CHAPTER - 3
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ORGANIZATIONAL PROFILE

This chapter is devoted to present the scenario of the world banking sector, an overview of Indian banking industry and the profile of the online banking sector that are used across the world, precinctly. It is necessary and pertinent that the researcher is expected to have a basic knowledge in the field of research and the area in which the present research work is carried out. In this context, this chapter traces out the genesis of the banking sector, its growth and development across the world, in general and the Indian banking sector, in specific.

- **Banking Sector – A global scenario**

  At the beginning of the 21st century, the biggest banks in the industrial world have become complex financial organizations that offer a wide range of services to international markets and control billions of dollars in cash and assets. Augmented by the latest technology, banks are working to identify new business niches, to develop customized services, to implement innovative strategies and to capture new market opportunities. In the ongoing globalization, consolidation, deregulation and diversification of the financial industry, the banking sector will become even more complex. Although, the banking industry does not operate in the same manner all over the world, most bankers think about corporate clients in terms of the following:

  Commercial banking - banking that provides services such as cash management (money transfers, payroll services, bank reconcilement), credit services (asset-based financing, lines of credits, commercial loans or commercial real estate loans), deposit services (checking or savings account services) and foreign exchange;
Investment banking - banking that covers an array of services from asset securitization, coverage of mergers, acquisitions and corporate restructuring to securities underwriting, equity private placements and placements of debt securities with institutional investors. Over the past decade, there has been a steady increasing convergence between the activities of investment and commercial banks, because of the deregulation of the financial sector. Today, some investment and commercial banking institutions compete with each other directly in money market operations, private placements, project finance, bonds underwriting and financial advisory work.

Besides, the modern banking industry has brought greater business diversification. Some banks in the industrialized world are entering into investments, underwriting of securities, portfolio management and the insurance businesses. Taken together, these changes have forced the banks an even more important entity in the global business community.

**Genesis and growth of online banking services**

The precursor for the modern home online banking services were the distance banking services over electronic media from the early 1980s. The term 'Online' became popular in the late '80s and referred to the use of a terminal, keyboard and TV (or monitor) to access the banking system using a phone line. 'Home banking' can also refer to the use of a numeric keypad to send tones down a phone line with instructions to the bank. Online services started in New York in 1981 when four of the city's major banks (Citibank, Chase Manhattan, Chemical and Manufacturers Hanover) offered home banking services, using the videotex system. Because of the commercial failure of videotex these banking services never became popular except in France where the use of videotex (Minitel) was subsidised by the telecom provider and the UK, where the Prestel system was used.
When the clicks-and-bricks euphoria hit in the late 1990s, many banks began to view Web-based banking as a strategic imperative. The attraction of banks to online banking are fairly obvious: diminished transaction costs, easier integration of services, interactive marketing capabilities, and other benefits that boost customer lists and profit margins. Besides, Web banking services allow institutions to bundle more services into single packages, thereby luring customers and minimizing operating overhead.

Mergers-and-acquisitions wave swept the financial sector in the mid-and late 1998s, greatly expanded the customer bases. Following this, banks looked to the Web as a way of maintaining their customers and building loyalty. A number of different factors are causing bankers to shift more of their business to the virtual realm.

While financial institutions took strenuous effects to implement e-banking services in the mid-1990s, many consumers were hesitant to conduct monetary transactions over the web. It took widespread adoption of electronic commerce, based on trailblazing companies such as America Online, Amazon.com and eBay, to make the idea of paying for items online widespread. By 2000, 80 percent of U.S. banks offered e-banking. Customer use grew slowly. At Bank of America, for example, it took 10 years to acquire 2 million e-banking customers. However, a significant cultural change took place after the Y2K scare ended. In 2001, Bank of America became the first bank to top 3 million online banking customers, more than 20 percent of its customer base. In comparison, larger national institutions, such as Citigroup claimed 2.2 million online relationships globally, while J.P. Morgan Chase estimated it had more than 750,000 online banking customers. Wells Fargo had 2.5 million online banking customers, including small businesses. Online customers proved more loyal and profitable than regular conventional customers. In October 2001, Bank of America customers executed a record 3.1 million electronic bill payments, totaling
more than $1 billion. In 2009, a report by Gartner Group estimated that 47 percent of U.S. adults and 30 percent in the United Kingdom bank online.

Today, many banks are internet only banks. Unlike their predecessors, these internet only banks do not maintain brick and mortar bank branches. Instead, they typically differentiate themselves by offering better interest rates and more extensive online banking features.

**First online banking services in the United States**

According to "Banking and Finance on the Internet," edited by Mary J. Cronin, online banking was first introduced in the early 1980s in New York. Four major banks—Citibank, Chase Manhattan, Chemical and Manufacturers Hanover—offered home banking services. Chemical introduced its Pronto services for individuals and small businesses in 1983. It allowed individual and small-business clients to maintain electronic checkbook registers, see account balances, and transfer funds between checking and savings accounts. Pronto failed to attract enough customers to break even and was abandoned in 1989. Other banks had a similar experience.

