the fusion of mobile technology and financial services.

The world of mobile banking is in focus owing to the spread of mobile phone use across the globe. The total number of wireless subscribers in India stands at 185.13 million<sup>4</sup> as of June 2007 and is growing at a break neck pace. According to the GSM Association (Global association for GSM providers) the next billion subscribers will come from the BOP (Bottom of Pyramid) market, of which India will have the largest share.

The use of mobiles for banking and payments is transforming lives and economies, especially in the rural areas of many countries, where traditional banking channels like branches and other infrastructure dependent channels, (such as fixed line telephones and the internet) have very low penetration. Mobiles are playing an important dual role for both remote and contactless payments. While banks are already promoting cashless payment transactions using technologies such as mobile phones, others are also seeing the advantages. A mobile phone-based payment system, if successfully implemented, gives banks a good substitute for the traditional credit card and opens up another revenue stream.

Mobile users have just started to realise and utilise the data capabilities in their mobile phones. In India, because the mobile infrastructure is comparatively better than the fixed-line infrastructure and mobile based data services are comparatively cheaper, mobile phone banking has much appeal. Some interesting innovations in mobile banking have been:

- First Bank has linked-up with Nigeria's second biggest mobile operator Globacom. The partners introduced the GloFirst card in conjunction with the switching company Interswitch. GloFirst can be used to withdraw money, check card balance, print mini statements, change the Personal Identification Number (PIN) and transfer money to another cash card or bank account
- London's Heathrow is improving its efficiency in the run-up to the 2012 Olympics, when the eyes of the world will be on the U.K. capital and its beleaguered transport system. The service, called JourneyPay BuyVoice, enables taxi drivers to accept credit cards using their current mobile phones. Therefore this service gives taxi passengers the convenient option of paying their taxi fare with a card, without the need of a card terminal. In addition to this, the drivers' ability to use their mobiles (with voice authentication) to complete a transaction facilitates easy payment options.

<sup>4</sup> TRAI Report for June 2007



- Another new concept is the use of the mobile phone as an 'E-wallet'. E-wallet can be used for small purchases, remittances, bill payments and cash withdrawals. E-wallet, allows the owners to engage in banking transactions and make bill payments using their mobile phone, essentially turning the phone into a mobile Automated Teller Machine (ATM). It has been implemented in Philippines by DotPh. Inc. In this system a customer has to deposit money before making transaction. Since the 'E-wallet' is a like a pre-paid account operated through a mobile phone, it provides cash like flexibility and does not pose any credit risk to the service provider.

While on one hand mobile technology and contactless payment expose banks to risks of identity theft, etc. On the other hand, simple techniques like instant SMS to customers doing high value credit card transactions to validate the authenticity, one time password to authorise internet banking transactions are technology based risk mitigation measures.

This is just the beginning of a technology era in the banking arena. The future has a plethora of rich possibilities for bankers to exploit technology in order to give the best services to their ever growing clientele.

## Rural Banking – The new face of Banking

Banks like ICICI Bank in India and Standard Chartered Bank in UAE have introduced Mobile ATM, which is an ATM mounted on a truck.

Banking in India is undergoing a rapid transformation, and the last decade has witnessed vast changes in the way banks conduct business. They are giving more and more emphasis to rural banking and microfinance. But providing financial services to the poor, especially in rural areas, is both challenging and costly. In the first place, bankers lack the prerequisite information on their customers. While, this is true in any transaction, this is exacerbated in case of people in the low income category and the unorganised sector. This is on account of the absence of collateral and personal credit history information that usually allows bankers to estimate the creditworthiness of clients to a reliable degree. Such customers also make a large number of small transactions in inaccessible geographic locations, making this clientele base unappealing to traditional bankers. Furthermore, as a large proportion of rural customers are illiterate, they are unable to cope with the usual paperwork and formalities of the banking system. All these unique features of the rural clientele weigh negatively in a typical cost benefit analysis.

Technology is an excellent tool to effectively address the above challenges. The importance of the role technology plays is also highlighted by the announcement of a fund called the 'Financial Inclusion Technology Fund' by the Finance Minister in his budget for 2007-08. The fund is dedicated to meeting the cost of technology adoption, with a corpus of about USD 125 million.

Some of the newer technology initiatives that banks are exploring are:

- ATMs in mobile banking units or 'Branch-On-Wheels: These new breed of ATMs also have biometric authentication mechanisms like fingerprint verification and voice guided animated screens with touch enabled transactions. These devices recognise voice commands in the vernacular lingua franca in the region's accent. The use of thumbprint and voice guidance in ATMs reduces literacy requirements to a considerable extent.



- **BRANCH-IN-A-BOX:** This is an innovation by the Nedbank of South Africa. It is primarily a cost-effective, relocatable and pre-fabricated bank branch. It uses modern, broadband satellite technology for communication. This enhances customer convenience as it provides speedy access. It can also be used to test new markets, especially in areas with limited infrastructure such as semi-urban townships and rural areas where banking services are not readily available. A branch-in-a-box provides full transaction facilities to customers, including cash withdrawals and deposits, sales and service.
- Banks are also exploring the use of wireless technology based PDAs to provide services at customer's door steps. Technology companies are coming up with tools that allow bankers to complete activities like loan application capture and systemic verification at customer premises, thereby reducing the cost of transactions. For example, Hartford Insurance Group has introduced 'Policy Change Center' in July 07. The product enables agents to make changes in the policy online and print new identification cards.

A variety of options which will reduce transaction costs and transaction turnaround time are making mobile technology based IT solutions an effective tool for increasing the reach and scalability of the banking sector.

## A future with a strong BRIC foundation

On account of the tremendous untapped potential, the BRIC economies (Brazil, Russia, India and China) are the recipients of much global attention. Large financial institutions are expanding their presence in these locations both in the investment and retail banking spheres. This scenario necessitates large investments in technology to roll out transactional processing solutions as well as to set up commercial infrastructure in terms of data centres and networks.

