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**Dr. R. Bhaskaran**  
Chief Executive Officer,  
IIBF,  
Mumbai

*We had zeroed on the theme 'Banking Technology' for the current issue. In the meantime we had sought articles from few eminent writers on certain topics. We also launched the Banking Compliance Professional course for which Dr. K. C. Chakrabarty had delivered the inaugural address. In view of this the current issue consists of many articles on Banking Technology, the speech of the Deputy Governor on compliance, issues and challenges of small private sector banks, risk management etc.*

*The first article in this issue is the text address by Dr. K. C. Chakrabarty, Deputy Governor, Reserve Bank of India on 'Compliance Function in Banks: Back to the basics' at the launch of two new courses of the Institute viz. 'Certified Banking Compliance Professional' and 'Certified Bank Trainer' on 12<sup>th</sup> July 2013 in Mumbai. The Deputy Governor commended the three Institutions viz. ICSI, NIBM and IIBF for their collaborative efforts in bringing out these courses and expressed a hope that both the bankers and the ICSI members realize the potential benefits that these courses offer and suggested to make their optimum use. His speech covers the compliance from definition to the importance of compliance function in banks, scope of compliance process, compliance risk, essentials of an effective compliance framework and the role of top management in compliance. The Deputy Governor has emphasized that each bank needs to have a robust compliance system with a well developed policy, structure, manuals, composition of its staff and their specific responsibilities.*

*The second article is by Dr. N. K. Thingalaya, former Chairman and Managing Director, Syndicate Bank and a prolific writer on 'Issues and challenges of Small Private Sector Banks in India'. The article delves into the history and current status of small private sector banks in India with an in depth analysis of the growth and the performance of 13 small old private sector banks. The author explains the growth of these banks in different geographies with vivid analysis. He has highlighted various challenges faced by these banks. He has pointed that there are three major issues viz., inadequacy of their rural presence, controlling NPAs and managing executive compensation posing challenges to these banks. The author has indicated that there is a need for such small banks considering the vast challenge of achieving inclusion.*

*The next article is 'De-mystifying payment system challenges: Pragmatic Approach' by Mr. Bharat Panchal, Head-Risk Management, National Payments Corporation of India. In this article, the author comments on the size of India's payment system. The article focuses on the number of ATM fraud cases and the modus operandi adopted for committing such frauds. He*

*has elaborated the recommendations of Task Force constituted by NPCI to study the pattern of such frauds. He underlines the importance of customer education in addition to technology to prevent frauds.*

*'Contactless Payments Technology : a new wave of Banking' by Mr. Tamilenian D., Manager, Indian Overseas Bank is the fourth article in this issue. This article won a consolation prize in the micro research papers competition for the year 2012. The article deals with the distinction between Contactless and Radio Frequency technologies and explains different modes of Contactless Technology along with related concepts, its working and use in banking.*

*The next article is on 'Operational Risk in Banks-Mapping, Assessment and Measurement Issues' by Prof. Arya Kumar, BITS, Pilani and Mr. Akhilesh Thripathi, Chief Manager, State Bank of Bikaner & Jaipur. The article is about the concept of operational risk and its management, risk process mapping, issues related to risk assessment as well as issues related to its measurement.*

*In the sixth article 'Technology, boon or bane?' by Mr. N. V. Chalapathi Rao, Faculty-Consultant, IIBF describes various issues in use of technology in Banks. He argues that Technology has a profound impact on all aspects of banking from a perspective of customer centricity, speed of delivery and cost of servicing customers and is a boon in terms of core banking solution, financial engineering, speed, accuracy and transparency, centralized back offices etc. At the same time, there are certain limitations in the use of technology in terms of vulnerability to cyber crime, lack of specialized staff to handle technology and effect on expenditure etc.*

*One of the most discussed news items in the recent months is 'Indian Rupee depreciating against US dollar'. In this issue, we carry an article on 'Rupee Dollar Dynamics' by Mr. N. S. N. Reddy, Assistant General Manager, Andhra Bank. In this article, he describes the evolution of exchange rate in three phases viz., regulated, dual rate and partial deregulated phases. The possible effect of depreciation of rupee against US Dollar on different sectors has also been discussed. The article looks into the role of banks in Forex management and various initiatives that has been taken to tackle the problem of depreciation of the Rupee.*

*In addition to the above articles, we also carry a separate write up on 'Banking Technology Products' under current banking development feature / section.*

*This issue carries a book review on 'Breaking Barriers-Success Stories of India's Leading Business Women' written by Ms. Janaki Krishnan.*

*We hope all the articles will be of interest to you. We solicit your suggestions and feedback for improvement.*

*(Dr. R. Bhaskaran)*



 **Dr. K. C. Chakrabarty \***

## Compliance Function in Banks : Back to the basics<sup>1</sup>

Mr. S. N. Ananthasubramanian, President, Institute of Company Secretaries of India (ICSI); Mr. Allen Pereira, Director, National Institute of Bank Management (NIBM); Dr. R. Bhaskaran, Chief Executive Officer, Indian Institute of Banking & Finance (IIBF); Mr. S. S. Mundra, CMD, Bank of Baroda; Mr. M. V. Tanksale, CMD, Central Bank of India; other dignitaries, ladies and gentlemen. I am pleased to be amidst you today on the occasion of launch of two new certificate courses by the IIBF viz., Certified Banking Compliance Professional course jointly with the ICSI and Certified Bank Trainer course jointly with NIBM. Human resource management and compliance are two of the major support functions in banks and hence, the courses being launched today are of vital importance for augmenting the skill sets of the bank employees in the respective areas. I am particularly happy to be present here today as the launch of the course on compliance is a sort of a dream come true, a dream which I had shared with Dr. Bhaskaran when I was the CMD at Punjab National Bank.

As you know, all the three institutions involved in evolving the two courses being launched today can boast of an outstanding pedigree. While ICSI is the professional body responsible for developing and regulating the profession of Company Secretaries in India, IIBF has been continuously supporting the cause of development of professionally qualified and competent bankers and finance professionals since its establishment in 1928. NIBM is an autonomous institution established by Reserve Bank of India with a mandate to play a proactive role as a "think-tank" in the banking system. It is, indeed, commendable that these institutions of excellence have decided to

collaborate and leverage their respective strengths to jointly offer programmes / courses to meet the needs of the banking industry and I congratulate all the three institutions on this initiative.

I observe that these courses have two distinct components - An examination followed by short class room learning. I also understand that IIBF has developed reading material for these certificate programmes, which should provide useful inputs for the candidates. The Certified Bank Trainer course comprises of two papers - Human Resource Management and Training. As we all know, the Indian banking system today stands at the cusp of an explosive growth. This growth has to be essentially supported by a matching supply of suitably trained manpower. It is in this context that training of the banking personnel assumes great significance. With the evolution of new age banking, even the trainers have to be adequately equipped to deal with new technology and evolving policies. This course attempts to hone the skills of the faculty to enable them to be more effective as trainers. I observe that the Certified Banking Compliance Professional course also comprises of two papers- Risk, Regulation & Governance and Compliance in Banks. After going through the structure of both the courses, I am happy to note that they are very well conceptualized and will assist in strengthening the two crucial functions in banks i.e. training and compliance.

Though we all agree that both issues hold equal importance for banks, my observation is that Human Resource Management is a more glamorous subject and people are more interested in discussing it. It is precisely for this reason that, today, I have chosen

\* Deputy Governor, Reserve Bank of India.

1. Inaugural address by Dr. K. C. Chakrabarty, Deputy Governor, Reserve Bank of India at the launch of certificate programmes on Compliance Function and Training on July 12, 2013 in Mumbai. Assistance provided by Shri R. Kesavan in preparation of this address is gratefully acknowledged.

to speak on the other topic – Compliance, which is considered a rather drab and uninteresting topic and is restricted to cursory Board Room discussions. I intend to share my perspectives on the significance of the compliance function in banks and its evolution in the Indian context. During my talk today, I would also delve on the need for banks to follow the basic compliance principles in order to overcome the challenges posed by the ever-growing complexities of modern day banking.

### **What does Compliance mean?**

Before I head into the subject proper, it would be appropriate to understand the import, impact and intent of the term "compliance". The Merriam-Webster Dictionary defines "compliance" as "(a) the act or process of complying with a desire, demand, proposal, regimen or coercion, (b) conformity in fulfilling official requirements." In banking parlance, compliance alludes to adherence to a set of laws, regulations, rules, practices, related Self-Regulatory Organization (SRO) standards, and codes of conduct applicable to the various banking activities. To my mind, banking compliance can be broadly segregated in three parts -

- a) Internal compliance, including SRO standards
- b) Regulatory Compliance
- c) Legal Compliance.

The internal compliance means adherence to the internal policies formulated by the Board based on which an internal governance framework would have been laid down. Thus, internal compliance would be applicable to all employees of the bank. The regulatory and legal compliance, on the other hand, is applicable to the bank as a whole- the institution itself would be responsible for ensuring adherence to the extant regulatory instructions and above all, for abiding by the laws of the land, both in letter and spirit.

### **Why compliance function in banks is important?**

Let me now turn to the significance of the compliance function in banks. We all agree that laws, customs and codes are meant to bring in a semblance of order and uniformity in conduct of the various stakeholders.

Compliance to these ensures orderliness and reduces overall systemic vulnerability. For this, it is imperative that the regulated entities are willing to commit themselves to the laws of the land and comply with the regulations, including self regulations. In securing compliance, regulators have adopted different strategies ranging from codification of laws, rules and regulations (prescriptive), to periodical meetings with the subjects (review mechanism). If, however, one or more of the regulated entities are observed to be non-compliant with the regulations, the supervisory authorities might need to resort to coercive techniques to ensure conformity with the regulations. Thus, fundamentally, whether forced or voluntary, compliance is an essential pre-condition for ensuring order and preventing chaos in systems.

Compliance is a theme that pervades all spheres of banking functions. Bankers deal with complicated legal, regulatory and supervisory issues all the time, transcending various spheres of banking operations. It is in this context that a dedicated framework for overseeing the implementation of directions / guidelines issued by the regulator / supervisor is required in the banks. The objective of the compliance function is to minimize the deviations; or when they actually do occur, to ensure that there is a process to promptly respond to and redress the anomalies.

### **A Few Posers ...**

The overall responsibility for ensuring compliance is with the Banks' Top Managements although the compliance responsibilities are spread across various functional lines and business locations. I would like to ask a few basic questions here – how does the Top Management satisfy itself that all rules and regulations are being complied with? Is it declaration based? What I mean is whether under your internal procedure, the branch manager merely confirms to the Regional Manager / Zonal Manager that all functions are being performed as per the prescribed rigor; the Regional Manager / Zonal Manager accepts the same and, in turn, makes a similar declaration to the Head Office, which, ultimately, certifies the same to the Compliance department? Are such declarations taken on face value



or is there an internal system of checking the actual veracity of that declaration. In other words, is the compliance process action-based and not merely declaration-based?

Reserve Bank of India has issued comprehensive guidelines requiring banks, among others, to develop function-wise compliance manuals. I would like to know how many banks have developed comprehensive compliance manuals and whether an internal process has been instituted to ensure that the manuals are duly adhered to by the business lines.

Another issue that I would like to highlight is that of the rank of the compliance officer. I wonder how a less than sufficiently enabled lower level official of the rank of DGM / AGM can effectively interact with GMs, EDs or CMDs to implement or enforce compliance. RBI guidelines on "fit and proper" criteria, which are borne out of the need to establish high standards of corporate governance, categorically mandate that only a senior executive should be appointed as the compliance officer by banks.

Let me pose another question here : do banks consider compliance as a cost centre or a revenue generating channel? Answer to that is very obvious. Compliance is treated as a cost and the business verticals consider it more of an impediment than a necessity. I would like to emphasize here that compliance with the prescribed standards, codes, rules and regulations improves the Corporate Governance in banks. The role of the compliance function is to ensure that the rules / regulations are appropriately incorporated in bank's internal processes and that each functionary, right from the top to the bottom, appreciates the value of compliance. It is important for the senior executives as well as the line functionaries to realize that compliance failures may lead to serious implications for them, for the business as well as for the system as a whole. In a sense, the need for compliance can, effectively, be equated to the frictional force which, though impedes the progress a bit, is still necessary for movement. Compliance works more as a lubricant which oils the business machinery and keeps it going.