**Online banking in the U.K.**

Almost simultaneously with the United States, online banking arrived in the United Kingdom. The UK's first home online banking services known as Homelink was set up by Bank of Scotland for customers of the Nottingham Building Society (NBI) in 1983. The system used was based on the UK's Prestel viewlink system and used a computer, such as the BBC Micro, or keyboard (Tandata Td1400) connected to the telephone system and television set. The system allowed on-line viewing of statements, bank transfers and bill payments. In order to make bank transfers and bill payments, a written instruction giving details of the intended recipient had to be sent
to the NBS who set the details up on the Homelink system. Typical recipients were gas, electricity and telephone companies and accounts with other banks. Details of payments to be made were input into the NBS system by the account holder via Prestel. A cheque was then sent by NBS to the payee and an advice giving details of the payment was sent to the account holder. BACS was later used to transfer the payment directly. Stanford Federal Credit Union was the first financial institution to offer online internet banking services to all of its members in October 1994.

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**Global Trend in Banking**

Economy decides the progress of a bank. European banks will have to struggle and face competition from the US banks. The reasons for European Bank’s decline is high costs, minimal price competition or innovation, and mediocre customer service. European banks have to face declining economy. This has led banks to try to enhance their performance in cost effective terms. But they have to set up long term survival in the market. Also, the banks cannot become efficient without implementation of technology. But neither technology, nor cost-reduction, nor the disposal of surplus assets will be sufficient to ensure long-term growth. The banks need to renew their strategies. And they must start by focusing on organic growth, as opposed to growth through acquisitions. Buying other banks is a passport for ready growth. But many acquisitions take up too much of top management’s time for too long. Customer service tends to be neglected. And so does innovation, although innovation is precisely what is needed for organic growth: new products, new marketing
capabilities and customer service skills, etc. Renewing a strategy also means redesigning it at the international level.

In Europe, with a few exceptions, banking is still a national industry. Even banks with a strong foreign presence are hampered by the lack of a clear international strategy. They tend merely to wait for the right moment and arrest any opportunity that arises, neglecting strictly strategic considerations. European banks are asking themselves what countries they can compete in best, what competitive advantages they might have in each country, and how resources and skills can best be transferred from the corporate center to their foreign subsidiaries. Another key question is how much diversification a bank can bear. Presently, the trend is toward universal banks that offer every kind of service to every kind of customer. Yet there are limits to the range of services a single bank can provide efficiently. To date, the performance of some universal banks has been disappointing. Exactly, what advantage they have over more specialized banks remains unclear. The banks need to have a proper structure in their firm but some banks, retain structures that are at odds with their strategy. Their global activities are not consistently integrated.

Many banks, for example, are still divided into business units such as “retail banking,” “corporate banking,” “advisory services,” etc., along with an “international division.” Outsourcing and off shoring will play an important role in determining the form banks take in the future. Corporate governance issues pose another serious challenge. The many changes the industry has encountered make it imperative that banks executive committees be equal to that challenge. There are certain aspects of the business that make banks special. Risk management is one of them. There is great complexity involved in operating in a regulated industry without any protection against competition. Market pressure is a potential threat to established banks. The need to make a profit may drive some of them to pursue unacceptably risky transactions. Banks need executive committees that understand this danger and have
the necessary prudence and skill to deal with it. The progress of the bank also depends on decision like, how much risk should a bank take when lending money to a customer in the hope of earning substantial advisory fees. Banks also need qualified hands who can handle sophisticated financial tools, concepts and valuation techniques accessible only to the initiated, and directors must have a very strong background in the business.

Recent developments – World banking sector

The current global macro-economic situation is characterized by an unbalanced economic recovery across advanced and emerging economies, moderation in economic prospects after 2011, high levels of unemployment and inflationary pressures, and elevated levels of government debt.

Macro-economic risks have increased substantially

In its September 2011 World Economic Outlook, the International Monetary Fund (IMF) has estimated a growth of 4.0 per cent for the world economy as a whole during 2011, with emerging and developing economies growing at 6.4 per cent and advanced economies growing only at 1.6 per cent. The estimate for advanced economies of 1.6 per cent provided in September 2011 was lower than the estimate of 2.2 per cent provided in June 2011 in light of the lower quarterly GDP growth of leading advanced economies. The rate of unemployment in advanced economies has been little over 8 per cent in 2010 albeit with some moderation expected after 2011 as per the IMF estimates. Inflationary pressures, which had become stubborn in 2010, more so for emerging economies as a fallout of rising oil, food and commodity prices, are expected to aggravate further after 2011. Uncertainty about credit revival continues:
Against the macro-economic backdrop discussed above, banking business in some advanced economies showed signs of revival in 2010. An increase in the growth of bank credit was evident in the US, Germany and France in the first quarter of 2011 after entering into the negative growth zone after the crisis. However, there is an uncertainty about whether this credit revival would continue or not, given the picture of economic revival looking bleak in the US and now, even in Germany. In fact, credit growth has again witnessed huge slump in the second quarter of 2011 in the US. In the UK and Japan, bank credit growth, which had entered a downtrend since the beginning of 2009, has shown a recovery in 2011, but has remained in the negative zone. Other advanced economies from Europe, particularly countries with fiscal strains, namely Portugal, Spain and Italy, showed a steep fall in the growth in bank credit with no signs of revival.