According to a study sponsored by Visa International, the number of credit and debit card holders in India grew at an annual rate of 55 percent in the seven years preceding 2004<sup>5</sup>. In China, lending money to consumers began in 1997, witnessed phenomenal growth expanding 123 times to more than USD 250 billion in seven years<sup>6</sup>. Both these instances showcase the exciting potential available to financial institutions that are on the lookout for the next big opportunity. Therefore, the banking sector must have an effective strategy in place to exploit this hidden potential. This can be done by focusing on core strengths i.e. financial processes and customers while partnering for enabling these processes via IT.

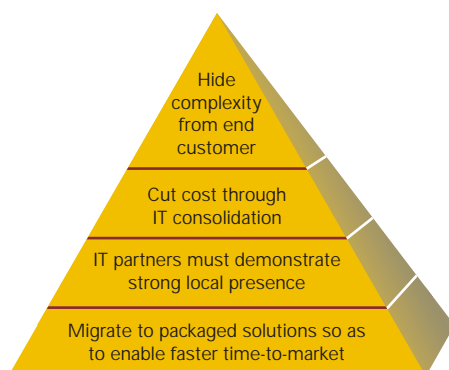


Fig.2: Contributing factors to successful IT partnership in developing economies

Successful rural penetration is contingent on deploying 'easy-technology' in an effective manner

In the age of the 'Intangible Economy' knowledge assets (what people know and put to use), collaboration assets (how value is created through collaboration), engagement assets (commitment) and time-quality (how quickly value is created) are the four key resources from which economic activity and a competitive advantage are derived. IT enables corporate entities to meet their objectives in all four defined areas. Using IT effectively, banks such as ICICI in India and Banco Itau in Brazil are reaping the benefits of economies of scale, reaching out to urban and rural customers.

From the banking sector stand-point, the BRIC economies are very attractive on account of their huge rural populations. At present, successful rural penetration is contingent on deploying 'easy-technology' in an effective manner. Possibilities can be explored in mobile banking, simplified ATM machines and special rural payment processes with a strong emphasis on risk management.

<sup>5,6</sup>The Paradox of Banking 2015' - IBM Business Consulting Services Study

ATMs have brought banking to the next generation of customers, who are unfamiliar with the concept of queuing up at a branch to be served. Investment in ATMs for rural banking is the next big challenge in markets such as India. 'Gramtellers' (rural ATMs developed at IIT Madras), are cheaper to deploy and simpler to use. They are an effective tool for reaching out to the rural customer. Also, this kind of ATM dispenses with the complex 'PIN' access requirements through the use of biometric sensors.

Banco Itau in Brazil started out building a strategic backbone around segmentation, technology and convenience for the client, which has put them ahead of the competition. Consolidation via the technology platform has helped the bank reduce costs and offers an increased number of products. Client acquisition and retention is facilitated through superior services. The convenience accorded to customers through technology investment is compelling value for Banco Itau's customers.<sup>7</sup>

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<sup>7</sup>'McKinsey on Banking' - The McKinsey Quarterly, November 2006

# Creating the resilient organisation



The financial services sector is exposed to multi- faceted threats like terrorism, natural disasters, etc and is particularly vulnerable given the dense concentrations of major players clustered in high profile centres, its highly inter-dependent supply chain and the strategic importance of the sector.

The ultimate goal is to create a 'resilient organisation' which has the ability of a financial industry participant, authority or system to absorb the impact of a major operational disruption and continue to maintain critical operations or services.

In the face of global threats, building the resilient organisation is a business imperative and a long term game ; to succeed, it must be embedded in the strategy and decision making at top levels in the organisation.

In the evolution towards 'the resilient organisation', and building on business continuity preparations to date, there are three mutually dependent challenges which now need to be addressed:

1. People: A complex but vital response to people related issues is imperative, including accounting for employees, visitors and third party workers at the time of disaster. For instance, one of the key lessons learnt from events such as the 9/11 and the July 7 bombings was the degree of difficulty encountered by employers in determining whether staff members had been affected.

Many financial institutions are now implementing increasingly sophisticated 'call-out' systems. Some of these systems are capable of providing multi-channel alerts using voice, SMS or email. These systems automatically log staff as 'unaccounted for' until a response to one of the alerts is received. KPMG U.K. has implemented such a system for its entire staff and has integrated it with its Peoplesoft HR system.

2. Diversity: Exploiting technology and common global processes to achieve greater diversity in alternative ways of working for critical business operations is also crucial. The high concentration risk of most financial institutions operations must be offset by improved diversity, like the implementation of remote working solutions.

The success of individual plans will depend crucially on understanding the responses of others, including regulators, the civil authorities, transport authorities and the supply chain of critical business partners.

#### CEO Questions - <sup>8</sup>

- Are we proactively investing at the right level to ensure that our business continuity arrangements consistently meet good or leading practices?
- Have we made proper provision for rigorous testing on a regular basis?
- Are our business continuity arrangements sufficiently flexible and robust to cope with changes in demand or staff unavailability after a disaster?
- Can we transfer our critical operations to another geographical location quickly, seamlessly and without disruption to key services?
- Do we actively participate in the sharing of information and experiences with other firms, regulators and civil authorities to ensure an effective and collective response to any incident?

There are three key aspects to this:

- Greater use of remote working capabilities although this is often suggested as a solution, there is significant dependence on the telecommunications network providers and investment may be required to enhance remote access seats and bandwidth
- Setting up split-site operations for some larger-scale critical functions. In this system, the same process is run across two or more geographically discrete locations and work load can be readily transferred
- Enabling the transfer of critical operations to other global locations without depending on significant staffing from the affected location. An increasing number of large financial institutions are able to transfer parts of their operations across the globe at very short notice.