### **Is compliance a recent phenomenon?**

Compliance activity has been in existence ever since the first regulation or law was enacted. After all, you cannot have a law / regulation without an attendant requirement to comply with it. The compliance activity, in earlier times, was integrated with other systems and processes within the banks; however, with banking becoming more complex, the compliance has evolved as an independent function in banks. Let me briefly recount how the compliance function in banks has evolved in the recent history. Reserve Bank of India introduced a system of "Compliance Officer" in banks way back in August 1992, based on the recommendations of the Committee on Frauds and Malpractices in Banks (Ghosh Committee). The role of compliance officers came into sharper focus since 1995 when the General Manager in charge of Audit and Inspection was made responsible for the compliance functions with a requirement for periodic reporting or certification on compliance functions directly to the CMD. However, it was gradually recognized that the circumference of compliance functions in banks needed to be not only enlarged, but very clearly defined, especially in a scenario where successive Annual Financial Inspection Reports prepared by the banking supervisor highlighted a bevy of compliance deficiencies. RBI's recognition of the need and importance of compliance functions received a further impetus after Basel Committee on Banking Supervision (BCBS) issued the High Level Paper on Compliance Risk and the Compliance Function in Banks in April 2005. These principles formed the basic groundwork for our own work on issuing rigors for compliance functions in banks, in the year 2007.

### **What is the scope of the compliance process?**

Banks in India primarily operate under the provisions of the Banking Regulation Act. However, there are several other enactments such as Reserve Bank of India Act, Foreign Exchange Management Act (FEMA), Income Tax Act and Prevention of Money Laundering Act (PMLA) which impact the business of banking. The banks in India have to comply with periodic regulations and directions issued by the Reserve Bank of India,

the primary regulator. Further, as Indian Banks are expanding geographically across the borders, they also need to adhere to local laws and regulations applicable in the overseas jurisdictions. There are also industry standards and codes set by BCSBI, FIMMDA, FEDAI and IBA which need to be followed by the banks. With most of the banks having turned public and having been listed on the stock exchanges, they also need to adhere to the listing and disclosure requirements. Also, as banks are undertaking other business / functions such as bancassurance, cross selling of mutual funds, wealth management, etc. they need to adhere to the guidelines issued by other regulators like IRDA, SEBI, PFRDA, etc. I understand that there are about 54 legislations that impact banking business and all of them need some sort of compliance. The compliance function, very often, extends beyond what is legally binding and embraces broader standards of integrity and ethical conduct.

Compliance function not just encompasses the banks' standalone operations but also includes various Para-banking functions, which are conducted within the wider banking group. Consequently, there is a critical need for the management of compliance risk as a Group level risk under an enterprise wide risk management framework.

#### **What is the fall-out of non-compliance?**

The non-fulfillment of compliance responsibilities is likely to bring to the fore various risks that may have potentially debilitating effects on the bank. The BCBS paper defines Compliance risk as *"the risk of legal or regulatory sanctions, material financial loss, or loss to reputation a bank may suffer as a result of its failure to comply with laws, regulations, rules, related self-regulatory organization standards, and codes of conduct applicable to its banking activities"*. The compliance area is, thus, critically important in identifying, evaluating, and addressing legal and reputational risks. The penalties imposed by regulators / supervisors, including RBI, on regulated entities for non-compliance of directions, rules and statutory requirements and the associated "name and shame" that these penalties bring in their wake, are a manifestation of the compliance risk facing banks. These also have ramifications on the perception of the masses about

the institutions so penalized. In fact, one of the key functions of the compliance department has to be information dissemination, whereby instances of compliance failures are quickly circulated among the staff along with preventive instructions, especially with an eye on preventing future frauds / mishaps and other manifestations of compliance risk.

#### **What are the essential ingredients of an effective compliance framework?**

Let me now turn to what I believe constitutes the basic building blocks of an effective compliance framework. These are : (i) Compliance Policy; (ii) Compliance Structure; (iii) Compliance Manual / checklist; (iv) Compliance Personnel; and (v) Compliance Audit. The compliance process involves identifying the level of compliance risk in each business line, products & processes, suitably advising the operational functionaries and formulating instructions for mitigation of such risk. The integrity of the compliance process would depend upon how well the compliance architecture has been built up within the organization and whether there is clear identification of responsibility and accountability for the compliance function. If we can get the above basics right, probably the foundation of an effective compliance framework would have been well laid.

The role of compliance officers is extremely important to ensure evolution of an appropriate risk mitigation plan by bank Boards. During pre-screening of prospective products and services, compliance function provides vital inputs on possible breaches of regulatory guidelines. Documentation deficiencies, very often, plague the operational efficiency of banks and this could well be the case for compliance function too. In this regard, it is important that regular updates are carried out to the Compliance manuals and detailed check lists are prepared, which will ensure availability of an itemized inventory of "dos and don'ts" which can be followed by every new incumbent in the compliance hierarchy and also help in building institutional memory. Further, in order that the compliance process attains its desired objectives, it is imperative that the Compliance and Audit functions act in a coordinated manner.

However, let me state that all banks need not have a uniform internal compliance structure. RBI's compliance guidelines clearly recognize the differences among the banks with regard to their scale of operations, their risk profiles and organizational structures and, therefore, allow freedom to the management to organize their compliance function best suited to their individual requirements. However, I would like to add a word of caution here. In an ever changing competitive scenario, what we may not do as bankers today may not be such a remote possibility tomorrow and, therefore, the compliance officers have to not only be aware of present set of regulations but also be able to foresee possible impediments to operations going forward. Same is the case with compliance structures, which need to retain flexibility and adaptability to stay in sync with the evolving business environment.

### **Is there a conflict of interest between the broad operational mandate of banks and the compliance function?**

Compliance teams are invariably caught in a bind over whether to overlook certain rigors of regulation to facilitate the business or to enforce them zealously. A significant underpinning that can help solve this dilemma is the extent of independence that the compliance officers enjoy. It is imperative that the compliance officers enjoy complete independence so that they can fearlessly put forth their apprehensions on probable compliance deficiencies and pitfalls in various business lines. Towards this end, RBI has prescribed that the remuneration of compliance officers should be independent of the business lines they are responsible for and should be more in alignment with the bank's overall financial performance. A proactive system of testing for compliance on various points to obviate influences from business lines, enabling direct reporting of compliance aspects by Compliance Heads to Boards of banks, etc. are some of the means to ensure the independence of the compliance function.

### **What is the role of the Top Managements of banks in compliance?**

Above arguments possibly point to a predominant role for dedicated compliance units in banks. This, however, does not undermine the role of the Top Management

in the compliance function. Top Management in banks have a very critical role in ensuring compliance. This was one of the main planks on which the BCBS document articulated its stance on the inter-relationship between compliance functions and corporate governance. Attainment of high standards of compliance underscores the ability of the management to remain accountable and responsible all the time, which is an essential tenet of corporate governance, especially since the process has to be rolled out at the top for employees down below to emulate. The most effective corporate culture emphasizing standards of honesty and integrity is one in which the Board of directors and senior management lead by example. Besides, there has to be an active channel of two-way communication that can transmit the Top Management's compliance ethos down the hierarchical levels and carry back feedback from the lower level in order to progressively improve bank's compliance processes.

### **Would theoretical education help in improving compliance process?**

While compliance officers often have the prior experience of working in live, operational environments, a sound theoretical grounding in terms of knowledge of laws and statutes and familiarity with the roles and responsibilities can definitely be an added advantage. It is in this context that courses such as the one being launched today could go a long way in educating compliance functionaries on essential aspects of legal compliance, creating documentation related awareness and, in the process, ironing out the chinks in the compliance armor. More than anything else, compliance officers need to know the realms in which they operate, the scope of their functions and how limited or expansive their interaction and reach should be. In sum, they should be aware of when to report and what to report to their respective Boards / Management Committees on compliance failures and then take it forward to the banking regulator and supervisor. Their role is also of moral suasion in convincing Boards to be guided by prudent compliance policies which can, at times, be dragged in different directions by forces of competition, market demands,

general business needs and ambitions. It is perfectly desirable to prevent a compliance failure upfront, rather than report the same after the occurrence of a potentially damaging event. Compliance staff should have fair knowledge of law, accountancy and information technology along with adequate practical experience in various business lines and audit / inspection functions to enable them to carry out their duties effectively. In order to keep the compliance staff up-to-date with developments in the areas of banking laws, rules and standards, regular and systematic education / training in areas such as new products and services introduced in the banking industry, corporate governance, risk management and supervisory practices, etc. are necessary.

### **Conclusion**

To conclude, I would emphasize that each bank must develop a robust compliance system with a well documented compliance policy clearly outlining the compliance philosophy of the bank, role and set up of the compliance department, composition of its staff and their specific responsibilities. For the compliance policy to be effective, it is important that the policy is driven by the risk profile of businesses and their stated risk appetite. For the long term stability and survival of the bank, it is important that a healthy compliance culture is developed and percolated down to the lowest level functionaries in the bank. If we follow the basic tenets of compliance, the risk of manifestation of compliance failure would be minimized. We agree that compliance is costly and will involve expenditure, but let me remind you that, in the final analysis, it is non compliance which would prove costly and may endanger the very survival of the institution.

The compliance function is acquiring increasing importance in banks on account of growing regulatory complexity and also creating a demand for competent banking compliance professionals. In view of the constantly evolving legal / regulatory framework, those already working in this area also need to continuously update their knowledge base and skill sets to remain relevant. I believe that the certificate course being launched today would help create a cadre of suitably

trained banking compliance professionals. It is also heartening to note that the course would not only be open to bankers who have completed CAIIB but also to the members of ICSI. Given the fact that legal knowledge is essential in ensuring proper compliance, having company secretaries, who are well versed with various laws, as compliance officers would imply having in place the right persons for the right job.

Policies and products alone cannot ensure success in banking performance. The performance of banks depends on the quality of staff, their professional competence and also the compliance culture in the bank. This has to be nurtured and kept updated through training and other knowledge management efforts. Banks need a battery of in-house professional trainers to spearhead these efforts and it is here that the Certified Bank Trainer course would come in handy. Since we need a multitude of professional trainers to take forward the task of competence building and to provide mentorship to the bank staff, I feel the scope for this course is also phenomenal.

I hope, both the bankers and the ICSI members, realize the potential benefits that these two courses offer and make their optimum use. I believe that these courses have tremendous value in today's business environment, where the quality of manpower and the compliance culture of banks are two areas that can give competitive advantage to banks, besides contributing to the strength and resilience of individual banks and the entire financial system. I once again congratulate all the three Institutes for their efforts towards launching these two courses at an appropriate time, and wish them all success in their future academic endeavors.

Thank you!





 Dr. N. K. Thingalaya \*

## Issues and Challenges of Small Private Sector Banks in India

Small private sector banks in India have a very long history, extending over a century. Before the unified banking legislation was enacted covering whole of the country, both birth rates and mortality rates of banks at infancy were very high among them. With little capital, banks could be promoted in different parts of India during the British rule, with very little procedural formalities. In bigger cities in the north and even in some smaller towns in the south, banks came into existence due to private initiative. The **Swadeshi movement**, which began in 1906 supported and encouraged the efforts of some enlightened leaders to promote small banking companies. By 1949, there were 620 banks, big and small operating all over the country. The life-spans of many of them were very short.

After the enactment of Banking Companies Act 1949, their number started declining due to the enforcement of the Act. All these banks were in the private sector until 1955, when Imperial Bank of India was nationalized and renamed as State Bank of India. The failures of a few small banks in the early 60s induced the Reserve Bank of India to come out with a scheme for compulsory or directed merger of weaker banks with the bigger banks. A good number of banks bowed out of existence as a result. In 1969, the Government of India nationalized 14 bigger banks out of the 58 banks then operating. Six more banks were nationalized in 1980. The number of banks in the private sector and their share in the total banking business started declining since then.

As a part of the financial sector reforms introduced in the 90s, new generation banks in the private sector were permitted to enter the banking sector. Ten new banks came into existence since 1994. However, four

of them chose to merge with other banks, instead of retaining their individual identity. Among the others, some have grown too big and too fast, overtaking all the old generation banks in the private sector. Besides providing stiff competition to the older banks, the younger banks have taken over two of the older private sector banks also.

In this article, the challenges faced by 13 small banks of the old generation remaining in the private sector only are analysed. A few of them were predators themselves in the past and a couple of them becoming preys in future cannot be ruled out in a situation of growing preference for inorganic growth path. Some of the major challenges faced by these banks in the fast changing Indian banking scenario are discussed.

### **The Current Status of Private Sector Banks :**

Ten years ago, there were 18 private sector banks of the old generation operating. During the last ten years, from 2003 to 2013, five of them have lost their individual identity because of mergers. They are : Lord Krishna Bank Ltd, Sangli Bank Ltd, United Western Bank Ltd, Ganesh Bank of Kurundwad Ltd and Bank of Rajasthan Ltd. In the fast changing banking world, these small banks could not remain beautiful. They were merged with bigger banks; four of them with private sector banks and only one with a public sector bank. Lord Krishna Bank Ltd was merged with Centurion Bank of Punjab Ltd, which later on merged with HDFC Bank Ltd. Sangli Bank Ltd and Bank of Rajasthan Ltd merged with ICICI Bank Ltd. United Western Bank Ltd went to IDBI Bank and the smallest bank, Ganesh Bank of Kurundwad Ltd went to Federal Bank Ltd, the second biggest bank among the old generation private sector banks.