In this milieu, the performance of the global banking system too has been characterised by a mixed bag of a few positive developments and a number of shortfalls. The positive developments have been in terms of the efforts by countries towards revamping their regulatory and supervisory strategy learning from the crisis, along with an effort to step up capital adequacy of banks. The major shortfalls, however, have been the lack of a widespread revival of the global banking activity, which could be characterised by improved credit growth, profitability and asset quality, and lower leverage. Against this setting, the performance of the global banking system using major indicators of banking activity and soundness for select advanced and emerging economies. It also looks into the detailed individual performance of the banking systems in few advanced and emerging economies.
• **Indian Banking Sector – A Profile**

A bank is a financial institution that provides banking and other financial services to their customers. A bank is generally understood as an institution which provides fundamental banking services such as accepting deposits and providing loans. There are also non-banking institutions that provide certain banking services without meeting the legal definition of a bank. Banks are a subset of the financial services industry. A banking system also referred as a system provided by the bank which offers cash management services for customers, reporting the transactions of their accounts and portfolios, throughout the day. The banking system in India, should not only be hassle free but it should be able to meet the new challenges posed by the technology and any other external and internal factors. For the past three decades, India’s banking system has several outstanding achievements to its credit. The Banks are the main participants of the financial system in India. The Banking sector offers several facilities and opportunities to their customers. All the banks safeguards the money and valuables and provide loans, credit, and payment services, such as checking accounts, money orders, and cashier’s cheques. The banks also offer investment and insurance products. As a variety of models for cooperation and integration among finance industries have emerged, some of the traditional distinctions between banks, insurance companies, and securities firms have diminished. In spite of these changes, banks continue to maintain and perform their primary role—accepting deposits and lending funds from these deposits.

Before the establishment of banks, the financial activities were handled by money lenders and individuals. At that time the interest rates were very high. Again there were no security of public savings and no uniformity regarding loans. So as to overcome such problems the organized banking sector was established, which was fully regulated by the government. The organized banking sector works within the financial system to provide loans, accept deposits and provide other services to their customers. The following functions of the bank explain the need of the bank and its importance:
• To provide the security to the savings of customers.
• To control the supply of money and credit
• To encourage public confidence in the working of the financial system, increase savings speedily and efficiently.
• To avoid focus of financial powers in the hands of a few individuals and institutions.
• To set equal norms and conditions (i.e. rate of interest, period of lending etc) to all types of customers

**Historical perspectives of the Indian banking sector**

Modern banking in India could be traced back to the establishment of Bank of Bengal (Jan 2, 1809), the first joint-stock bank sponsored by Government of Bengal and governed by the royal charter of the British India Government. It was followed by establishment of Bank of Bombay (Apr 15, 1840) and Bank of Madras (Jul 1, 1843). These three banks, known as the presidency banks, marked the beginning of the limited liability and joint stock banking in India and were also vested with the right of note issue.

In 1921, the three presidency banks were merged to form the Imperial Bank of India, which had multiple roles and responsibilities and that functioned as a commercial bank, a banker to the government and a banker’s bank. Following the establishment of the Reserve Bank of India (RBI) in 1935, the central banking responsibilities that the Imperial Bank of India was carrying out came to an end, leading it to become more of a commercial bank. At the time of independence of India, the capital and reserves of the Imperial Bank stood at Rs 118 mn, deposits at Rs 2751 mn and advances at Rs 723 mn and a network of 172 branches and 200 sub offices spread all over the country.
In 1951, in the backdrop of central planning and the need to extend bank credit to the rural areas, the Government constituted All India Rural Credit Survey Committee, which recommended the creation of a state sponsored institution that will extend banking services to the rural areas. Following this, by an act of parliament passed in May 1955, State Bank of India was established in Jul, 1955. In 1959, State Bank of India took over the eight former state-associated banks as its subsidiaries. To further accelerate the credit to flow to the rural areas and the vital sections of the economy such as agriculture, small scale industry etc., that are of national importance, Social Control over banks was announced in 1967 and a National Credit Council was set up in 1968 to assess the demand for credit by these sectors and determine resource allocations. The decade of 1960s also witnessed significant consolidation in the Indian banking industry with more than 500 banks functioning in the 1950s reduced to 89 by 1969.

For the Indian banking industry, Jul 19, 1969, was a landmark day, on which nationalization of 14 major banks was announced that each had a minimum of Rs 500 mn and above of aggregate deposits. In 1980, eight more banks were nationalised. In 1976, the Regional Rural Banks Act came into being, that allowed the opening of specialized regional rural banks to exclusively cater to the credit requirements in the rural areas. These banks were set up jointly by the central government, commercial banks and the respective local governments of the states in which these are located. The period following nationalisation was characterized by rapid rise in banks business and helped in increasing national savings. Savings rate in the country leapfrogged from 10-12% in the two decades of 1950-70 to about 25 % post nationalisation period. Aggregate deposits which registered annual growth in the range of 10% to 12% in the 1960s rose to over 20% in the 1980s. Growth of bank credit increased from an average annual growth of 13% in the 1960s to about 19% in the 1970s and 1980s. Branch network expanded significantly leading to increase in the banking coverage.
Indian banking, which experienced rapid growth following the nationalization, began to face pressures on asset quality by the 1980s. Simultaneously, the banking world everywhere was gearing up towards new prudential norms and operational standards pertaining to capital adequacy, accounting and risk management, transparency and disclosure etc. In the early 1990s, India embarked on an ambitious economic reform programme in which the banking sector reforms formed a major part.