3. Coordination: The ultimate success of an individual organisation's business continuity capability is more dependent than ever on its counter-parties, the infrastructure providers, regulators and the civil authorities.

Understanding the degree of mutual dependency and integration with other parties will ultimately determine the success of any individual business continuity plan. Several crises, in recent times have emphasised the need to communicate with multiple parties simultaneously for collective decisions.

A recent report from the United Kingdom's Tripartite Financial Authorities found that over 40 percent of firms in the financial sector take no account of local authority emergency planning in their own continuity plans, while 75 percent fail to involve neighbouring businesses in their plans.

In the wake of the impact of Hurricane Katrina, more than a dozen major financial services firms, including Citibank, JP Morgan Chase and Bank of America, together with several leading technology vendors, launched the Resiliency Maturity Model Project. This project was launched primarily to create benchmarks and define terms for business continuity planning across the entire supply chain of a financial enterprise.

#### Practice makes perfect

Over time, the testing and exercising of business continuity arrangements will be more regular, rigorous and sophisticated.

Exercises are being conducted 'market or industry-wide' within major financial centres to test collective responses, decision making and the inter-connectivity of business continuity arrangements. For example, in the U.K. FSA facilitates industry wide tests. Similarly, in Singapore MAS facilitates industry wide tests. In India, RBI issued detailed guidelines in April 2005 requires that commercial banks put in place business continuity measures within a fixed time frame.

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<sup>8</sup>'Living on the Frontline' KPMG U.K. Report on Business Continuity, 2007

## Case Study – HSBC

Bob Piggott believes that the financial services sector has learned several crucial lessons from 9/11 - everything from the resilience of buildings and systems, to the implications of having large concentrations of people on one site.

HSBC is able to use its global reach to transfer operations from London to New York or from New York to Hong Kong, whenever required. According to Mr. Piggott, the first aspect to consider is the skill matrix: "If we lost, say, an entire derivatives team, we can fall back on our global coverage but there is a challenge. New York has a different system from London and it will have to deal with a huge upsurge in capacity caused by the doubling of normal business volumes and the extra trading caused as a reaction to the incident"

In terms of its people, HSBC believes reliable and effective communication is vital - 'in the U.K. all our staff have a telephone number they can ring to receive an updated status message in the event of an incident,' says Mr. Piggott, 'and evacuation instruction cards are issued to all bank staff as a matter of course'.

In the U.K. all our staff have a telephone number they can ring to receive an updated status message in the event of an incident and evacuation instruction cards are issued to all bank staff as a matter of course.

Bob Piggott,  
Head of Crisis Management

'The terrorist attack on London on July 7, 2005 happened while employees were commuting to work and, What's more, the information the media was providing conflicted with what the police were telling us. We have direct communications links to the main authorities such as Transport for London and the Metropolitan Police, but our staff were getting a different version of events from television which could have created confusion'. Clear communication with all stakeholders is a key element of HSBC's response. The bank's communications team is entrusted with the task of getting appropriate messages to key stakeholders such as the media, the regulators and the Bank of England. Call centres are given a script to keep customers informed.

'A good incident management plan must be flexible,' says Mr. Piggott, who notes that the flu pandemic constitutes the greatest risk worldwide. 'In such a case there is likely to be high absenteeism which will affect the whole supply chain and infrastructure. We have a group plan, country plans and departmental plans. Our flu pandemic plan is based on us surviving a worst case scenario of 50 percent of the workforce being absent for several weeks. There will be up to 15 percent of staff off on annual leave at any one time plus there will be sick staff, those looking after the sick and others who are traumatized'.

HSBC has assessed the technical and operational requirements for successful home-working as part of its preparation for a pandemic. Its aim is to have the ability to provide fully for remote working, together with a major test of effectiveness during 2007.

## Case Study – Morgan Stanley

Richard Deighton, Business Continuity Manager, Morgan Stanley, believes that Business Continuity Planning (BCP) is now a core and integral part of corporate strategy rather than a peripheral specialist area. Advances in technology have changed the approach to business continuity. Morgan Stanley has just built a new remote data centre, which allows real-time back-up.

From being a modest budget item, business continuity is now a major investment for Morgan Stanley. However, much of the expenditure is accounted for as part of day-to-day operational costs of the business rather than a separate outlay. "As the BCP budget has grown and our way of accounting for it has changed, it has become much more visible at board level", says Deighton. He has witnessed a vast change in attitudes to BCP since the early 1990s when Morgan Stanley was affected by the bombing of the Baltic Exchange in the City of London. At that time, the focus was very much recovery-driven and technology focused. Today, he notes the status and capability of BCP has never been greater, a change confirmed by the appointment of business continuity professionals at the most senior grades (i.e., Managing Director) in the U.S.

"BCP has to be focused on delivering shareholder value and making financial sense rather than just delivering successful systems recovery"

Richard Deighton, Business Continuity Manager.

Morgan Stanley runs a series of major tests every year at various levels within the organisation. Over the Easter weekend the firm takes advantage of the powering down of all its main data centres in Canary Wharf to run a full simulation of a total loss of data at all offices. Some 200 people are dispatched to the recovery site to run operations from there. This major annual test is supplemented by business process testing twice a year. A team is sent to the recovery site to execute a transaction from that location. "It's very important in terms of familiarizing staff with everything from getting to the site to knowing how to use it". Separate table-top exercises are conducted to run through a simulation of an avian flu outbreak or a bomb attack. The crisis management and BCP teams run through the plan and test it for weaknesses. There are regular drills for the crisis management teams in which they prepare for a real disaster. This includes practicing evacuation, physically walking to a recovery site and using radio transmitters for communication so that there is no reliance on the phone.