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\* Former Chairman & Managing Director, Syndicate Bank.

The current position of the existing 13 private sector banks as on March 2013 are given in Table-1.

A review of some of the efficiency ratios pertaining to this group of banks vis-à-vis all commercial banks is made in

Banks	Total Business (₹ crore)	Net Profit (₹ crore)	Rate of Dividend (% age)	NPA Ratio (% age)	Capital Adequacy Ratio	Total Branches (number)
1. Jammu & Kashmir Bank	1,03,421	1,055	500	0.14	12.83	689 (613)
2. Federal Bank Ltd.	1,01,712	853	90	0.98	14.73	1103 (1187)
3. South Indian Bank Ltd.	76,077	502	70	0.78	13.90	750 (800)
4. ING Vysya Bank Ltd.	73,674	613	55	0.03	13.24	542 (500)
5. Karur Vysya Bank Ltd.	62,811	550	140	0.37	14.41	551 (1276)
6. Karnataka Bank Ltd.	61,264	348	40	1.51	13.22	500 (504)
7. Tamilnad Mercantile Bank	36,480	440		0.66	15.01	320 (496)
8. City Union Bank Ltd.	35,648	322	100	0.63	13.98	375 (790)
9. Lakshmi Vilas Bank Ltd.	27,322	91	30	2.43	12.32	307 (651)
10. Catholic Syrian Bank Ltd.	21,193	32	15	1.12	12.29	384* na
11. Dhanalakshmi Bank Ltd.	18,979	2.62	-	3.36	11.06	280 (396)
12. Ratnakar Bank Ltd.	8,896*	66*	3*	0.20*	23.20*	108 (103)*
13. Nainital Bank Ltd.	5,403*	51	22*	0	14.43	107 na

\* Data relate to FY2012 Figures in bracket relate to the number of ATMs

Only two among the 13 banks have a total business of ₹1 lakh crore. At the other end, there are two banks having total business less than ₹10,000 crore. These banks may take a long time to acquire the status of a *reasonably big bank*. While the capital adequacy ratios at present are higher than the prescribed level, they may be required to make strenuous efforts to comply with the Basel III norms. NPA ratios of a couple of banks are causing concerns, as they make a dent on their net profits.

A reference may be made to a small group of less known four banks of the private sector operating in four states since a little more than a decade. They are called Local Area Banks. They are : Coastal Local Area Bank Ltd, Capital Local Area Bank Ltd. Krishna Bhima Samruddhi Local Area Bank Ltd and Subadhra Local Area Bank Ltd. Confining themselves to only a few districts, having very small branch network, their total volume of business is not very large.

Collectively the share of the 13 private sector banks in the total banking business, however, is not very impressive. In the branch network, their share is only 5.5 percent; in deposit mobilization it is 4.8 percent and in credit deployment it is 4.9 percent as on March 2012. Details of the growth of the old private sector banks in the recent years are presented in Table-2.

what follows. Business per employee, though a crude indicator of labour productivity, reveals that it is very low in the case of Old Private Sector banks (OPS banks). For this group of banks, it is ₹8.67 crore as against ₹11.37 crore for All Commercial banks (AC banks) in FY2012. This difference has been growing steadily during the last five years. The comparative figures were ₹5.69 crore and ₹6.34 crore in FY2008. Similar is the feature, when the profit per employee is analysed. For the OPS banks, it is ₹6.2 lakh, while that for AC banks it is higher at ₹8.1 lakh. Strange as it may sound, that for the public sector banks, the profit per employee is lower at ₹6.4 lakh and still lower for the State Bank group - ₹5.5 lakh. As against this, the profit per employees of foreign banks operating in India, is the highest at ₹34 lakh. The volume of business per branch is very high in the branches of foreign banks and hence it results in higher business and profit per employee in the case of these banks. They have only 306 branches mostly located in metropolitan and urban centres.

Cost of funds is higher for OPS banks compared to that of AC banks; 7.10 percent as against 5.90 percent. This is operationally an important indicator of the relatively poor efficiency of OPS banks in funds management. Mobilization of low cost funds like the savings bank

Table - 2 : Growth of Old Private Sector Banks					
Indicators	2007 -08	2008 -09	2009 -10	2010 -11	2011 -12
Banks (number)	15	15	15	14	13
Capital + Reserves (₹ crore)	15,315	17,476	20,171	23,798	27,896
Deposits (₹ crore)	1,65,589	1,99,273	2,29,897	2,64,157	3,15,891
Advances (₹ crore)	1,11,670	1,28,504	1,54,085	1,84,647	2,30,095
Branches (number)	4,690	4,908	5,220	5,051	5,555
Staff Strength (number)	48,700	51,341	55,052	55,380	62,965
Business / employee (₹ crore)	5.69	6.38	6.97	8.10	8.61
Profit / employee (₹ lakh)	4.1	4.7	4.2	5.8	6.2
Efficiency Ratios					
Cost of Funds (percent)	6.27	6.67	6.13	5.66	7.10
Return on Advances (percent)	4.26	5.15	4.82	5.02	4.89
Wage Cost (percent)	13.67	13.26	14.57	16.75	13.00
Return on Assets (percent)	1.14	1.15	0.95	1.12	1.20
Capital Adequacy Ratio (percent)	14.11	14.75	14.85	14.55	14.12
Net NPA (percent)	0.66	0.90	0.82	0.53	0.58
Source : A Profile of Banks : 2012, Reserve Bank of India					

deposits was the forte of old generation banks in the past. The share of savings bank deposits has come down drastically from more than 25 percent to less than 10 percent in some of these banks. The oldest bank itself has only 10 percent of its deposits originating from the savings bank segment. The old banks have neglected

this segment in their resource mobilization efforts. On the other hand, a few of the new generation banks of the private sector have adopted efficient strategies for promoting small savings bank deposits very successfully.

In one area, where the OPS banks have a better record of performance is in containing the NPA ratio. They have been successful in pegging down their net NPA ratio below one percent during the last five years. In FY 2012, the net NPA ratio of all commercial banks was 1.28 percent, while that of these banks it was 0.58 percent. In FY 2013, there are three among the OPS banks reporting the net NPA ratio above one percent, while the smallest bank among them has been able to maintain a zero NPA ratio.

#### Geography of Their Growth :

A peep into the geography of banking growth makes surprising revelations. **North of Vindhya, though a reasonably large number of small banks came into being, none has survived. Those few banks, which have survived on the Gangetic belt, are no more in the private sector.** On the banks of Yamuna in Delhi, there are three surviving banks- Punjab National Bank, Oriental Bank of Commerce and Punjab & Sind Bank- all in the public sector. In Kolkata, the delta region of river Ganga also there are three banks- Allahabad Bank, UCO Bank and United Bank of India – all are public sector banks. In the Kashmir valley, there is 75 years- old, J&K Bank Ltd. It is owned by the Government of Jammu and Kashmir, which holds 53 percent of its capital. A very small bank continuing to operate in Uttarakhand is Nainital Bank Ltd, located at Dehardun. It is a wholly-owned subsidiary of Bank of Baroda, the public sector bank. Since this bank was promoted by one of the famous nationalist leaders, Sri. Govind Ballabh Pant, its individuality has been maintained for sentimental reasons. Rajasthan and Punjab, two states of historical eminence, have fostered two banks, which are not very big, State Bank of Bikaner & Jaipur and the State Bank of Patiala respectively. Promoted by royal patronage, they are now the associate banks of State Bank of India.

**Old private sector banks have survived only in the south of Vindhya.** There are four banks operating in Tamil Nadu : City Union Bank Ltd (1904), Karur Vysya

Bank Ltd (1916) Tamilnad Mercantile Bank Ltd (1921), and Lakshmi Vilas Bank Ltd (1926). In Kerala also there are four surviving banks: Catholic Syrian Bank Ltd (1920), Dhanalakshmi Bank Ltd (1927), South Indian Bank Ltd (1929) and Federal Bank Ltd (1930). In Karnataka, there are two: Karnataka Bank Ltd (1924) and ING Vysya Bank Ltd (1930). There is only one bank in Maharashtra – Ratnakar Bank Ltd operating since 1943 from Kolhapur.

Mortality rate of small banks in their infancy was quite high in the southern states also. Coimbatore city in Tamil Nadu, for example, has produced the largest number of small banks, which were called *nidhis*. An interesting feature of the genesis of banks in this district was that 38 out of 44 banks were born in Coimbatore city only. Most of them were registered as *Paropakara Nidhis* (mutual benefit funds). Local merchants and traders were the promoters of these funds. (Thingalaya, 2008)

Madras and Coimbatore are the two cities, which have fostered the largest number of banks. In Madras, 18 banks were born since 1843 and Coimbatore's score is much higher 44. While two of the Madras-born banks have survived, none has survived in Coimbatore, which has become the *Manchester of the south*. Incidentally its counterpart in Gujarat, Ahmedabad, which is called the *Manchester of the east*, also could not provide sustenance for the survival of two banks born in that city. In Karur, which has emerged as a textile centre, out of four banks promoted by local merchants, two have survived. The temple city of Kumbakonam has supported the oldest surviving bank. In the port-town of Thootukudi, one bank has survived and it pays the highest rate of dividend to its shareholders. Out of the 149 banks born in Tamil Nadu, only four have survived; 41 have merged with other banks, local or from outside; the rest are not in existence. (Thingalaya, 2003)

Trichur district, which was a part of Travancore and Cochin State prior to 1956, has seen the birth of 38 banks born within its present boundaries. Most of these banks were unit banks, confining their activities to the towns,

in which their registered offices were located. Some of them were developed on communal basis; 'local patriotism' induced the formation of few others. Communal patronage of banks was a distinct feature of Kerala banks. This type of support was useful in their infancy. But later, it became a limiting factor in their expansion. Communal rivalry sometimes adversely affected some banks. The growth of banking companies was partly curtailed by the omnipresent *chit finance* business which continues to be a mode of small savings in Kerala. Some of the banks were also managing the *chit finance* business to mop up savings. However, none of the banks could grow big enough to be called national banks. After going through the stringent banking regulations, only three banks, Catholic Syrian Bank Ltd, South Indian Bank Ltd and Dhanalakshmi Bank Ltd have survived.

In Karnataka, out of 73 banks, which have entered the banking scene at different times, only two have remained to operate in the private sector. Karnataka Bank, born in Mangalore, the cradle of banking, is in its 90<sup>th</sup> year of existence. The other bank, Vysya Bank starting in Bangalore, the state capital in 1930, became ING Vysya Bank after the ING group became a major partner.

Among the 13 surviving banks, the biggest in terms of total business - J & K Bank Ltd - is based in Jammu and Kashmir. The volume of its total business is ₹1,03,421 crore as on March 2013. Its nearest competitor is the Kerala-based Federal Bank Ltd, having a total business of ₹1,01,712 crore. In terms of the size of branch network, there is a case of role reversal. Federal Bank has much wider presence having 1,103 branches, while J&K Bank has only 689 branches.

#### **Challenges faced by them :**

In the context of rapid changes taking place in the Indian banking sector, old generation banks in the private sector would be facing many challenges, particularly because of their size. Small as they are, they have to face the tough competition from the aggressive new generation banks and the new banks, which are expected to arrive on the banking scene in the near future. Poaching the trained staff of the old banks by the new banks is likely to



result in the migration (if not exodus) of senior staff, attracted by the emoluments offered by the younger banks. This has happened in the late 90s, when the new banks lured the experienced bank staff from banks, both in the public and private sectors, at different levels.

Small size of the branch network of the smaller banks would be a limiting factor in fulfilling the obligations under the stipulations of financial inclusion. Their limited presence may not enable them even to adopt the branchless banking model to reach out to a larger section of the population. Expansion of the service points is both expensive and time-consuming.

Retention of the old customers also is likely to emerge as a challenge, when competition from the new banks grows, particularly in certain sectors. More liberal terms of credit management, with some ostentatious add-on facilities would induce their customers to shift to new banks. Past experience in this regard was somewhat mixed; many customers, who had shifted their loyalties, went back to their old banks after the initial honeymoon experience.

Raising the capital base to be compatible with the Basel III norms is a major task these banks have to face, though at present they have a comfortable position. All of them have the capital adequacy ratios above 11 percent. Some of them have already initiated steps to raise their capital, according to the available information. When the new banks access the capital market to raise their capital so also the old public sector banks, there would be great pressure on the capital market. To what extent the new banks would be able to attract subscribers adequately, is difficult to predict.

In what follows, only three major issues are analysed.