The Committee on Financial System (1991) more popularly known as the Narasimham Committee prepared the blueprint of the reforms. A few of the major aspects of reform included (a) moving towards international norms in income recognition and provisioning and other related aspects of accounting (b) liberalization of entry and exit norms leading to the establishment of several New Private Sector Banks and entry of a number of new Foreign Banks (c) freeing of deposit and lending rates (except the saving deposit rate), (d) allowing Public Sector Banks access to public equity markets for raising capital and diluting the government stake, (e) greater transparency and disclosure standards in financial reporting (f) suitable adoption of Basel Accord on capital adequacy (g) introduction of technology in banking operations etc.

The reforms led to major changes in the approach of the banks towards aspects such as competition, profitability and productivity and the need and scope for harmonization of global operational standards and adoption of best practices. Greater focus was given to deriving efficiencies by improvement in performance and rationalization of resources and greater reliance on technology including promoting in a big way computerization of banking operations and introduction of electronic banking.
The reforms led to significant changes in the strength and sustainability of Indian banking. In addition to significant growth in business, Indian banks experienced sharp growth in profitability, greater emphasis on prudential norms with higher provisioning levels, reduction in the non performing assets and surge in capital adequacy. All bank groups witnessed sharp growth in performance and profitability. Indian banking industry is preparing for smooth transition towards more intense competition arising from further liberalization of banking sector that was envisaged in the year 2009 as a part of the adherence to liberalization of the financial services industry.

According to the RBI definition, commercial banks which conduct the business of banking in India and which (a) have paid up capital and reserves of an aggregate real and exchangeable value of not less than Rs 0.5 mn and (b) satisfy the RBI that their affairs are not being conducted in a manner detrimental to the interest of their depositors, are eligible for inclusion in the Second Schedule to the Reserve Bank of India Act, 1934, and when included are known as ‘Scheduled Commercial Banks’. Scheduled Commercial Banks in India are categorized in five different groups according to their ownership and/or nature of operation. These bank groups are (i) State Bank of India and its associates, (ii) Nationalised Banks, (iii) Regional Rural Banks, (iv) Foreign Banks and (v) Other Indian Scheduled Commercial Banks (in the private sector). All Scheduled Banks comprise Schedule Commercial and Scheduled Co-operative Banks. Scheduled Cooperative banks consist of Scheduled State Co-operative Banks and Scheduled Urban Cooperative Banks.
The impact of ongoing globalization in the Indian banking sector

There are three distinct spells of development of Banking industry in post independent India, the pre-nationalization era from 1947 to 1969, the post - nationalization cum pre-liberalization era from 1969 to 1991 and the neo-liberalization era from 1991 onwards. The first phase was mostly city- centric private banking marked by frequent failures and liquidation of banks and consequent pauperization of numerous poor and middle class depositors and loss of jobs for the employees.

The post-nationalization era saw a massive change in the banking scenario : financial stability of Public Sector Banks (PSBs) controlling more than 84% of banking business of the country, PSBs commanding trust and confidence of the banking public, expansion of branch network of banks particularly in hitherto unbanked rural and semi urban centres, opening up the banking services accessible to the rural mass, expansion of micro credit to agriculture, small scale industries and small entrepreneurs, artisans even to the marginal farmers, small shopowners, vegetable vendors etc. Such expansion of branch network, coupled with such mass banking, created considerable job opportunities on the one hand, and, on the other, it helped a green revolution on the agricultural sector, obviating dependence of import of food grains, as also a spurt in the development of small and medium scale industries. It also rescued a vast section of the rural mass from the exploitation of village money lenders. By tapping the hitherto untapped huge rural savings, the PSBs could augment the growth of large scale and capital intensive industries too. Even the most ardent critics of public sector too have had to recognize and appreciate the laudable role of PSBs towards development of economic self reliance.
During this post nationalization era, Regional Rural Banks (RRBs) were established in 1975 onwards under the auspices of PSBs to cater to the credit needs of rural India. Till 1990, priority sector lending constituted over 70% of the advance portfolio of RRBs giving further fillip to the rural economy. During the last four decades of their productive existence, the PSBs have taken up the services of employees and the liability of depositors of a number of private banks going on liquidation due to mismanagement by and the greed of their private owners.