However, despite the competitive advantage offered to firms which have leading practices in BCP, Deighton says that collaboration among firms, especially in the wake of 9/11 and 7/7, takes precedence. Through organisations such as SIBCMG (the Securities Industry Business Continuity Management Group) there is an emphasis on sharing knowledge and experiences and recognising the mutual dependency of the sector.

## Case Study – Financial Services Authority

John Milne, of the Financial Services Authority (FSA), believes that promoting good practices rather than setting stringent directives is the key to achieving the objectives of resilience and market confidence.

In terms of guidance on resilience issues, the FSA handbook states that all regulated entities must have a business continuity plan in place, that it should be appropriate to the size and nature of the firm and that it should be reviewed and tested on a regular basis.

“We regulate such a wide range of firms that it is difficult to be more prescriptive”, says Milne “there is no one-size-fits-all solution. We consider business continuity as an operational risk and therefore primarily an issue of good housekeeping”.

FSA promotes good practices through benchmarking. The preferred approach is to work in a voluntary and cooperative way with firms which allow them to tailor their response arrangements to suit their particular business circumstances.

The benchmarking exercise contains around 250 questions. “It enables firms to identify weaknesses in their plans; they can then look at what the BCM Guide offers in that area of weakness by way of standard and leading practice which they can implement in whatever way is most appropriate to their business to promote enhanced resilience”, says Milne.

“there is no one-size-fits-all solution. We consider business continuity as an operational risk and therefore primarily an issue of good housekeeping”.

John Milne  
Head of Business Continuity Management

In Financial Services, more than any other sector, your own business continuity is only as good as that of your counterparties. “The industry is working closely with us to develop and pilot the benchmarking and market-wide exercises”, says Milne.

## Value Adding to the Bottom Line

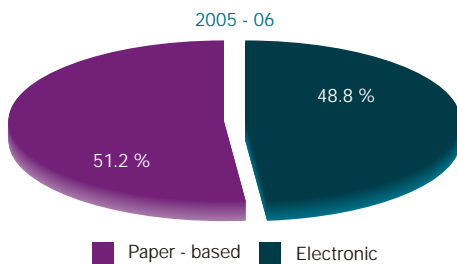


Fig 3. Paper Based vs. Electronic Transactions in Indian Banking

'Don't come to us, we will come to you' seems to be the philosophy that banks are adopting concepts such as Online banking, Mobile banking and ATM-centric banking, amongst customers

Technology is an effective tool permitting banks to go beyond their normal lines of business and obliterating the boundaries between customer services and banking processes. Worldwide there are instances of banks innovating to minimise customer-service costs while simultaneously improving the quality of the customer experience. 'Don't come to us, we will come to you' seems to be the philosophy that banks are adopting backed by innovative concepts like Online banking, Mobile banking and ATM-centric banking, amongst customers.

Kookmin Bank in South Korea has been the pioneer of mobile banking in the country. Every month in South Korea, more than 300,000 people buy new phones equipped with a special slot where subscribers can plug in a tiny memory chip with their banking data and an encryption code for secure transactions. This chip has succeeded in making the new service easier to use and more popular than earlier schemes. In the next two years, at least 6 million Koreans are expected to be using their phones for transferring money, reviewing transaction records, and checking foreign-exchange rates and other financial information. According to the Hyun Jun Yong, Director of LG TeleCom's mobile banking unit, BankOn, the services have a huge potential to revolutionise the use of money and that this will be a stepping stone to a cashless society.<sup>9</sup>

Online banking is taken for granted in the financial centres of developed economies. However, due to rising security concerns arising out of carrying out financial transactions over non-optimally-secured networks, emerging economies still regard the issue circumspectly. This has caused a rush towards two-factor and multi-factor authentication technologies with clear cost-benefit gains. Further, simple passwords and online pins might not provide the antidote to phishing attacks and identity theft instances. In South East Asia, financial institutions have been especially pro-active in rolling out these security solutions because it was observed that the most valuable customers prefer to use these new electronic channels for payment and banking services - a clear example of value-added services helping to add to the bottom-line.<sup>10</sup>

In order to engrain trust in the end-consumers, these technologies should be made pervasive and regulatory requirement would go a long way in facilitating this. The Hong Kong Monetary Authority was the first regulator in the region to require two-factor authentication for internet banking customers. The Monetary Authority of Singapore has also issued its mandate to banks to issue tokens for all internet banking customers.

<sup>9</sup>Report on "Korea: Mobile Banking Takes Off" Businessweek Magazine  
<sup>10</sup>The Asian Banker: FSI Technology report

## Sourcing – It's a Good Word

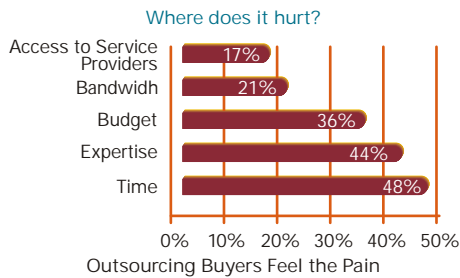


Fig.8. Factors that impact realisation of outsourcing benefit <sup>11</sup>

Focus has shifted from procurement driven terms and conditions, to relationship management; from low price to best value; from betting on the future to investing in it; closed intellectual property to open intellectual property and sharing.

A brief cost benefit analysis would prove that outsourcing is a boon for companies that are burdened with activities that may not lie within their core domain of expertise. Benefits that may accrue from strategic outsourcing are reduction and control of operating and hardware costs, reduced time to market, acceleration of benefits from re-engineering, gain access to human capital and skill sets that may not be available locally, access to good practices and knowledge base and sharing of risk.

The European and U.S. Banking sector quickly realised the benefits that outsourcing can generate. This paradigm has been followed by other sectors such as Healthcare and Manufacturing, benefiting countries such as India and lately Eastern European countries. These countries have the knowledge pool to service these requirements from a remote geographic location.