#### **Inadequacy of Rural Presence :**

Unlike the public sector banks, the private sector banks exhibit greater affinity towards urban areas than the rural areas. They have more branches in urban and metropolitan centres than in remote villages. Though many private sector banks were born in smaller towns and have been operating for over 80 years, they have not built up a wider network of rural branches. The public sector banks have 33 percent of their branches operating

in rural areas - nationalized banks 32 percent and State Bank group 34 percent. Private sector banks of the old generation have only 16 percent of their branches in rural sector as on March 2012. Their rural branches numbering 885 could handle only 3.45 per cent of the rural deposits mobilized by all banks. In the case of credit disbursal, their share in rural credit is much less at 2.84 percent as on March 2012.

Jammu & Kashmir Bank Ltd, is the only bank of the older generation, which has 48 percent of its branches located in rural areas. This bank incidentally is a state-owned bank, though classified for all purposes as a private sector bank. The 92 year old bank from Tamil Nadu, Tamilnad Mercantile Bank Ltd has 23 percent of its branches located in rural areas in the southern states. The oldest bank from the state, City Union Bank Ltd does not have even 15 percent of its branches in rural areas. Two of the Karnataka-based banks - Karnataka Bank Ltd and ING Vysya Bank Ltd - have a little less than 20 percent of their branches operating in rural areas. The biggest bank from Kerala, which has a strong presence in *God's own country*, has less than 10 percent of its branches functioning in rural areas. Another smaller bank, Catholic Syrian Bank Ltd has 19 rural branches out of its 360 branches. It may be added here that in Kerala, as a result of demographic pressure on land, there are more semi-urban centres than rural centres. Hence, the number of rural branches of all banks in the state is lower than that of semi-urban branches. Ratnakar Bank Ltd, the smallest bank from Maharashtra has a small network of 103 branches, in which the share of rural branches is around 28 percent. Most of these branches are spread out in Kolhapur, Belgaum and the neighbouring districts. The tiny bank from Uttarakhand, Nainital Bank has only 101 branches, of which only 21 are located in rural areas. It has more branches in urban and metropolitan centres - 44.

In the context of the increasing stress on reaching out to the unreached, these banks are handicapped in covering rural population, due to their limited exposure to the rural sector. Even to adopt the Branchless Banking Model, they need more base branches in rural and semi-urban areas. As the data relating to

the rural business handled by each one of the banks are not available in any published source, the analysis cannot go beyond an assessment of their rural presence. These banks, however, cannot afford to ignore the necessity of extending their branch net work in the less-banked areas in the districts, where they operate. The recent financial results of regional rural banks have conclusively demonstrated that rural banking also can be remunerative business. (Thingalaya 2010)

Unless these banks expand their rural branch network, they may not be able to reach out to the unreached as directed by the Reserve Bank of India. One redeeming feature of the pattern of growth of their service points is the expansion of the ATM network. Most of these banks now have more ATMs than brick and mortar branches. Besides this they have to adopt the branchless banking model more extensively.

#### **Controlling Non-Performing Assets :**

Though the small private sector banks have shown improvements in their corporate control mechanism, what is causing concern is the increase in their **gross non-performing assets**. The level of net NPA also has increased in many of them during FY2013, except in one case. Nainital Bank Ltd is the only bank, which has declared zero net NPA ratio during the last two years. The gross NPA ratio is above two percent in the case of six banks. It is the highest in Jammu and Kashmir Bank at 6.81 percent followed by Dhanalakshmi Bank at 4.82 percent. Though the gross NPA is very high in J&K Bank, the amount involved is only ₹58 crore and the net NPA has been pegged at 1.91 percent. Despite this, the bank has made the highest profit among the banks in this group. In the case of another smaller bank, where the gross NPA ratio is 3.87 percent, the provision coverage ratio is found to be as low as 54 percent and there was a dent on its net profit. What is causing concern is the fact that the current year's net profit is equal to less than ten percent of the amount of advances considered as gross NPA in quite a few banks.

Two of the credit segments, which are likely to enlarge the NPAs are the retail credit and housing segments. Many youngsters working in the IT sector, particularly

those having double incomes, have gone in for luxurious housing apartments in bigger cities. Some of the aggressive private sector banks have been too obliging to extend them housing finance, in many cases, without even minimum margins. With the floating interest rates moving in the upward direction most of the time till recently, banks were making a killing in housing finance. Now, with many of the IT staff sitting on benches and the pink slips chasing them, the repayments are bound to be affected, necessitating banks to make larger provisions in their balance sheets. Hotels and transport are the other related segments, which may experience decline in their revenues. Banks having large exposure to these segments may witness their NPAs inching upwards.

#### **Managing Executive Compensation :**

With the segregation of the posts of chairman and managing director, there appears a trend towards the induction of senior executives from big banks at very high cost. Retired bank executives mostly from the public sector banks are invited to be the non-executive chairmen to preside over the boards. Senior executives heading the specialised departments of foreign banks located in different geographies are invited to replicate such departments in the old generation banks. The cost of hiring them is very high in some cases. While innovative operations in funds management and risk management are most welcome to accelerate the expansion of small banks, the cost of such operations would appear to be very high in the short run. In this process, one of smaller banks, which was making modest profit, had to incur loss for the first time.

For averting such problems, the growth path adopted by one of the new generation banks- HDFC Bank- could be the most relevant model for others to emulate. The genesis and growth of this Bank are vividly explained by Tamal Bandyopadhyay in his book, *A Bank for the Buck*. Many successful bank executives working at senior positions in different foreign banks were invited by the promoter of HDFC Bank to set up this bank. They were required to make huge sacrifices both in their emoluments, perks and

promotional prospects. The only incentive for them was the challenge to build up a strong bank with Employees Stock Option Plan. Among the new generation banks in the private sector, it has emerged as the second biggest bank. (Tamal B 2013). Though it is not an easy option, an attempt can be made in this direction by some of the small private sector banks to grow big

The small banks in the private sector continue to have a role to play, despite all the changes taking place in the Indian banking sector. They have nurtured generations of customers during their long journey, developing a symbiotic relationship. Harnessing their human capital is one of the strategic steps they have to adopt; making the staff as their shareholders and stakeholders could be one way of preventing the big money-bags from attempting takeover bids.

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#### Guidelines on Basic Savings Bank Deposit Accounts for Financial Inclusion

Banks have been advised to offer a Basic Savings Bank Deposit Account (BSBDA) that will offer the following minimum common facilities to all their customers :

- i) The account should be considered a normal banking service available to all.
- ii) This account shall not require any minimum balance.
- iii) The account will provide an ATM card or ATM-cum-debit card.
- iv) Services will include deposit and withdrawal of cash at bank branches as well as ATMs; receipt / credit of money through electronic payment channels or by means of deposit / collection of cheques drawn by central / state government agencies and departments; and
- v) While there will be no limit on the number of deposits that can be made in a month, account holders will be allowed a maximum of four withdrawals in a month, including ATM withdrawals.

These facilities will be provided without any charges. Also, no charge will be levied for non-operation / activation of an inoperative BSBDA. Banks would be free to evolve other requirements, including the pricing structure for additional value-added services beyond the stipulated basic minimum services on a reasonable and transparent basis that is applied in a non-discriminatory manner.

The BSBDA would be subject to Reserve Bank instructions on Know Your Customer (KYC) / Anti-Money Laundering (AML) for opening bank accounts, issued from time to time. If the account is opened on the basis of simplified KYC norms, it would be treated as a 'Small Account' and would be subject to the conditions for such accounts.

If a customer has other savings bank deposit accounts in the bank, he/she will be required to close it within 30 days of opening a BSBDA.

Existing 'no-frills' accounts should be converted to BSBDA.

(Source : Annual Report 2012-13, Reserve Bank of India)

#### Unique Customer Identification Code for Banks' Customers in India

One of the fundamental building blocks of financial data is reference data about companies, organisations, firms and individual customers. An essential component of reference data is a systematic structure or code that uniquely identifies each entity / individual. Around the globe, regulators are considering ways to create common identifiers. A unique Legal Entity Identifier is considered ideal for financial data as it assists in improving regulation and risk management. The importance of creating a common system of identifiers has been recognised by the Financial Stability Board (FSB) and G-20 Finance Ministers and leaders. The FSB has been supporting the work by financial regulators and industry to establish a single global system for uniquely associating individuals / institutions with financial transactions.

In India, banks are required to follow customer identification procedures while opening new accounts to reduce the risk of fraud and money laundering. While some banks in India have voluntarily developed a Unique Customer Identification Code (UCIC), in the absence of regulatory prescription, this practice was so far not followed uniformly by all banks. A UCIC will help banks to identify a customer, track the facilities availed of, monitor financial transactions in various accounts, improve risk profiling, take a holistic view of customer profiles and smoothen banking operations for the customer. In this regard, a working group constituted by the Government of India has proposed the introduction of unique identifiers for customers across different banks and financial institutions. While such a system for the entire financial system is desirable, it is likely to take some time for a complete roll-out.

Against this backdrop, the Reserve Bank has advised banks to initiate steps to allot a UCIC number to all their new customers to begin with. Banks have also been advised to allot UCIC to existing individual customers by the close of April 2013.

(Source : Report on Trend & Progress of Banking in India 2011-12, Reserve Bank of India)



 Bharat Panchal \*

## De-mystifying payment system challenges : Pragmatic Approach

*“While technology is one way to prevent frauds, educating customer for safe and secure transaction at ATM is equally important.”*

### 1. Retail Payment System growth in India

India's retail payment system is passing through a revaluation era. Setting up of National Financial Switch (NFS for Interbank ATM transaction) is a significant milestone. NFS enables a customer to withdraw cash from any ATM irrespective of bank affiliation. NFS, which now being managed by National Payments Corporation of India (NPCI), an umbrella organization set-up by Reserve Bank of India (RBI) and Indian Banking Association (IBA) is having more than 1,25,000 ATMs connected to its network. Along with cash withdrawal, NFS provides PIN change, Balance enquiry and Mini statement facilities.

Statistically, India's retail payment system has 336 million debit cards, 19 million credit cards, 1,25,000 ATMs, nearly 9,00,000 POS terminals, 18 prepaid service providers authorized by RBI, transaction level of 45 million debit card transactions for ₹7,000 crore in value per month and 31 million credit cards transactions for ₹12,000 crore in value per month shows that the card payment industry is no longer small as it used to be 5 years back. The hallmark of a mature industry is the co-existence and growth of all types of specialist institutions relating to card payment eco system - competing and thriving. Good news is that very few instances of failing. An analysis reveals that cash withdrawal at the 1,25,000 ATMs in the country is as high as ₹7,000 crore a day.

### 2. Recent cases of ATM Frauds

With substantial growth of the payment system, the increasing incidents of frauds in the cards payment system, both in terms of volume and value, modalities for carrying

out the transactions, instances of wider and deeper trails from origin of data compromise to points of fraudulent use in varying geographies have brought to focus. Series of ATM skimming and other frauds reported in last two years in the country is worrisome. It is not specific to a particular bank or a city but across country and across banks. Few examples of such Frauds are as below :

- a) In June, 2013, 8 ATMs of three different banks were compromised by fraudsters where debit cards data got cloned using skimming device and video camera. There were at least eight Mumbai policemen among 29 individuals whose bank cards were cloned and used to fraudulently withdraw cash from ATM machines in Greece. Police confirmed that two persons of Bulgarian origin, caught in CCTV footage outside the Colaba ATM, have been installing skimming devices at ATMs in Shivaji Park, Dadar, Worli and Sahar, apart from the Colaba ATM.
- b) An ATM at Rander road, Surat compromised with similar modus operandi in April, 2013 in which 17 customers of various banks lost around ₹4 lacs.
- c) In February 2013, 3 ATMs were compromised with skimming method.
- d) In February, 2012, 29 ATMs of a single bank were compromised in Chennai and 8 ATMs in Bangalore. In all ATMs, a skimming device was fitted to clone the card data. The fraudsters procured skimmers to copy ATM card data from as far as Ukraine and lately stolen ATM card data are auctioned at an international market like Russia.
- e) In November, 2011, Central Crime Branch of Chennai arrested 15 persons including some foreigners in connection with ATM fraud. Total three gangs have

\* Head - Risk Management, National Payments Corporation of India (NPCI).

been busted, held and some 1,000 fake ATM cards seized and the illegally swiped money estimated to more than ₹1 crore.

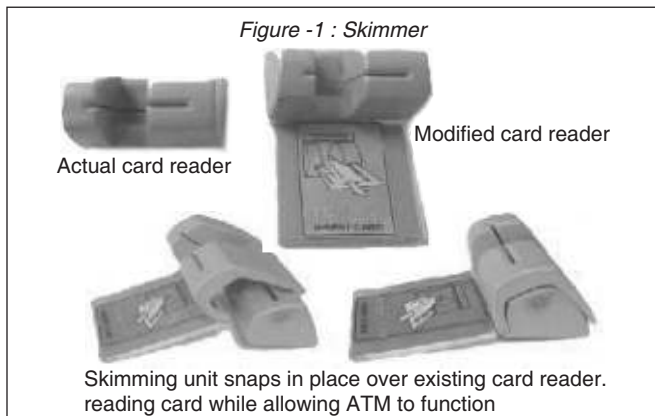
These are very few cases reported by banks or reported by internal sources. There are many such cases where magnitude of fraud is low which are not coming into limelight.