With the onset of World Bank IMF dictated reforms, euphemistically called liberalization, successive Governments at the centre have consistently been trying to undo all the good work of the PSBs as also to dismantle and privatize the PSBs altogether. On 14th August 1991, the Government of India (GOI) appointed a Committee headed by Mr. M. Narashimham (called “Narashimham Committee I”) to suggest the modus operandi for reforms of the banking sector. On 16th November 1991, the said Committee submitted its downsizing of PSBs through closure of branches, merger of PSBs, reduction of priority sector lending from the then prevailing 40% to 10% of total advance portfolio, abolition of Banking Service Recruitment Board (BSRB), granting of more autonomy to PSBs in respect of both financial and administrative matters, to reduce the supervisory and regulatory control of Reserve Bank of India (RBI), the Central Bank of the country, headed for, dilution of Government holding in PSBs through suitable amendment of relevant legislations. Thereafter, a number of committees, such as Narashimham Committee II, Khan Committee, Verma Committee, S.C.Gupta Committee, Raghuram Rajan Committee, Anwarul Hoda Committee, to name a few, had been appointed to assess the progress in implementation of the recommendations of the “Narashimham Committee I” as also to suggest measures for carrying forward the reforms of the banking sector further as per dictates of the World Bank - IMF.
Challenges in the globalized scenario

Banking business in Indian is getting redefined, it is faced with myriad challenges and opportunities, especially beyond 2009 when they were fully exposed to competition. Banks in India are bracing themselves to be ready through adoption of newer technology strengthening their capital base to survive in the competitive environment, Reducing their non performing assets, bringing down operating costs, enhancing corporate governance and alignments, undertaking organizational restructuring and sharpening their customer centric initiatives. Consolidation of merger and acquisition rout to effective compete with large global banks may not be far off, when viewed against such preparedness and positive signs from regulators. Technology is a clear prerequisite for growth and scale. Some of the challenges that are beings faced by banks today are as under:

- Changing needs of customers.
- Coping with regulatory reforms.
- Thinning spread.
- Maintaining high quality assets.
- Management of impaired assets.
- Keeping pace with technology up gradations.
- Sustaining healthy bottom lines and increasing shareholder value.

Technology Infusion and Up Gradation Challenges

Unlike the global banks, banks in India have hooked on to the computerization drive rather late i.e. by the 1980s and 1990s. Having started with computer based system, they moved on to total branch automation and later to networking and implementation of centralized/core banking solution (CBS). However, the transition of CBS has not been smooth in many of the traditional banks. Reluctance to adopt the best practices envisaged by the standard CBS packages has forced them to resort to heavy customization, leading to reduced effectiveness and efficiency of the solution.
Again, many large banks have confined the CBS facility to only 20% or 30% of their branches with the justification that it will cover 70 to 80% business of the bank. This has deprived the fruits of modern technology to the rural mass and smaller branches.

Further, employees have been using the new system without adequate training in many cases, resulting in delays to customers of rural and smaller branches. Besides, the bank employees have been using the new system without adequate training in many cases, resulting in delays and customer inconvenience, also they have to deal with dual systems and the overhead involved in reconciliation between them. Underutilized and unknown to many, there exists a huge potential at the bottom of the pyramid for banks. It is a proven fact that convenient and anytime banking channels like ATMs serve as good avenues for the banking system to procure the large amount of cash stacked by the rural mass. It calls for some out of the box thinking and applying the Indian IT ingenuity to achieve cost effective result. Smart cards, etc., can come to the help of the remote villages. Very soon banks will rediscover the rural potential for mobilizing low cost deposit through their e-banking channels cost effective. Perhaps the true spirit of financial inclusion can be achieved only when banks use updated technology extensively.

The benefits Vis-à-Vis costs:

To derive maximum advantage from technology investments, banks need to use technology as a strategic resource and align it well with their business strategies and objectives. The strategic plan should clearly spell out how much business value it can enhance and it should not be used as a mere publicity technique. It is crucial that experts who have sufficient exposure in both banking and technology domains formulate the strategic plans. It is difficult to measure productivity in financial services unlike in the rest of the service sector, since the quality of service in this sector is constantly improving due to greater convenient, speed and lower risk. Moreover, measuring the inputs used to produce outputs is not easy. Lack of
consistent data also hampers researchers from analyzing the cost and benefits reliably. However, investment in IT is justified by most of the CEOs as the cost for retaining good customer, if not attracting new ones, and the better competitive advantage it provides.

**E-banking services – A must**

The emergence of technology intensive new service delivery channels has liberalized the customers from the constraints of the time and space. Thanks to the high level of service quality and standard, the ATM channel has transformed the way customer’s carry out their banking transactions. The glitch is that the service is not yet free from occasional disruptions like communication link failure, on replenishment of cash on time, etc., despite the implementation of CBS solution, the flip side is that the quality of service at different branches varies widely. Without the automatic teller system, customers have to spend considerable time at the branch counters to complete their transactions. Initiatives like six sigma quality level implementation can go a long way to control this variance to ensure uniform customer experience. Now a day’s banking is not in its traditional way, with the advancement of technology it’s focusing on more comfort of customer providing services such as:

1. Automated Teller Machines cards (ATM)
2. Credit card
3. Debit card
4. Internet banking
5. Tele banking
6. Corporate cash Management
7. SWIFT Banking
8. Very small Aperture Terminals
9. Mobile banking
10. Home Banking
11. Demand Draft
12. Safe Deposit vault
13. Night safe
14. Rupee Travelers’ cheque

**Outsourcing vs. in sourcing:**

Normally, organizations across the world outsource non-core activities to achieve cost advantage. In fact, for banking and financial services, technology can no longer be treated as a non-core activity it has emerged as a strategic resource. However, banks in India are finding it extremely difficult for attracting and retaining IT expert internally, as the opportunities abroad are manifold for these people. This trend has forced many banks to entrust this vital role to vendors. But, this process entails high risk, as the vendors may not have the requisite awareness in the banking domain. Further, they may not be familiar with the cultural nuances of individual banks to frame the most appropriate technology strategies and architecture to suit the unique requirements of each bank. A fortiori, the only feasible solution is to have independent advisors and consultants with proven track record in the domains of banking and technology.