Outsourcing 2.0 <sup>12</sup>, is a term that has been coined to signify that companies have moved beyond bean-counting and are focusing on technological advances and benefits delivered by concepts such as Web 2.0 when considering outsourcing. Focus has shifted from procurement driven terms and conditions, to relationship management; from low price to best value; from betting on the future to investing in it; closed intellectual property to open intellectual property and sharing.

The following aspects have been seen as exceptionally important for banks considering the outsourcing option:- Service Level Agreements and Operational Level Agreements, local presence, security and an assessment of strategically fit, relationship and organisational culture.

<sup>11, 12</sup> 'Outsourcing 2.0 The new outsourcing and what it means to you' The Outsourcing Institute publication, 2007

	% consider high priority
Business alignment	52 %
Security	41%
Project deadlines	39%
Competitive advantage	29%
CRM/ ERP solutions meeting needs of business	22%
Cost reduction	22%
Effective system integration	21%
Effective supplier management	18%
Quality and cost control of outsourcing	17%
Staff (turnover, recruitment development)	17%
Keeping pace with new technologies	5%

Fig.9. Sourcing Priorities for CIOs <sup>13</sup>

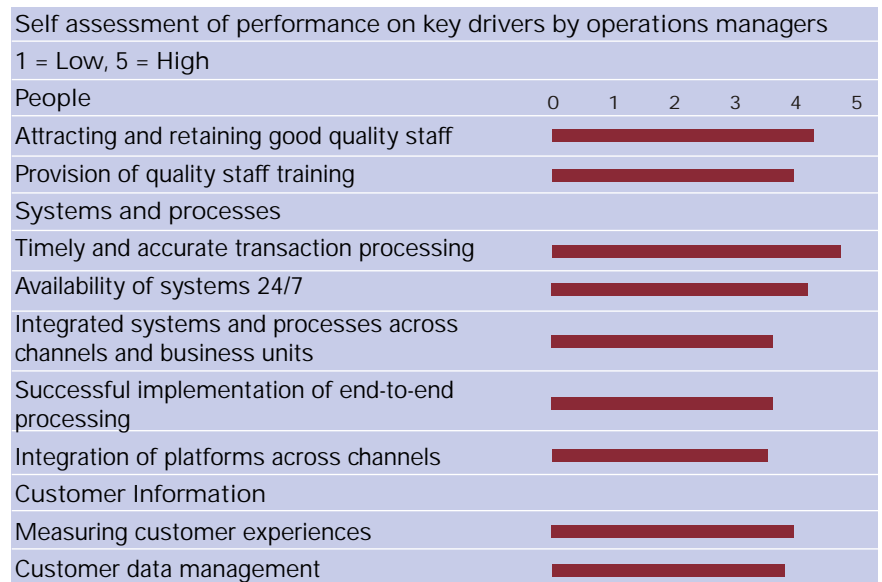
Insights from KPMG's survey 'Strategic evolution: A global survey on sourcing today' reveal:

- Sourcing is working 89 percent of the respondents plan to maintain or increase their current level of sourcing, while only 13 percent of customers agreed with the statement that up to 50 percent of outsourcing contracts fail.
- The strategic value of sourcing is not measured 42 percent of outsourcing arrangements are not supported by a value measurement framework, while 72 percent of customers reported they do not have criteria for measuring the success or failure of their sourcing arrangement.
- The selection process is often protracted and costly 79 percent of customers could not quantify the internal cost of the selection process, while 50 percent of customers took longer than six months to complete the selection process.
- People are the forgotten component of success - 60 percent of customers and 59 percent of service providers stated that problems with their contracts were almost always people related.

In India, many banks have chosen to outsource IT Infrastructure Management to IT service companies thus accruing most of the benefits discussed above. Some private and foreign banks have also outsourced predictive analytical solutions for customer acquisition, retention and cross-selling an example of niche service outsourcing. As banks focus on creating more value, business and IT become closer aligned, outsourcing has become a necessary aid in the implementation of business strategy.

<sup>13</sup>'2007 Strategic Leadership Survey - A CIO Perspective', KPMG U.K.

# Cost Management – Survival Philosophy



Source: KPMG International, 2006

Fig 6. Customer Service Factors Feedback received from banking professionals (Source: KPMG International<sup>14</sup>)

As transactions margins keep decreasing, management of costs is one of the two ways to increase net income. Technology can play a major role in helping banks achieve their cost targets.

As transactions margins keep decreasing, management of costs is one of the two ways to increase net income. Technology can play a major role in helping banks achieve their cost targets. However, precautions must be taken via the cost-benefit analysis prior to implementation, program management during implementation and benefits realisation audits; and post-implementation to ensure that the investment is achieving its objective.

While system availability for transactional processing on a 24x7 basis was not an issue, upgrading and integration of IT systems needs attention. In addition, areas such as 'Account Opening' and 'Loans Processing' that have major IT inputs still require streamlining. In addition, another area that requires attention is the levels of redundant data and surplus administration.

Difficulties in creating cross-business unit systems and processes are more clear cut and will have to be resolved if operations functions are to assist with the need to increase cross-selling activities. Many large banking organisations have a myriad of legacy systems, which have difficulties in interacting with one another. This makes the collation of customer data at best inefficient or at worst, impossible. Therefore, integration of IT systems to enable single view of customer is the need of the hour.

Data centre management is seen as a black-hole for funds. However, 'lean data centre management' techniques using techniques such as server virtualisation, server consolidation, workload isolation and workload management have a distinctive cost advantage in the long run.