In almost all cases mentioned above, one common thing was an imported skimming device which is used to clone the card details. However, there are cases where a weird technique using match-stick or glue was used to commit a fraud at ATM. In such cases, fraudsters made ATM key-pad defunct by sticking a glue or matchstick. At the same time, they used shoulder surfing trick to steal the PIN and later money was withdrawn fraudulently.

### 3. How skimming takes place

ATM skimming is like identity theft for debit cards : Fraudsters use hidden electronics devices like skimmer, false key pad overlay and video to copy the personal information stored on your card and record your PIN number to access all that hard-earned cash in your account. That's why skimming takes two separate components to work. The first part is the skimmer itself, a card reader placed over the ATM's real card slot. When a customer inserts a card into the ATM, it's not a real ATM card reader, but a skimmer, which scans and stores all the information on the magnetic strip.

However, to gain full access to your bank account on an ATM only card detail is not enough so fraudster must have a customer's PIN number. Video camera mostly hidden on or near the ATMs is used to record PIN number



when customer is entering it. Such cameras are tiny spy cameras mostly positioned to get a clear view of the keypad and record all the ATM's PIN action. Sometimes camera is mounted on the ATM or located close by. A pinhole or off-color piece of plastic could give away the camera's hiding place. Cameras could even be hidden in brochure racks.

In some of the cases reported, fraudsters used fake keypads in lieu of cameras to capture PIN numbers. Just like the card skimmers fit over the ATM's true card slot, skimming keypads are designed to mimic the keypad's design and fit over it like a glove. Such Keypad overlay that matches up with the buttons of the legitimate ATM keypad. It records or does wireless transmission of the key log / PIN number entered.



Usage of thermal camera proves the advancement of technology to commit sophisticated frauds at ATM.

As mentioned earlier, typically any fraudster installs a card 'skimming' reader to the ATM machine along with a pinhole camera, strategically aimed at the key pad. The skimmer records the ATM card details - which can then be transferred to another card - while the camera records the pin number sequence.

However, some time key pad is covered by hand or PIN shield installed on key-pad, it is not possible to record PIN number thus the information taken by the skimmer is useless.

Researchers at the University of California at San Diego found that up to 45 seconds after a person

types their PIN code into an ATM machine and even the sequence are still readable by thermal cameras and the sequence is recorded regardless, as the heat from a person's fingertips remains on the key pad.

Using a plastic pin pad and automated software with a thermal imaging camera attached, the computer had 80 per cent success rate at detecting all four numbers after 10 seconds.

More sophisticated attacks using wire-tapping or unauthorized access of PC-USB ports, for example-to install malware and harvest stolen data. These attacks can be combined with or replace remote attacks that exploit vulnerabilities related to the exposure to open networks.

#### **4. Statistics on ATM Frauds in India**

It is a fact that lots of ATMs related frauds are happening in our country and rapid increase is seen in last 1-2 years. However, unlike other developed nations, statistical compilation of incidences of card fraud is a challenge as reliable data is not available in public domain. Card scheme companies also do not publish data partly due to ownership of data and partly due to the challenges in collection and compilation.

During February 2013 in the Indian Parliament, Minister of State for Finance reported 8322 positive cases of fraud related to cards and internet banking during calendar year 2012 involving ₹53 crore. As per another source, the number of cyber frauds which used to be around 14,000 for ₹40 crore in 2010-11 went up in value terms to ₹67 crore in 2012-13, though in terms of number, it came down to 8700.

In 2012, NPCI released advisory on multiple occasions to its member banks to block more than 24,000 debit cards due to compromised identified at various ATMs. Very recently in June 2013; in a single incident, more than 4200 cards were blocked based on NPCI's advisory due to ATM heist in Mumbai.

In sum, the ATM fraud cases, though not alarming, is a matter of concern. Since several countries have taken several preventive steps, we should guard ourselves against ATM fraud moving to India.

#### **5. Prevention of Frauds**

Fraud prevention and detection is an important part of risk management in the Card industry. Fraud prevention describes measures to stop fraud occurring in the first place. When prevention fails then fraud detection comes into play. The objective is to detect fraud quickly when it does occur and stop it as soon as possible. Fraud prevention and detection involve monitoring the behavior of customers to estimate, plan, detect and avoid risk.

With rising frauds at ATMs, NPCI constituted a Task Force in 2012 to study the pattern of such frauds and preventive steps. The Task Force recommended multiple recommendations, some of it are mandatory and some are to be implemented at Bank's need and discretion. However, that's just the beginning. Though banks have started implementing those controls, industry wide momentum is yet to be seen as far as ATM fraud prevention is concerned. On other hand, frauds are rising with newer techniques.

Having security guard and video camera inside the ATM does not fulfill Fraud protection. In very recent case, it is seen that in spite of security guard, fraudsters could install skimming device and camera in less than 2 minutes.

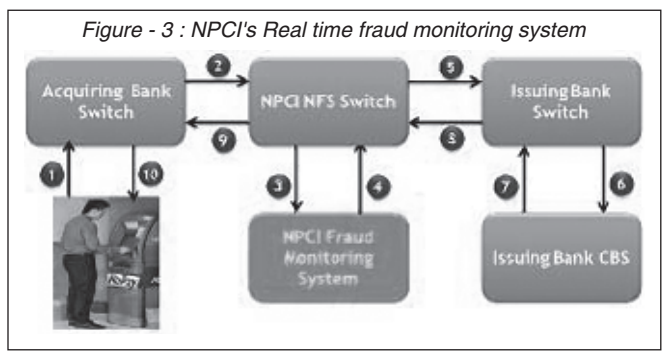
RBI has issued a circular on 28<sup>th</sup> February, 2013 with series of actions to be taken by Banks to overcome frauds. One of very important actions is all new debit and credit cards to be issued only for domestic usage unless international use is specifically sought by the customer. Such cards enabling international usage will have to be essentially EMV Chip and PIN enabled. This is indeed very important step as only 7% of total debit card holder's travel outside India. Rest 93% customers never use their card out of country so there is no point to issue such cards valid for international transactions. Further, it is mandated that all the active Magstripe international cards issued by banks should have threshold limit for international usage. The threshold should be determined by the banks based on the risk profile of the customer and accepted by the customer. Till such time this process is completed an omnibus threshold limit (say, not exceeding USD 500) as determined by each bank may be put in place for all debit cards and all credit cards

that have not been used for international transactions in the past. This directive has come very timely as seen in recent case of Mumbai ATM compromise; majority transactions took place in Greece whereas none of the victim of this fraud has ever travelled to Greece when all these transactions happened.

This directive will indeed prevent any fraudulent transaction to take place outside the country if the card is only domestic. However, ATMs fraud will continue to happen unless there is strong anti-skimming device, superior ATM surveillance and powerful PIN authorization techniques like AADHAAR base authentication is deployed.

It is likely that while cards are allowed to be used only for domestic transactions, due to the same restriction; card will be cloned and used for fraudulent usage within country itself.

As directed by RBI, bank should frame rules based on the transaction pattern of the usage of cards by the customers in coordination with the authorized card payment networks for arresting fraud. This would act as a fraud prevention measure. NPCI being largest ATM network in the country is already geared up to support its member banks to combat with frauds.



As depicted in the above mentioned transaction flow, every transaction coming to NFS being validated against set of rules by the NPCI's Fraud Monitoring tool to verify whether the transaction is genuine or fraudulent before handing over the transaction to the issuing bank to authorize the same.

While technology is one way to prevent frauds, educating customer for safe and secure transaction at ATM is equally important. Though many frauds reported so far, all such frauds are reported in either metro cities or big cities. ATM

deployment is now focused in rural areas. Government has already issued directives to banks to deploy maximum ATMs in rural area. Incidentally, financial literacy is very low in rural areas. If customers are not well educated on how to securely use their personal credentials like PIN no, net banking user name and password etc., handling of frauds would be a big challenge irrespective of having state of the art software and technology for fraud monitoring. Banks will have to go far to educate customers.

## 6. Conclusion

Card fraud methods evolve continuously. Fraudsters are a step ahead of market and innovators in one sense, therefore fraud prevention and detection techniques have to be proactive and always be ready to minimize fraudulent activities. Combination of different techniques gives best results. As far as Security issues in Card Payment system in India are concerned, we are surely going in to right direction having multiple controls in place. However, considering the rapid growth of the cards payment market, sooner we need to adopt additional factor of authentication for present card transactions at ATM or POS terminals. On a long term, Aadhaar makes sense. But, we cannot wait for entire Aadhaar infrastructure to be ready for the entire market. The card payments market is so big that even if EMV Chip and PIN is adopted for international cards now, a much bigger market for Aadhaar authentication still remains. We may need Aadhaar for one market, EMV Chip & PIN for another.

Some important and critical factors mentioned below need to be considered by banks to prevent ATM frauds.

- Security guard and video camera inside the ATM is not enough or not capable to combat sophisticated frauds being committed using advance technology.
- Banks need to prevent skimming crimes without interrupting ATM customer transactions.
- Security issues need be addressed by Incorporating ATMs within the corporate IT Security Policy of the Bank.
- ATM manufactures need to provide a full range of ATM card trapping, tamper and false-front protection.
- Educate customers to protect the integrity of personal credentials during ATM transactions.





 Tamilenian D. \*

## Contactless Payments Technology : A New Wave of Banking

### Introduction

Over the past 30 years, despite all the technological developments and new payment methods introduced, cash is the most preferred payment instrument for day to day activities. The payment industry has responded to the challenge of finding a suitable replacement for cash by developing a technology called “contactless” that has the potential to help. Contactless payments are simple payment transactions that require no physical contact between the consumer payment device and the physical Point-Of Sale (POS) terminal. Contactless payment has become one of the latest trends as a “new way to pay” for transactions. It is quick, easy to use, popular, and has become increasingly important in retail payment industry. Focusing on the above objectives, this paper makes awareness on the different modes of contactless payments and their future opportunities in banking arena.

### Background - Contactless Technology

Contactless is known in the payment industry by different names : “proximity, touch-and-go, and contactless smartcards”. Contactless payments are “no-signature” and “no-PIN” based payment transactions. Contactless payment technology is an add-on feature that can be made available with any payment product such as credit card, debit card and prepaid card.

Types of cards used for contactless payments include the following :

- Gift Cards
- Mall Cards
- Travel Cards

Contactless technology was first seen as a security key entrance for office buildings and turnstiles, or for closed loop proprietary markets. At that time, smart cards were introduced in the mass transit arena as contact cards, and later, evolved into contactless cards. Contactless technology gained banking industry attention for its advanced rate of delivery and it became a solution for financial markets that needed to move transactions quickly. This new payment methodology proved to be beneficial to the consumer and the retailer, as opportunities began to emerge in all areas of the retail payment industry. On Consumer Perspective, the advantages of contactless technology are as follows :

- Contactless technology eliminates the need to carrying cash on hand for purchasing.
- Consumer has the control towards the transaction as well as the card.
- Consumer does not have to surrender either card or his / her account information to an unknown third party for payment.

### Contactless Technology v/s RFID

Both Contactless Technology and Radio Frequency Identification (RFID) tags use RadioFrequency (RF) as technology. However, RFID tags are typically cheap, read-only, low memory devices that can be accessed over greater distances with minimal or no security. Contactless technology enabled payment cards and devices contain secure microprocessors and memory. It has the ability to perform cryptographic processing with multiple functions, and required to operate within smaller distances than RFID tags.

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This is one of the Micro Research Consolation Prize Winning article for the year 2012.



In addition, contactless technology systems have specifications and security standards than the RFID applications to ensure the integrity and security of the transaction.

**Near Field Communication (NFC)**

The basic technology behind any contactless payment application is Near Field Communication(NFC). It is a set of short-range wireless technology, typically requiring a distance of 4cm or less to initiate a connection.

*“NFC-based communication happens between two devices when one device acts as a reader / writer and the other as a tag”*

**Tag**

The tag is a thin simple device containing antenna and small amount of memory. It is a passive device, powered by magnetic field. Depending on the tag type, the memory can be read only, rewritable and writable once.

**Reader**

The reader is an active device, which generates radio signals to communicate with the tags. The reader powers the passive device in case of passive mode of communication.

**Communication modes**

The modes are distinguished, whether a device creates its own RF field or whether a device retrieves the power from the RF field generated by another device. If the device generates its own field it is called an active device, otherwise it is called a passive device. Active devices usually have a power supply but passive devices usually not. When two devices communicate with each other three different configurations are possible. These are described in Table - 1 :

Table - 1 : Configurations of Communication		
Device A	Device B	Description
Active	Active	When a device sends data, it generates an RF field. When waiting for data, a device does not generate an RF field. Thus, the RF field is alternately generated by Device A and Device B.
Active	Passive	The RF Field is generated by Device A only
Passive	Active	The RF Field is generated by Device B only

Using any of the above three configurations, NFC setup can be created depending upon the applications such as :

- Contactless token
- Ticketing / Micro Payments
- Device Pairing
- Government ID cards
- Menu cards in Hotels
- Check-in at Hotels / Airports
- Credit / Debit Card payments

Thus NFC is an interface, using which innumerable applications can be developed to meet any business requirement.