**Productivity enhancement experience so far and lessons learnt**

Infusion of technology in the banking system has helped in enhancing productivity despite many constraints such as non-flexibility in restraining and redeployment of staff, resistance to changing the processes, etc. It may be unrealistic to expect a revolution rather than an evolution in personnel productivity in the short run, considering the sensitivity of downsizing of labour and displacement. There is much to be learnt from e-channels like internet banking, telebanking, smart cards, etc many of these channels have been instituted to automate the existing processes, but the challenge of fundamentally changing the process from start to finish has proved daunting. This is in part because many of services that banks are attempting to
automate currently are extraneous the production or service depends on the input or behavior of many players outside of the bank. Many banks with net banking have discovered that they have to use the savings in “brick and mortar” operating costs to pay much higher interest rates to attract customers apart from incurring substantial expenses on brand building and operating call centers to address the large number of customer queries.

Technology as a Differentiator

In India, the foreign banks and the new generation banks had early move advantage of using technology as a differentiator in enhancing customer convenient and to remain competitive. However, over time, others caught up with them and the playing field has become flatter with most of the banks have now migrated to industry standard CBS solutions, however, there is adequate scope for banks to use technology as a differentiator through innovative products and services to face the aggressively competitive environment. Foreign banks tend to use information technology more intensively and practice niche banking. As for efficiency ladder has been driven almost exclusively by the new private banks that have followed the foreign bank type staffing practices and business model with lower clerical and subordinate staff strength. All these features have important policy implications for the debate concerning restructuring and privatizing the public sector banks. There is also the view however that ownership per se does not affect the operational efficiency of banks. It is the discipline of stock markets that make the traded private companies more efficient than public sector banks.

The Problem Areas

Banks have to realize that their business has to drive technology and not vice versa. All technology strategies and plans are to be based on the principle that any investment in IT should add business value to the bank and the customers. Being a strategic resource, IT governance has to be top in the agenda of a bank’s board. The
fast changes in technology and the faster turnover of IT personnel make it all the more difficult for banks to manage technology infrastructure and risks effectively. The operational risks emanating from the large scale dependence on technology in banking operations also have to be mitigated to acceptable limit through appropriate business strategic plans.

**The Impact on Customers**

The shift from branch counter to e-channels has indeed enhanced customer service and convenience. The dream of anytime, anywhere banking is a reality now. With facilities like mobile alerts, customers get real time information about transactions in their accounts. However, customers’ experience in resolving their problems through interactive voice response systems/call centers has not been satisfactory in most cases. The warmth and human considerations are is missing in these mechanical media, leaving many a customer to contemplate the benefits of talking to the good old banker. Also, in the absence of channel integration, customers are unable to get identical information about their accounts across the channels. The silver lining for customer is that they can shift to competitor’s banks easily if they are not satisfied with the services from the present bank.
Online Banking Services – An Overview

To access a financial institution's online banking facility, a customer with internet access would need to register with the institution for the service, and set up some password (under various names) for customer verification. The password for online banking is normally not the same as for telephone banking. Financial institutions now regularly allocate customers numbers (also under various names), whether or not customers have indicated an intention to access their online banking facility. Customers' numbers are normally not the same as account numbers, because a number of customer accounts can be linked to the one customer number. The customer can link to the customer number any account which the customer controls, which may be cheque, savings, loan, credit card and other accounts. Customer numbers will also not be the same as any debit or credit card issued by the banks to the customer.

To access online banking, a customer would go to the financial institution's secured website, and enter the online banking facility using the customer number and password previously setup. Some financial institutions have set up additional security steps for access to online banking, but there is no consistency to the approach adopted.

The IT revolution has had a great impact on the Indian banking system. The use of computers has led to the introduction of online banking in India. The use of computers in the banking sector in India has increased many fold after the economic liberalisation of 1991 as the country's banking sector has been exposed to the world's market. Indian banks were finding it difficult to compete with the international banks in terms of customer service, without the use of information technology.
The RBI set up a number of committees to define and co-ordinate banking technology. These have included:

In 1984 was formed the Committee on Mechanisation in the Banking Industry (1984) whose chairman was Dr. C Rangarajan, Deputy Governor, Reserve Bank of India. The major recommendations of this committee were introducing MICR technology in all the banks in the metropolises in India. This provided for the use of standardized cheque forms and encoders.

In 1988, the RBI set up the Committee on Computerisation in Banks (1988) headed by Dr. C Rangarajan. It emphasized that settlement operation must be computerized in the clearing houses of RBI in Bhubaneshwar, Guwahati, Jaipur, Patna and Thiruvananthapuram. It further stated that there should be National Clearing of inter-city cheques at Kolkata, Mumbai, Delhi, Chennai and MICR should be made operational. It also focused on computerisation of branches and increasing connectivity among branches through computers. It also suggested modalities for implementing on-line banking. The committee submitted its reports in 1989 and computerisation began from 1993 with the settlement between IBA and bank employees' associations.