<sup>14</sup>'Customer Satisfaction: At What Price?' KPMG FS Publication

# Sorry, it's not you, it's your technology

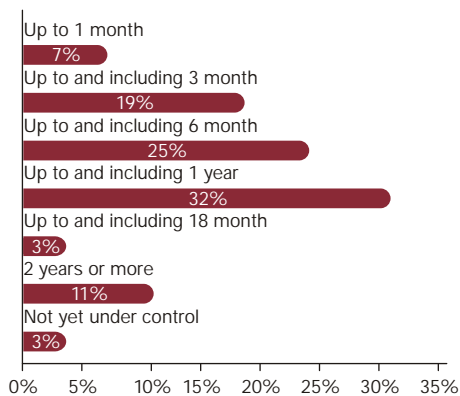
## Deals under the magnifying glass

There is a correlation between companies that experience enhanced value and those that met or exceeded their synergy and performance improvement targets.

A recent survey found that nearly two-thirds of acquirers fail to realise their synergy target value, but that, on an average, 43 percent of the deals were value neutral.

Most organisations found that they did not start post-deal planning early enough. It took an average of nine months for companies to feel they had control of significant issues facing the business post-deal. IT can play a significant role in making or breaking a deal.<sup>15</sup>

Time taken to get control of the key issues post deal



Base: 100 percent of corporations interviewed  
Source: KPMG International

An increase in M&A activity across the spectrum, coupled with heightened Private Equity interest; entities are now taking a good look at IT systems that can sustain value in the new combined culture. The complex and dynamic nature of integrated or disparate Management Information Systems creates a significant risk to commercial deals. This risk increases significantly with IT and business process outsourcing and can impact both deal price and post-deal strategies.

The assertion that 'you do not pay for synergies' during an M&A deal is now obsolete. Synergy between two different sets of processes and systems is an intrinsic factor in building value and getting the other party to perceive it. The bigger the target (relative to the buyer), the higher the percentage of the synergy target included in the purchase price: the average percentage increases significantly when the deal involves the entire acquiring organisation versus those affecting just a business unit.

An IT due diligence exercise assists in discovering the synergistic abilities of a target's IT systems prior to a deal and is now perceived as falling in the critical path considering the diverse landscape of the target and the acquiring organisation.

The top three post-deal challenges have been:<sup>15</sup>

- Complex integration of two businesses
- Dealing with different organisational cultures
- Difficulty in integrating IT and reporting systems

With significant IT expenditure happening in the Banking sector, any acquirer (of IT) needs to be cognisant of how integral IT is to Business strategy for the target company and how much value can be leveraged from existing systems. Understanding the IT alignment of the target is an integral part of any takeover diligence exercise.

<sup>15</sup> 'The Morning After Driving for Post Deal Success' KPMG, Transaction Services publication.

## E-Banking – Security Management Issues



The evolution of modern age banking has brought its fair share of security challenges. This has placed an increased focus on the security of the information systems considering the sensitivity of information which is residing in the systems and the kind of information exchange which takes place.

Internet and mobile banking have become one of the important channels of banking, especially to reach the 'unbanked'. The threats related to internet banking can be related to any of the following three components: The User Terminal/ User, the Communication Channel and the Server hosting the information.

The attacks on the User Terminal/ User End range from procedural attacks like piggybacking, theft of tokens and handwritten notes, malicious software installation (hidden code within a webpage, worms and bots, e-mails with malicious code), token attack tools (on smartcards, smartcard readers, brute force attack on PIN calculators) and phishing which uses social engineering techniques. The attacks on the Communication Channels include vishing, pharming, sniffing, session hijacking, man-in-the middle attacks and the attacks on the Internet Banking Server. These are basically attacks on the server which hosts the internet banking information which include brute force attacks, comprise of authentication and access mechanisms by an internal security incident and exploiting the vulnerability in the web server.

Banks have implemented various security countermeasures to overcome this threat by introducing features like antispy software, secure email, antispam software, intrusion and anomaly detection software, firewalls for blocking inbound and outbound connections to unauthorised ports, session ID rotation, mutual authentication and encryption through client-server Security Socket Layer (SSL).

Also, banks are taking the help of technology to introduce innovative methods to reduce threats to information by introduction of methods like SMS alert messages for credit card transactions, additional authentication mechanisms for internet banking like token based authentication and random one time passwords (communicated using SMS) for transaction authentication.

Also, cyber laws have evolved along with the threats and challenges brought in by this medium. In the United States, there is a mandatory requirement for banks to inform the customers of security breaches which have taken place relating to their confidential and personal data. In India, while the Cyber laws have not evolved to the extent as in the leading economies of the world like U.S and U.K, industry and government is focussing on the laws to bridge the shortcomings.

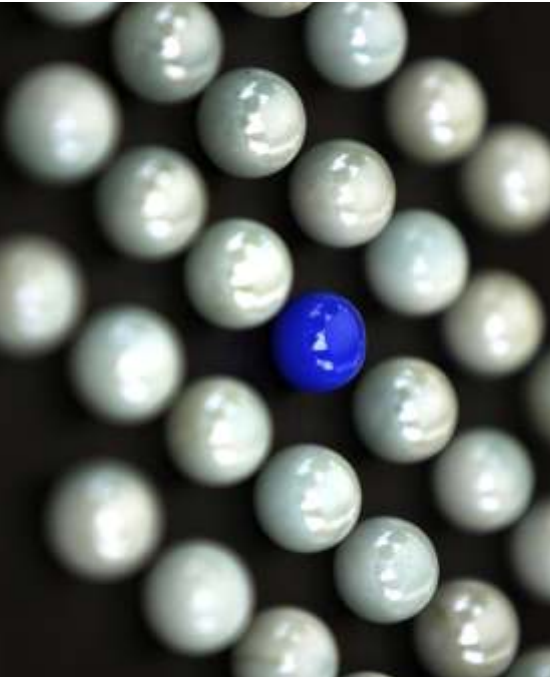
There is no one single theoretically correct way of securing the system or network since all these programs are subject to human shortcomings. However, the complexity and challenges brought into this medium calls for rapid, proactive and continuous informed action.