**Modes of Contactless Technology**

The three primary modes of Contactless Technology used for making payments are as follows :

- Contactless Card Technology
- Contactless Mobile Technology
- Contactless ATM Technology

**Contactless Card Technology**

In a contactless card technology, the consumer holds the contactless card in close proximity (less than 2-4 inches) to the merchant Point-Of-Sale (POS) terminal and the payment account information is communicated wirelessly via Radio Frequency (RF) signals.

As the consumer taps or waves the contactless card in close proximity of a secure reader, a tiny radio transmitter embedded in the card transmits the payment information to the contactless enabled POS device. Once the card data is transmitted to the terminal, the payment transaction is processed utilizing the same infrastructure as other payment transactions.

*Figure - 1 :Contactless Card Technology*



There are different types of cards used for contactless payments such as gift cards, teen spending cards, mass transit cards, mall cards, travel cards, tollgate cards and other types of cards in the market place that allow POS purchases.

Contactless card technology can also be used for transactions greater than the established floor amount and it will require a signature in order for the merchant to maintain full charge back rights. Thus Contactless Card Technology is used to enhance the consumer service capability.

**Contactless Card Technology - Transaction Process**

1. The cardholder waves the contactless card within 2 to 4 inches (5 to 10 cm) of the contactless enabled POS device, and the required data contained on the card is captured.
2. The merchant passes the transaction to the acquirer. The acquirer identifies the transaction as contactless and treats the transaction as a Contactless POS transaction.
3. The acquirer forwards the transaction to a payment network (Visa, MasterCard etc.) which performs any required processing edits and then forwards the transaction to the issuer.

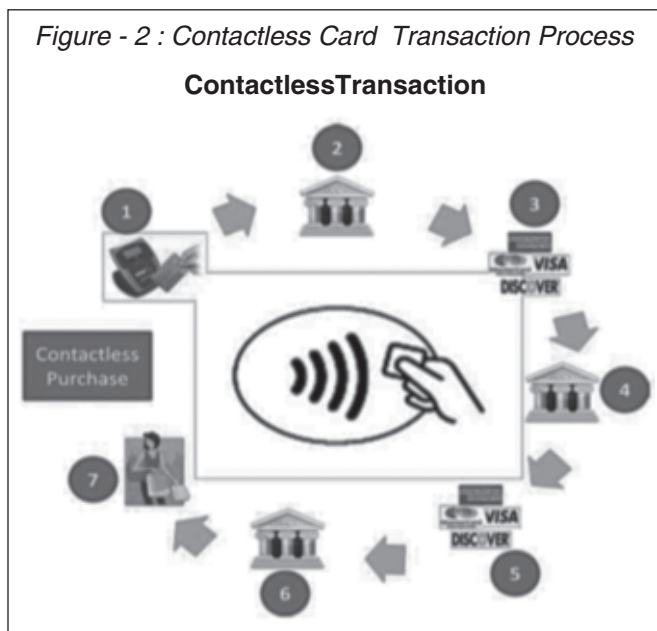


Figure - 2 : Contactless Card Transaction Process

4. The issuer :
  - Validates the Card Verification Value (CVV) or cryptogram depending on the type of card and the type of card device reader .
  - Determines whether to approve or decline the transaction and responds back to the Payment network.
5. The payment network forwards the approval / denial response back to the acquirer.
6. The acquirer forwards the approval/denial response back to the merchant.
7. Once the merchant receives the response, the transaction is complete with “no PIN or no signature” required. (The merchant is required to provide a receipt only if it is requested.)

**Contactless Mobile Technology**

The mobile phone has become one of the leading technologies to embrace the new way to pay. Mobile contactless payment is done using the phone as a payment device at a contactless enabled terminal instead of a card. The payment application on phones can be password protected, so a lost or stolen handset cannot be used to make payments. The phone applications leverage Near Field Communication (NFC) technology to deliver contactless payment capabilities. NFC technology allows the mobile phone to securely transmit and receive information over a short range (maximum range of a few inches) when you make a contactless payment.

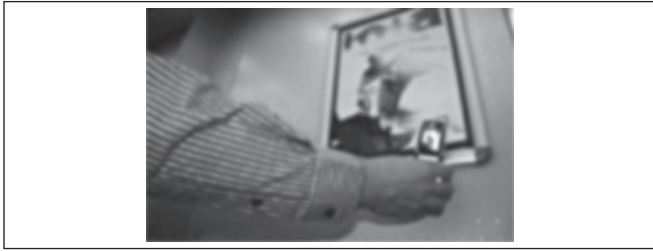


Figure - 3 : Contactless Mobile Technology

**Modes of Operation**

Basically there are three modes of operation as follows :

- *Read / Write* : In this mode, the NFC enabled phone can read or write data to any of the supported tag types in a standard NFC data format.



- **Peer-to-Peer** : In this mode, two NFC-enabled devices can exchange data, such as digital photos, contacts and messages.



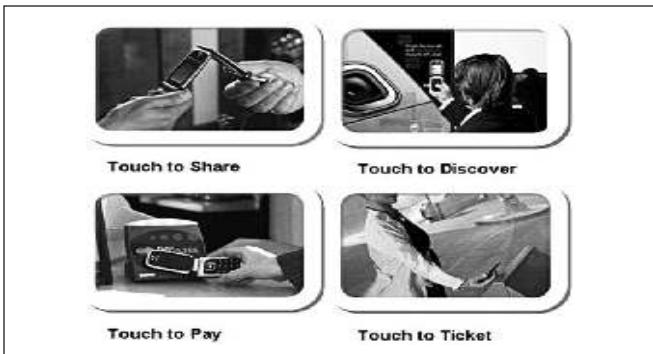
- **Emulation** : An NFC-enabled phone acts as reader when in contact with tags. In this mode, the phone can act as a tag or contactless card for existing readers.



### NFC Operation in Contactless Mobile Technology

The three main concepts associated with NFC are as follows :

- Sharing
- Pairing
- Transaction

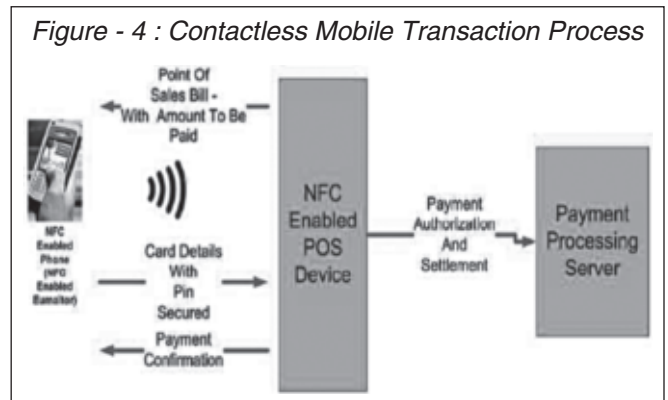


**Sharing** is done in Peer-to-Peer Mode. In order to exchange the data, the phone should be tapped to the tag. Currently photos, documents & URLs can be shared to any social engineering websites or emails. In future, the technology will also enhance to include video uploads.

**Pairing** is simpler in NFC than in Bluetooth & Wi-Fi. The phone has to be just tapped with another phone to establish connection and communication.

**Transaction** is one of the main concept for which NFC technology can be utilized. A smartphone with an NFC chip embedded in it could store all the credit / debit card information. The payment can be done by waving the NFC enabled smart-phones against a NFC-enabled POS.

### Contactless Mobile Technology - Transaction Process



In this payment transaction scenario, an NFC enabled mobile device is used to make payments with an associated NFC enabled POS device. The actual card details along with the pin details are stored in the mobile device NFC controller. The payments can be made by a NFC mobile device, by waving into the contact of the concerned NFC POS. On close contact, the details are captured to the mobile device and the users are able to view the details and press the required button on mobile to make the payments which will complete the transaction process.

### Contactless ATM Technology

The contactless ATMs are the next generation ATMs where the end user need not insert the card

into the ATM card slot for making transaction. Instead the users, need to wave their mobile phone in the ATM machine, so the transaction can be done hassle-free. It is one of the upcoming technologies in the payment industry.

### Contactless ATM Technology - Transaction Process

A contactless ATM will have a currency dispenser which includes a contactless reader. The contactless reader can read data from a NFC enabled mobile phone of a customer. The ATM includes housing for the contactless reader that is adapted to prevent interception of radio signals. The ATM is able to prevent dispensing of currency in situations where unauthorized detection of signals is sensed.

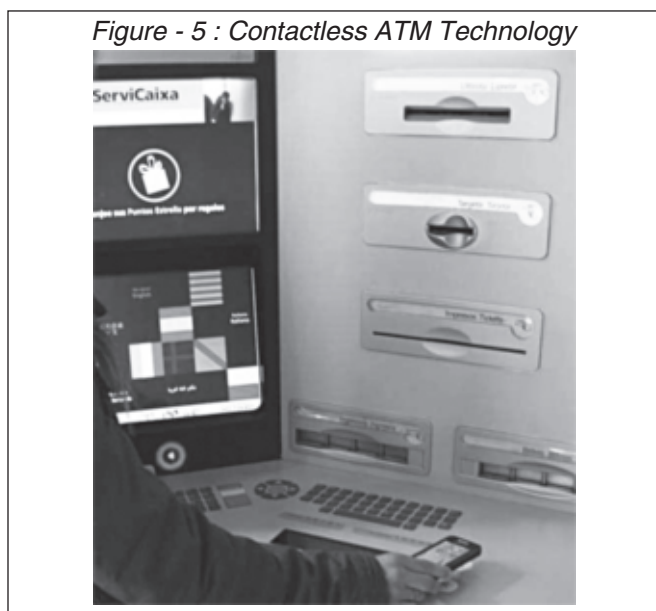


Figure - 5 : Contactless ATM Technology

The Card details and the PIN details are stored in the NFC mobile device. Since the ATM machine is enabled with the NFC reader, the whole transaction window is made available in the mobile by waving the NFC mobile with close proximity to the NFC reader. The customer can select the type of transaction as withdrawal and specify the amount he / she wants to withdraw. In order to process two-level authentication, NFC mobile is once again waved with NFC reader. As the authorization gets succeeded, money is ejected from the ATM system. One of the biggest advantage of this method is, it avoids CARD SKIMMING in ATM process.

### Security Concerns

As a technology, NFC possesses various threats with the inherent vulnerabilities and acquired deficiencies of implementation. The various threats for NFC are Eavesdropping, Data Corruption, Data Modification, Data Insertion, Man-in-the-Middle Attack etc.

Establishing a secure channel between two NFC devices is the best approach to protect against eavesdropping and any kind of data modification attack. Due to the inherent protection of NFC against Man-in the-Middle-Attacks, it is rather easy and straightforward to setup a secure channel. A standard key agreement protocol like Diffie-Hellmann based on RSA or Elliptic Curves could be applied to establish a shared secret between two devices. Man-in the - Middle is no threat, when the standard key agreement protocol Diffie-Hellman works perfectly. The shared secret key can be used to derive a symmetric key like 3DES or AES, which is used for establishing secure channel providing Confidentiality, Integrity, and Authenticity (CIA) of the transmitted data.

### Contactless Payments Improve Consumer Experience

Supporting contactless technology helps any organization to meet customer expectations today and in the future. Surveys report improving the consumer experience is the key factor for success in Contactless Technology. The biggest benefit of contactless technology is speed and convenience. Clearly, payment cards are more convenient and flexible than cash or cheques. With contactless technology, cardholders can enjoy an array of benefits that can greatly improve their experience at checkout of a transaction.

### Cardholder Benefits

- Contactless technology makes transaction faster and easier
- Contactless technology eliminates the need to carry cash
- Cardholder controls both the transaction and the card throughout the process reducing the risk of fraud
- Contactless payments allow cardholders to easily track on transactions
- Transactions are processed through the same reliable payment network

## Benefits At-a-Glance

- Lower cost for merchants
- Low risk factor
- Enhance customer experience
- Expanded chargeback protection
- Convenient 24x7 access
- Less manual interaction
- Fast throughput control and security

## Conclusion

In this multi-faceted scenario of the technological world where Blue tooth, Wi-Fi, RFID are available in

the arena, the incoming Contactless Technology with Near Field Communication (NFC) seems a good candidate for supporting further evolution of E-Commerce as well as day-to-day transactions, towards an era where the smart phone will not only be a portable computer but also a personal mobile wallet.