In 1994, the Committee on Technology Issues relating to payment systems, cheque clearing and securities settlement in the Banking Industry (1994) was set up under Chairman W S Saraf. It emphasized Electronic Funds Transfer (EFT) system, with the BANKNET communications network as its carrier. It also said that MICR clearing should be set up in all branches of all those banks with more than 100 branches. In 1995, the Committee for proposing Legislation on Electronic Funds Transfer and other Electronic Payments (1995) again emphasized EFT system.
Internet Banking has been designed to make online banking experience secure, easy and efficient. The bank’s customers can perform a range of transactions via the internet such as balance information on savings, checking, and loan accounts, pay bills online, initiate stop payments, change password, perform account transfers and schedule recurring transfers. The Internet Banking offers security to all customer information and protects the confidentiality of the customer’s account(s).

**Secure Sockets Layer (SSL) Technology**
All online banking transactions sent over the Internet are specially encrypted using Secure Sockets Layer (SSL) technology to maximise internet banking security.

**First Level Authentication**
Access Code, User Name & Password Protection come up at the first level within Internet Banking.

**Second Level Authentication**
It provides a second level of authentication for the online banking customer that is used in conjunction with his Customer Access Code, User Name and Password.

**Auto Timeout Screen Blanking**
It provides a built-in security feature that logs the user out after a given period of inactivity.

**Failed Log-on Attempts**
It denies a user access after a predetermined number of failed log-on attempts.

**Virtual Keyboard**
Online banking provides added security for Internet Banking with the Virtual Keyboard. This protects the user from Trojans set to monitor keystrokes as you type.
The user can only enter his/her password using the virtual keyboard by clicking with the mouse on the appropriate combination of keys.

**e-Messaging Facility**

It allows the customer to communicate with the bank. This is provided in a secured environment to protect the customer’s information. Thus, the customer does not need to use the standard Internet email when communicating information about his accounts.

**Accounts Information**

Accounts Information provides up-to-date information on the customer’s account and is used to manage the customer account related information such as account summary, detailed account information, account statement information, uncollected funds, online accounts creation.

**Types of Net Banking Services**

Though, variety of OLB services are popular among the people across the world, India is constrained to provide the OLB services selectively to the Indian banking public. These services are explained precinctly, here.

**Cheques**

This manages the customer’s cheque activities and transactions such as order for bank draft, order new cheques online, confirmation of issued cheque, enquiries on the status of cheque(s), place a stop payment - single cheque or range of cheques.
Bill Payment and Presentment

It facilitates online payment of utility bills and payments to merchants. This includes bill payee management, utility payments, single/bulk payments, remittance/acceptance, bill presentation, recurring bill payments, card settlement, bill/payment report.

Internal fund transfer

Fund transfer means the money transfer between accounts of the same customer.

External fund transfer

Fund transfer between accounts of the same bank Wire transfer to an external account Advance request transfer between deposit and loan accounts Recurring transfer used for automatic transfers, Bulk transfer/upload, Utility transfer used for utility payments, Pending transfers, Online mobile recharge.

e-Analysis

It enables the customer to analyse current or hypothetical account scenarios such as; online deposit forecasting, online loan analysis with an attached payment schedule, trend analysis that displays the analysis of a specified account over a given period using different chart types. Corporate User and Workflow Management enables the online review of the customer’s profile and information, password change, viewing of the customer’s audit trail logs on logins and transactions, configuring an authorised user and assigning them to a corporate workflow.
**e-Payment**

E payment is a subset of an e-commerce transaction to include electronic payment for buying and selling goods or services offered through the Internet. Generally we think of electronic payments as referring to online transactions on the internet, there are actually many forms of electronic payments. As technology developing, the range of devices and processes to transact electronically continues to increase while the percentage of cash and check transactions continues to decrease.

**Electronic Fund Transfer**

Electronic Funds Transfer (EFT) is a system of transferring money from one bank account directly to another without any paper money changing hands. One of the most widely-used EFT programs is Direct Deposit, in which payroll is deposited straight into an employee's bank account, although EFT refers to any transfer of funds initiated through an electronic terminal, including credit card, ATM, Fedwire and point-of-sale (POS) transactions. It is used for both credit transfers, such as payroll payments, and for debit transfers, such as mortgage payments.

**Debit Card**

A **debit card** (also known as a **bank card** or **check card**) is a plastic payment card that provides the cardholder electronic access to their bank accounts at a financial institution. Some cards may bear a stored value with which a payment is made, while most relay a message to the cardholder's bank to withdraw funds from a payer's designated bank account. The card, where accepted, can be used instead of cash when making purchases. In some cases, the primary account number is assigned exclusively for use on the Internet and there is no physical card.
Credit card

A credit card is a payment card issued to users as a system of payment. It allows the cardholder to pay for goods and services based on the holder's promise to pay for them. The issuer of the card creates a revolving account and grants a line of credit to the consumer (or the user) from which the user can borrow money for payment to a merchant or as a cash advance to the user.