## Key Technology Trends in the Banking Sector



- Greater customer orientation in service-centric CRM solutions
- Lean data centre management
- Mobile banking becoming as prevalent as internet banking
- Application landscape rationalisation
- 'Software as a Service' riding on 'Service Oriented Architecture' framework
- IT expenditure in banking sector remain on the up-swing
- Unified transaction and payment mechanisms technology convergence
- Outsourcing 2.0 to be driven through value co-creation and not merely transactions management
- M&As to focus on IT synergies and factor in post-deal integration in deal cost
- Increasing focus on Business Continuity Management with regulatory oversight
- Web 2.0 technologies based innovations (such as blogs and wikis) becoming channels for customer interaction
- Banks to spend greater time and effort in securing their IT infrastructure from malicious attacks such as phishing
- Solutions such as identity management, business process modelling, ERP, web content management, knowledge management and collaboration to become important tools in the march towards increased automation and
- Special adaptations of main-stream technology products to be adopted for rural roll-outs of conventional banking products

## About KPMG



KPMG is the global network of professional services firms of KPMG International. Our member firms provide audit, tax and advisory services through industry focused, talented professionals who deliver value for the benefit of their clients and communities. With over 1,13,000 people worldwide, KPMG member firms provide services in 148 countries.

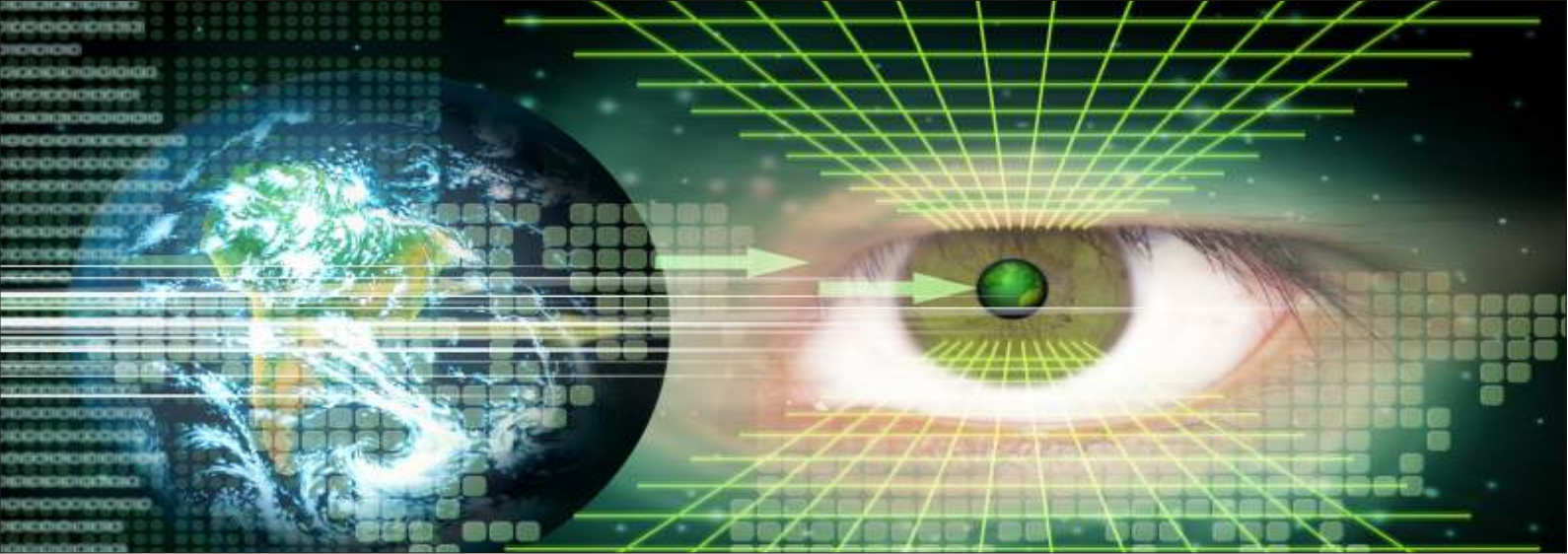
KPMG's member firms in India were established in September 1993. As members of a cohesive business unit, they respond to a client service environment by leveraging the resources of a globally aligned organization and providing detailed knowledge of local laws, regulations, markets and competition.

In India, KPMG's range of services includes Audit, Tax, and Advisory services to over 2000 international and national clients. Clients range across five sectors namely financial services; consumer markets; industrial markets; information communication and entertainment; and infrastructure and government. KPMG has offices in India in Mumbai, Delhi, Bangalore, Chennai, Hyderabad, Kolkata and Pune. The firms in India have access to more than 2200 Indian and expatriate professionals, many of whom are internationally trained. KPMG provides rapid, performance-based, industry focused and technology enabled services, which reflect a shared knowledge of global and local industries and experience of the Indian business environment.

KPMG's Financial Services (FS) has undertaken a number of pioneering projects in sectors such as consumer banking, credit cards, SME banking, agri and rural banking, life insurance, general insurance, asset management and wealth management amongst others. These projects cover solutions such as market assessment, strategy formulation, business planning, policy formulation, demand assessment, partner selection, process design and IT advisory and assurance services.