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### White Label ATMs (WLAs)

The Automated Teller Machine (ATM) has been hailed as one of the most innovative and revolutionary technological developments in the history of banking. The channel, which was initially a medium for disbursement of cash to customers at bank branches, has now developed into a touch-point for delivery of a wide variety of banking services at branches and convenient off-site locations. Though banks initially owned and deployed their own ATMs, over time this has undergone a broad change, with banks now preferring outsourcing all or many of the activities associated with ATM operations - starting from deployment, maintenance, cash loading and technology upgrading. This has helped them reduce their operational costs and stay more focused on their core business.

Internationally, in addition to bank-owned and deployed ATMs, Independent ATM Deployers (IADs) and Independent Service Organisations (ISOs) are engaged in the ATM business. Such ATMs are called White-label ATMs (WLAs). IADs and ISOs are almost similar in their operations, barring the following differences :

- ISOs are usually larger operators that own and deploy ATMs and the entire related infrastructure. They have a sponsorship arrangement with the banks for cash loading and services. The relationships with sponsor banks are guided by local regulatory requirements. The ISO scheme works either through a single sponsor bank or the multi-sponsor bank model.
- In the IAD model, the entities concentrate on investment in the assets (ATMs). They own the ATM and connect to any existing network provider for the payment infrastructure. The IADs can include entities ranging from individual business owners to large retail outlets / supermarkets. Such entities do not have a direct arrangement with any bank for any aspect related to the operation of such ATMs, including cash loading.

Under both models, an additional important revenue source is through on-site advertisements. A large portion of the revenue for the IAD / ISO is generated through such advertisements.

### ATMs and WLA Scheme in India

The number of ATMs in the country stands at 98,074, of which 38 per cent are owned by private sector banks, 33 per cent by public sector banks, 27 per cent by the SBI and Associates, and 2 per cent by foreign banks. There has been a 30 per cent year-on-year growth in the number of ATMs deployed in the country since 2008, but the penetration of ATMs in Tier III to Tier VI centres remains below the desired level. In order to ensure deeper penetration of ATMs in unbanked / under-banked areas, the Reserve Bank has permitted White-Label ATMs in the country to supplement the existing ATM schemes operated by banks. Under the policy guidelines, non-bank entities incorporated in India under the Companies Act, 1956 would be authorised to set up, own and operate ATMs in India, which will provide banking services to the customers of banks in India, based on the cards (debit / credit / pre-paid) issued by banks. Such non-bank entities should have a minimum net worth of ₹1 billion as per the latest financial year's audited balance sheet, which is to be maintained at all times. The model envisages that cash management and customer redressal would continue to be the responsibility of the sponsor banks. The scheme offers scope for large volumes, especially in unbanked / under-banked areas. It is expected that WLA operators in India will use the features of the IAD and ISO models, as permitted under the guidelines, and collaborate closely with the sponsor banks.

*(Source : Report on Trend & Progress of Banking in India 2011-12, Reserve Bank of India)*



## Operational Risk in Banks - Mapping, Assessment and Measurement Issues

 Prof. Arya Kumar \*

Akhilesh Tripathi \*\* 



### 1. Introduction

*"Risk is almost God like in qualities.<sup>1</sup> It is omnipresent".*

- Shri Anand Sinha, Deputy Governor, RBI

Risk is inherent in every sphere of banking activities. Banks, by definition itself, are in the business of taking and managing risk. In their role as intermediaries, they perform a very critical function of risk transformation that results in warehousing of risks (Arora, 2009; Sinha, 2012). The risk taking behaviour of banks contributes primarily to systemic risk and to some extent amplifies also, which, at times, have severe negative financial and economic repercussions. For example, the aftermath world witnessed during and post global financial crisis in 2008 was virtually germinated from banking systems flaws and failures.

### 2. Banks, Risks and Risk Management<sup>2</sup>

Banks operate on the foundation of public confidence and any small breach in that confidence may lead to a run on the bank and at times, eventually its failure (Sinha 2012). Banking risks are highly interdependent and events that affect one area, have ramifications on others (Arora, 2009). Such issues raise the necessity of proper understanding of risks and the ability to manage these in the present technologically advanced, complex and fast changing banking activities.

The risks, which banks face normally, can be divided into two categories - business risks and control risks. Business risks arise from the arena of - capital, credit, market, operational, earnings, liquidity, environmental, business strategy and group risk. Whereas control risks

stem from the lapses, lacunae, loopholes in internal controls, management, organizational structure and non-compliances of various systems and procedures. In Basel Capital Accord, all these risks have been covered under three categories -Credit Risk, Market Risk and Operational Risk and defined as under-

Credit risks, which arise when a customer fails to comply with his obligations to service debt. Major credit risk components are exposure, likelihood of default, deterioration in credit standing, and recoveries under default etc.

Market Risks may be defined as the possibility of loss caused due to changes in the market variables.

Operational Risks are the risks from losses arising from inadequate or failed internal processes, people and systems or from external events, including legal risk, but excluding strategic and reputational risk.

Out of the above three risks, operational risks are more critical and vital. Experts believe that, across the globe, many losses occurred in various spectrum of financial services due to failed operational or internal processes, were earlier wrongly accredited to credit risk or market risk whereas these should have been attributed to operational risk failures (Wei, 2006, Cummins et al, 2006). Samad Ali Khan et al (2009) opines that in the last 20-25 years, every catastrophic financial loss that had taken place, viz of Barings Bank, Long Term Capital Management, Allied Irish Bank-All First, Société Générale, Bear Stearns, Lehman Brothers, American Insurance Group (AIG) etc. was due to operational

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1. Inaugural address on "Perspectives on Risk and Governance" by Shri Anand Sinha, Deputy Governor, Reserve Bank of India, at the Risk & Governance Summit at Mumbai on August 23, 2012.  
2. Excerpts from the Book, "Strategic Risk Taking – A Framework for Risk Management" by Ashwath Damodaran (2007), pp 70-73

risks failures and mismanagement. Recently in the year 2008 also when similar failures of banks and financial institutions fuelled credit and liquidity crisis across the globe, the core reasons were attributed to greed, mis-selling, rogue trading, technological advancement, rapid expansion of banking operations, growing vulnerability of financial institutions, increasing complexity of banking and financial products, poor risk modelling etc. These all faults and failures were accredited to breakdown in internal controls, personnel and corporate governance, which ultimately lead to error, fraud, and performance failure and resulted in financial losses and compromises on the interests of an organisation (Arora,2009).

### **3. Operational Risk and its Management**

Theoretically, operational risk is primarily managed through various control systems, information systems and authorization decisions. Post implementation of Basel norms and upstart of risk management discipline in banking organisations, operational risks are increasingly being considered as the most important financial risk and have started gaining cognizance more than market risk and credit risk. Nonetheless, in most of the bank, people still face problems in embedding themselves deeply into operational risk analysis and management because the process requires assessment of various technological, systems, process and, most importantly, human related factors, which is a difficult task (Dutta et al, 2006). Unlike market and credit risk management, where analysis is primarily based on data through various quantitative / statistical tools such as betas, VaR for market risk and credit rating method and Vasicek model for credit risk, management of operational risk is complex and difficult because statistical tools and data based analysis do not help much in predicting human behaviour.

### **4. Operational Risk Management (ORM) - Analysis, Assessment And Measurement Issues**

Operational risk analysis and assessment are normally connected with controls. Study of status of controls and their effectiveness is not only a difficult, complex and unmanageable task but also necessitates proper addressing of various assessment, measurement and

modeling issues. Experts believe that Operational Risk analysis and management is more of an art (due to its more qualitative nature) and less of science (due to its less quantitative factors). Successful management of operational risks demands deep understanding and plausible assessment of existing risks, potential risks, misses, near misses and other visible and non-visible factors. However, many banks fail to address these issues due to

- On-going challenges associated with risk mapping
- Selection of inappropriate assessment approach
- Inherent and potential flaws in assessment, especially data based approach
- Inadequate and inappropriate address of measurement issues
- Risk managers' inability to consider empirical research and risk indicators in time and extract desired information.

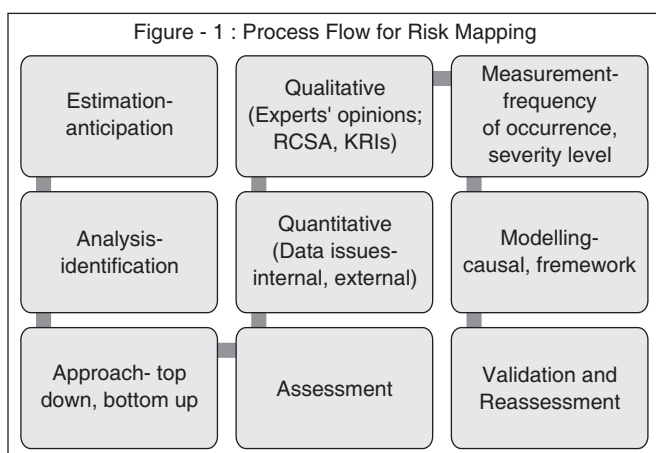
#### *4.1 ORM & Issues Related to Risk Mapping*

Risk mapping deserves the rank of most important factor in OR management as it helps in ensuring that governance is in place (Scandizzo,2005). Operational risk mapping involves estimation, anticipation, identification, tracking, reporting and controlling of risks through active involvement of various functionaries posted at different spectrum of operations, viz. front offices (branches, point of sales etc.), demi-front offices (credit appraisal department, forex department, loan processing centres / factories etc.) middle and back offices (administrative and controlling offices) and the likewise. Actions, authorizations, decisions of these functionaries not only affect directly but indirectly also to other activities of the Bank. For example, sometimes, functionaries make authorizations, decisions without considering the complex relationships among the Bank's mission, business processes and/or without fully understanding or explicitly accepting the risk. Under such and all similar circumstances, risk mapping helps in considering various sources of risks emanating from various banking operations, individuals, assets and market etc. Risk mapping also provides senior leadership inputs as well as a bird's eye view in identifying deficiencies and making fair decisions.

### 4.1.1 Risk Mapping Process

An ideal risk mapping process involves not only analysis of various components, but their linkages also among themselves and with other visible components as well. A suitable risk mapping and modelling workflow consists of following steps :

- Estimation- anticipation
- Analysis-identification
- Approach- top down, bottom up
- Assessment- quantitative (data issues - internal, external), qualitative (experts' opinions; RCSA, KRIs)
- Measurement- frequency of occurrence, severity level
- Modelling- causal, framework
- Validation and Reassessment



### 4.2 ORM & Issues Related to Assessment Approach

The second step in the ORM process is Assessment of risk.

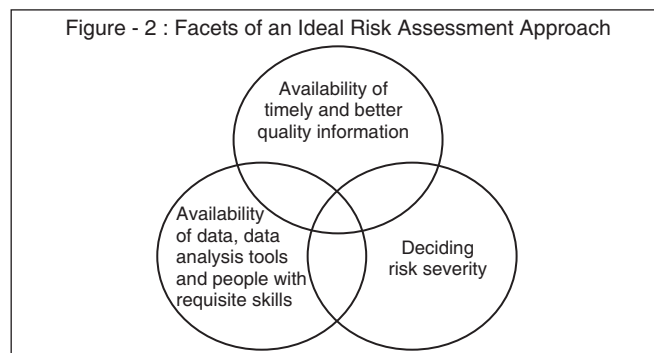
Despite democratisation of information, smooth availability of analytical tools and the operational risk discipline being "on the rise" many banks still lack a comprehensive and holistic assessment approach in addressing ORM issues properly and effectively.

Bob Kizlik (2012) opines that assessment is a process by which information is obtained relative to some known objective or goal. In broad terms, it is a testing. Tests are special form of assessment, which are conducted at the end to determine whether or not an objective or goal has met. There are few important facets of good risk assessment :

First, availability of timely and better quality information, so that the element of surprise is reduced;

Second, availability of data and data analysis tools, such as, simulations, scenario analysis and most importantly the people possessing special skills for converting these raw data into risk measures; and

Third, deciding risk severity. For example, if a risk is exposed to a business line on a regular basis, say price movements, one has to look at its impact on earnings or market value of the asset on historical basis. Similarly, if a risk being assessed is a low-probability event for which there is a little history, say as of American 9/11 or Indian 26/11 terror strikes, assessment has to be made on the potential impact of such incidents (Damodaran, 2007).