ATM

In online business trust, security and safety are the most challenging issues for the banks. Beside them, to build and retain the customers' trust will also become a future challenge for banks especially in internet banking (Aladwani, 2001). Majority of the customers hesitate to use internet banking services because of security and privacy issues (Lee & Turban, 2001). The security problems have a large contribution to reduce customer satisfaction. The success of any new product and service is highly depending on customer acceptance and customer satisfaction. (Huang et al. 2004). In contrast the customer dissatisfaction and resistance is one of the major causes of market failure of innovation (Ram and Sheth, 1989). In online banking business the Automated Teller Machine (ATM) is the first popular system that was introduced to facilitate the users to access and carryout their banking transactions in minimum time. However, the evidences of various researches show that there is a high association between consumers' usage patterns of ATMs and their demographic profiles (Hood, 1979; Murphy, 1983). But in now a day's the relationship between ATM's usage patterns and consumer psychographic profiles is also found significant (Stevens et al., 1986).
Mobile Banking

Mobile banking has a great contribute in online banking revolution, which is giving a competitive edge to the banks against their rivals. Especially "Transaction Alert / Confirmation" is most demanding service by users. Customers feel that after monetary transaction the SMS should be received and they prefer the version of the IVR (Interactive Voice Response) banking service that provides (out-of-band) SMS confirmation over those one that does not (Peevers et al, 2010). Therefore, online banking helps banks to retain and enhance the loyalty of their existing customers, increase customer satisfaction, provide opportunity to the banks to increase market share, reduce administrative and operational cost and to improve banks' competitive positions against their rivals (Khalfan et al., 2006; Almogbil, 2005).

Online trading

The act of placing buy/sell orders for financial securities and/or currencies with the use of a brokerage's internet-based proprietary trading platforms. The use of online trading increased dramatically in the mid- to late-'90s with the introduction of affordable high-speed computers and internet connections.

Stocks, bonds, options, futures and currencies can all be traded online. The use of online trades has increased the number of discount brokerages because internet trading allows many brokers to further cut costs and part of the savings can be past on to customers in the form of lower commissions.

Another benefit of online trading is the improvement in the speed of which transactions can be executed and settled, because there is no need for paper-based documents to be copied, filed and entered into an electronic format.
e-Reservation

E-Reservation System is an easy to use; revolutionary Online Reservation System that enables hotel, resort, property owners and operators to take full advantage of the power of the Internet while increasing the flexibility to maximize revenues without any capital outlay. Developed to work with your web site and e-mail, Reservation System provides the Hotel operator with full control over online reservations and online dynamic room inventory while saving money. It optimizes the potential of your website.

e-Filing

The process of using a computer program to transmit information electronically to another party. This allows the user to complete and submit the information in a timely fashion. The electronic filing system prevents the user from making small mistakes by alerting them if something does not register correctly. A large majority of federal and state revenue departments offer citizens the ability to file yearly tax returns using an electronic filing system. The Internal Revenue Service provides this service free of charge for federal tax returns.

e-Statement/requisition

E-statement is merely the delivery of the customer’s normal account statement (replete with all regulatory disclosures) via electronic means instead of snail mail. The pull method of delivery occurs when the customer must go to a secure website and pull their statement from that site. The push method of delivery occurs when the bank pushes their statement to them via some form of secure e-mail.
e-Pay

It enables corporate customers to initiate bulk payments of both debits and credits type of transactions either by manual entry of the transaction details into the banking system or by uploading a file containing the transactions details in a specified format to the core banking system. It covers intra and inter-bank payments. The corporate customer can also use this facility for salary disbursements, dealer credits and dealer debits where the debits and credits are intended to several accounts at a time.

e-Trade

It offers financial products geared to assist both importers and exporters in reducing the payment risk associated with international trade. This feature allows corporate customers to make a request for the opening & amendment of Letter of Credits and lodgment of foreign outward payment. The e-Trade facility details the status and history of trade finance instruments and treasury deals such as, Import and Export Letter of Credits, Bank Guarantees, Inland and Foreign Bills, Forward Contracts and Treasury Deals.

e-Reporting

Individual or corporate customers can have access to various forms of Internet banking reports. These reports are classified into administration/audit and transaction reports.
Internet Banking Fees/Charges

They are transaction fees associated with Internet banking and this may vary depending on the type of account activity the customer is transacting on.

e-Messages

It provides a centralised environment for message management. The integrated messaging system ensures that sensitive data is not sent through e-mail without encryption.

ATM/POS

It provides banks with the ATM-Host Interface and offers online support for ATM and Point of Sale devices. It is designed to operate in a centralised multi-branch database configuration in which each ATM device is connected to an ATM host. The ATM host passes transactions to Rubikon for authorisation and allows for the interfacing of all transactions originating from external system (ATM/POS) to the core banking system for routing or authorisation. The interface can handle all standard ISO 8583 messages, which include: authorisation, financial, reversal and network management messages and provides online and real-time transaction activities from any ATM network into the core banking system. Protocol of Communication TCP/IP socket connection is used to communicate with any interfacing system (ATM controllers) and can only send/receive Messages in ASCII HEX Characters. EBCDIC is equivalent to the ASCII HEX range of 30-39 for numeric or 20 to 7E for character fields.