The range of IT advisory services provided by KPMG include the following:

IT Strategy		Advising clients to define an appropriate IT strategy and roadmap to effectively meet their business objectives
IT Projects Advisory		Assisting clients in effective management of programs and projects which have strong IT element in it so as to increase the viability and likelihood of project success. It encompasses project governance and advisory services over the full project lifecycle, including system selection, program management over implementation, project risk management.
IT Governance and Performance		Assisting clients in design and implementation of governance model based on standards like CoBIT, ITIL, etc and defining performance metric, KPI, dashboards to monitor performance.
Information Security Services		Advising clients in design and implementation of effective enterprise information security architecture, security assessments and testing.
Business Continuity Management		Assisting clients in designing an appropriate crisis management and business continuity frameworks/plans to build a more resilient organisation.
Business System Controls		Assess clients' implementation of ERP systems and assist them in enabling implementation of automated processes and improved controls and security environment.
IT Due Diligence		Along with financial and operational due diligence, KPMG undertakes IT Due Diligence to assess target entity's IT environment, with specific focus on obsolescence, technology synergies/ integration, hidden IT liabilities that may impact deal value and increase overall risk
IT Attestation		KPMG provides attestation services including SAS 70, Webtrust, Systrust and KPMG Webseal thereby assist clients in meeting their customer needs and demonstrate effective control environment
IT Internal Audit		KPMG undertakes specific IT audits to identify risks and help clients improve effectiveness and governance around the IT function.



## Index Sheet of KPMG Thought Publications in CD

Publication	Description
	<p><b>Beyond the baby boomers: the rise of Generation Y</b>            Opportunities and challenges for the funds management industry</p> <p>KPMG publication which provides insight on the opportunities and challenges in the funds management industry.</p>
	<p><b>India - An opportunity dawns</b>            Opportunities for South African Companies in the Indian Financial Services Sector</p>
	<p><b>Global Anti-Money Laundering Survey 2007</b>            How banks are facing up to the challenge</p> <p>KPMG's second global anti-money laundering survey looks at how banks around the world are approaching AML focusing on specific issues faced by banks.</p>
	<p><b>BaselBriefing 12</b></p> <p>We have assembled the thinking of KPMG's member firm professionals around the globe, providing with informed perspectives on current and future regulatory trends and developments around implementation of the Basel Accord.</p>

Publication

Description



Rethinking Cost Structures  
Creating a sustainable cost advantage  
  
A KPMG Study on cost structuring.



Retail Banking Offshoring in India  
  
KPMG survey to understand the retail banking process which is being sourced from India to provide an insight on the various processes.



Frontiers in finance  
for decision makers in financial services  
  
KPMG's Financial Services flagship global publication provides perspective and insight on critical issues facing global banking and insurance organizations.



India: Ready for Basel II?  
A Survey  
  
KPMG in India had embarked upon a survey to assess the preparedness within the Indian banking sector as regards Basel II implementation and also to create a deeper appreciation of the critical implementation issues.



Making the Transition From Niche to Mainstream  
Islamic Banking and Finance: A Snapshot of the Industry and Its Challenges Today  
  
A snapshot of the Islamic Banking and Finance Industry and the challenges faced by it.



Towards enhanced business governance  
Causes and consequences in global investment  
  
This report concentrates on good practices in business governance, focusing right across the front, middle and back offices in investment management.

Publication	Description
	<p><b>Retail Banking: a critical moment</b>  Key themes from The IEA Retail Banking in Europe Conference in association with KPMG, Milan, March 78, 2006</p> <p>This Publication gives insights on the various key aspects of the retail banking industry.</p>
	<p><b>Hungry for more?</b>  Acquisition appetite and strategy in the global private banking and wealth management industry</p> <p>This is the third annual report which focuses on acquisition appetite and strategy in the global private banking and wealth management industry' report.</p>
	<p><b>The State of the Banking Industry</b>  Banking and Investment Banking &amp; Securities</p> <p>This KPMG publication highlights various aspects such as Consolidation and Convergence , Risk Management, International Focus and Globalization, e-Business and Technology, Accounting Standards and Developments and Regulatory and Legislative Matters in the banking sector.</p>

We have also included our IT Advisory Service offering product sheets in the CD.

## KPMG in India

### Mumbai

KPMG House, Kamala Mills Compound  
448, Senapati Bapat Marg,  
Lower Parel,  
Mumbai 400 013  
Tel: +91 22 3989 6000  
Fax: +91 22 3983 6000

### Delhi

4B, DLF Corporate Park  
DLF City, Phase III  
Gurgaon 122 002  
Tel: +91 124 307 4000  
Fax: +91 124 254 9101

### Pune

703, Godrej Castlemaine  
Bund Garden  
Pune 411 001  
Tel: +91 20 305 85764/65  
Fax: +91 20 305 85775

### Bangalore

Maruthi Info-Tech Centre  
11-12/1, Inner Ring Road  
Koramangala,  
Bangalore 560 071  
Tel: +91 80 3980 6000  
Fax: +91 80 3980 6999

### Chennai

No.10 Mahatma Gandhi Road  
Nungambakkam  
Chennai 600 034  
Tel: +91 44 3914 5000  
Fax: +91 44 3914 5999

### Hyderabad

II Floor, Merchant Towers  
Road No. 4, Banjara Hills  
Hyderabad 500 034  
Tel: +91 40 2335 0060  
Fax: +91 40 2335 0070

### Kolkata

Park Plaza, Block F, Floor 6  
71 Park Street  
Kolkata 700 016  
Tel: +91 33 2217 2858  
Fax: +91 33 2217 2868

## Key Contacts

### Pradeep Udhas

Head - Markets  
Tel: +91 22 3983 5400  
Fax: +91 22 3983 6000  
e-Mail: pudhas@kpmg.com

### Sanjay Aggarwal

National Industry Director - FS  
Tel: +91 22 3983 5102  
Fax: +91 22 3983 6000  
e-Mail: saggarwal@kpmg.com

### Akhilesh Tuteja

Executive Director, IT Advisory  
Tel: +91 124 307 4800  
Fax: +91 124 254 9101  
e-Mail: atuteja@kpmg.com

### Navin Agrawal

Executive Director, IT Advisory  
Tel: +91 22 3983 5501  
Fax: +91 22 3989 6000  
e-Mail: navinagrawal@kpmg.com