Gallati (2003) suggests that there are two common approaches for operational risks assessment - top-down and bottom-up. Top-down approach focuses identification of operational risks through combination of external or internal database of loss events and the active involvement of senior management, supported by formal structures of hierarchy. On the other hand, in bottom-up approach thrust is given on identification of potential sources or causes through traditional risk discovery techniques such as workshops, checklists, questionnaires and also through active participation of line and front office staff members. In simple terms, top down model approach helps in estimating the operational risks for entire organisation whereas in bottom up approach risks are identified for a particular business unit or process of an organisation. Experts believe that qualitative judgement, experience and common sense are the major guiding factors in an ideal risk assessment process and should normally involve following steps :



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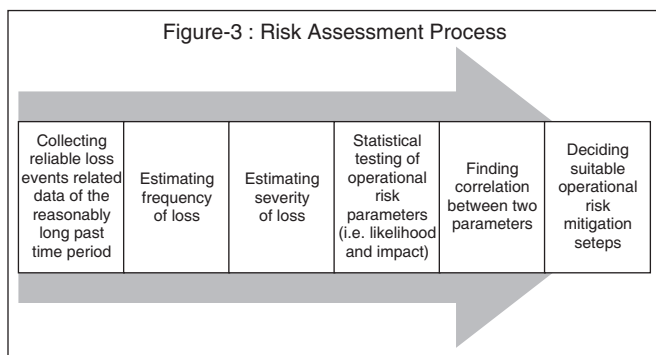
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- Collecting reliable loss events related data of reasonably long past time period
- Estimating frequency of loss
- Estimating severity of loss
- Statistical testing of operational risk parameters (i.e. likelihood and impact)
- Finding correlation between two parameters
- Deciding suitable operational risk mitigation steps



Experts believe that all these steps are interrelated and interdependent. In the process, risks analysts study, from the data collected, behaviour pattern of control risk factors / indicators and identify problem areas. By conducting scenario and reliability analyses, they study the pattern of problems which help them in visualising implications of control failures, both within the process and across the system. Experts believe that in view of its qualitative nature and complex components, bottom up approach is best suited for estimation and identification of operational risks. Bottom up assessment approach helps in creating awareness about the existence of operational risks among the rank and file and also facilitate development of tools and skills for its quantification and mitigation.

However, Sinha (2012) states that global crisis has taught us that no assessment approach or quantitative model can fully capture all the risks and no financial institution can resist to all possible crises. In an another school of thought, experts also fear that at times, more analysis may lead to more uncertainty. Irony of good risk assessment is that instead of making decision makers relaxed and satisfied it makes them sometimes, more uncomfortable. This apart, few also use it as an alibi for poor decision making.

### 4.3 ORM & Issues Related to Risk Measurements

After assessment of operational risks, the next important step in the process is their measurement. Measuring risk is a critical step towards managing it. Its usefulness depends on the accuracy of the instruments used and the skills applied. Measurement refers to the process by which attributes or dimensions of some physical object are determined. In the measurement process some standard instrument / physical device such as rulers, scales, thermometers, pressure gauges etc. are used to determine the size- big, tall; weight- heavy, voluminous; temperature- hot, cold ; shape- tilted, straight of an object or factor.

Damodaran (2007) says that measurement of risk has been part and parcel of human activity since time immemorial. He states that for much of the recorded time, events with negative consequences or risks related aspects, areas were measured and attributed to divine providence or supernatural powers. People used to respond unwarranted, undesired outcomes by offering prayers and/or sacrifices (often of innocents) or both and sometimes, surrendering or accepting to whatever fate meted out. If God intervened and blessed them with positive outcomes, they used to bow Him else used to accept sufferings. Nonetheless, they used to keep on doing their best to appease the spirits, which had caused bad outcomes. No measure of risk was ever thought of because people were confident that whatever happen to them was predestined and driven by the forces beyond their control (Damodaran, 2007).

The first break in this karmic view of fatalistic acceptance of bad outcomes came in the middle ages when mathematicians, more in interest of success at the card tables than in risk measurement, came up with the first measure of probability. Thereafter, risk measures evolved and grew from a philosophical surrendering to probabilistic measures to their logical extension. In the following Table, we summarize the key developments made, in this area :

Over the period of time, risk measures have evolved, by and by, through developments in statistics and economics on one hand and the measures of availability and storing of data on the other hand. With the passage

of time, the work done on probability, sampling theory and the normal distribution has improved the logical base and foundation for analysis of raw data.

also consult their astrological charts and rediscover religion when confronted with the possibility of large losses (Damodaran,2007).

**Table-1 : Historical Key Developments in the Area of Risk Analysis and Measurement**

Key Events	Era	Risk Measures used
Risk was considered to be either fated and thus impossible to change or divine providence, in which case it could be altered only through prayer or sacrifice	Pre-1494	None or gut feeling
Luca Pacioli posits his puzzle with two gamblers in a coin tossing game.	1494	
Pascal and Fermal solve the Pacioli puzzle and lay foundations for probability estimation and theory	1654	Computed probabilities
Graunt generates life table using data on births and deaths in London.	1662	
Bernoulli states the “law of large numbers,” providing the basis for sampling from large populations.	1711	Sample-based probabilities
de Moivre derives the normal distribution as an approximation to the binomial and Gauss & Laplace refine it.	1738	
Bayes published his treatise on how to update prior beliefs as new information is acquired.	1763	
Insurance business develops and with it come actuarial measures of risk, based upon historical data.	1800s	Expected loss
Bachelier examines stock and option prices on Paris exchanges and defends his thesis that prices follow a random walk.	1900	Price variance
Standard Statistics Bureau, Moody’s, and Fitch start rating corporate bonds using accounting information.	1909	
	1915	Bond & stock ratings
Markowitz lays statistical basis for diversification and generates efficient portfolios for different risk levels.	1952	Variance added to portfolio
Sharpe and Lintner introduce a riskless asset and show that combinations of it and a market portfolio (including all traded assets) are optimal for all investors. The CAPM is born.	1964	Market beta
Risk and return models based upon alternatives to normal distribution - Power law, asymmetric, and jump process distributions.	1960	
Using the “no arbitrage” argument, Ross derives the arbitrage pricing model; multiple market risk factors are derived from the historical data.	1976	Factor betas
Macroeconomic variables examined as potential market risk factors, leading the multi-factor model.	1986	Macro-economic betas
Fama and French, examining the link between stock returns and firm-specific factors, conclude that market cap and book to price at better proxies for risk than beta or betas.	1992	Proxies
<i>Source : Ashwath Damodaran (2007), “Strategic Risk Taking - A Framework for Risk Management” Chapter-4, How do we measure risk? pp .95.</i>		

Nonetheless, while all such discoveries, novelties, innovations, headways, developments have changed the society both in thoughts and technology and the people have shifted to more modern, sophisticated ways of analysing risk, still they believe that powerful forces beyond their reach, shape their destinies and are never far below the surface. It is worth noting that though new risk measures have evolved over the time, the old ones have not been abandoned entirely. The same traders who use sophisticated computer models to measure risk

**4.3.1 Measurement Approach & Severity Level Decision**

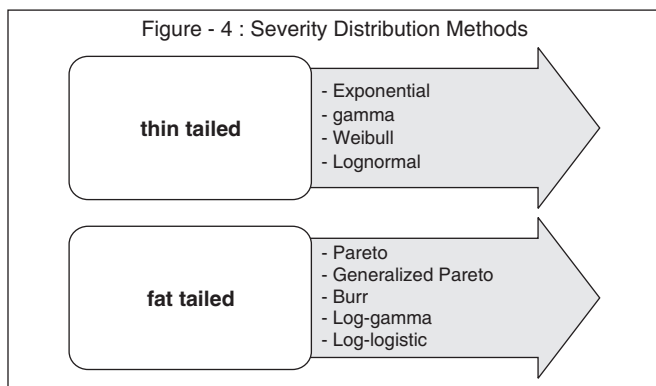
Risk measurement is done mainly to decide severity level. Severity refers to a stage or degree attached to the happening of an event, situation, condition or plight, which may affect the course of action to the extent of perceived harm. Severity level is normally denoted as “high”, “medium”, or “low”. Severity distribution is conducted through statistical techniques which helps in modelling of loss. It provides a range of the “loss amounts, given a loss event occurs”.

The terms “Shape” and “Location” of severity distribution are determined by the nature of underlying transaction e.g. size of a trade undertaken by a dealer.

There are several severity distribution methods, which are used by the analysts, depending upon the database of an organisation. A few of these are :

- Exponential distribution
- Weibull distribution
- Gamma distribution
- Log-gamma distribution
- Pareto distribution
- Generalized Pareto distribution
- Burr distribution
- Log normal distribution
- Log logistic distribution
- Generalized beta distribution of second category (GB2) and
- G-and-H distribution

Experts believe that for a “thin-tailed” database, the most suitable severity distribution methods are, Exponential, Gamma, Weibull, Lognormal whereas for the database having “fat-tailed”, Pareto, Generalized Pareto, Burr, Log-gamma and Log-logistic distribution are appropriate and best suited methods.



Experts opine that if an organisation has a highly developed internal database, containing regularly updated operational losses related events, the best-suited severity distribution methods are Log normal and Weibull distribution. Severity related aspects demand attention to two important components- data threshold

limit and controls. Both these components may play a “mitigation” role and also lessen the severity of the events thus giving an inaccurate or wrong result. These may also hamper both calculation of operational risk capital and the operational risk management process.

Today, though various tools are available for OR assessment but these are mainly meant for calculation of risk capital. These tools have not been designed for risk management, especially to plug in the re-occurrence of incidents like Barings Bank (McNeil et al., 2005; Cruz, 2002). These risk capital calculation based quantitative tools also do not help in identifying and considering OR risk sources and exposures those contain non-linear, multidimensional, heterogeneous and untypical factors viz. human factors. Because, all these factors are diverse, complex (e.g. prone to positive feedbacks and dynamic coupling) and also context-dependent. The point is “which tool should be used to assess risk source / exposure”. Experts opine that all tools can be applied to assess and measure all types of risks but the desired outcome depends on the application of tools and the methodology adopted. Success lies in adopting the right assessment tools, which should help in identifying “the risk that matters the most”. A relevant, focused and short but meaningful risk assessment is much more useful than an assessment, which is comprehensive but rambling.

## 5. Conclusion

Pareek (2011) advises that an organisation willing to reduce operational risk may be tempted to undertake as much as mitigation efforts as possible. For example, it may go for implementation of additional controls, hiring more skilled manpower, installing new and upgraded versions of softwares etc. But such efforts may result in building of systems more complex and thus defeating the very purpose of controlling, monitoring and mitigating of risks. In fact, at times operational risk assessment and management complexity also arise from the additional interactions created by the implementation of mitigation efforts. For example, implementation of a new software for identifying and mitigating ORs may create new sources of OR which may further necessitate induction of new controls. This is akin to the decision of a firm to hedge via a complex derivative instrument to reduce its

market risk exposure. Whereas, if the firm's expertise in designing derivative products is inappropriate, inadequate and faulty, the complexity of the chosen instrument may result into an undesired or unplanned outcome. As presented by Dowd (2003), the use of sophisticated techniques to mitigate CR and MR (e.g. collateralization, netting, credit derivatives, asset securitization) may transform themselves into operational risks. Hence, the steps initiated to plug in the loopholes and mitigate risks may themselves lead to the rise of an unnoticed and, yet probably, potential significant source of OR.

All these issues raise quest for quantitative and non-quantitative assessment and measurement approaches for ORM, which can be applied effectively. This becomes all the more important if it is realised that there are risks, which cannot be assessed and measured through statistical models. Hence, it is imperative that an effective assessment and measurement approach should be able to respond existing, known, unknowable, probable and possible risks, risk sources and risk causes through the analysis of various quantitative and qualitative aspects. The assessment and measurement approach should be able to provide high level of insights and consistent communication to higher authorities so that necessary steps may be initiated in time. This should be moot mantra for successful and effective ORM.

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 **N. V. Chalapathi Rao \***

## Technology, boon or bane?

Information Technology in banking is fast evolving. From enabling banking services to driving transformation in the industry, Information technology holds a promise to change the face of banking in the next few years. New entrants are looking to leverage their existing strengths in the Indian banking arena. The opportunity available to these entrants through leveraging their understanding of technologies and markets they operate in, promises innovative business models with a focus on delivering customer value.

The pace of change aided by regulatory directions is pushing banks to direct their strategies to a customer centric focus and technologies have become change Agents. We can expect to see shifts in the Banking industry unlike we have seen before, considering the far reaching impact of certain technologies, national initiatives as well as the potential innovation in the business of banking. While, technology has had a profound impact on all aspects of banking, Mobile banking, Consumer banking and Payment systems are of considerable importance in shaping the industry in the near future. These areas are likely to see the most change from a perspective of customer centricity, speed of delivery and cost of servicing customers.

Financial Intermediation sector in India is a highly regulated industry. Banks' challenges range from inefficient allocation of resource / infrastructure to customer stickiness. To adapt and survive, banks in India are adopting multiple techniques to entice and retain clients. As the reader is no doubt aware, the Indian Financial Intermediation market is a milieu interspersed with a range of players like PSU Banks, Private Banks, Foreign Banks, Cooperative banks, Regional Rural Banks (RRB's), Non Banking

Financial Companies (NBFCs), Housing Finance Companies (HFCs), Investment Houses, Post offices, Microfinance Institutions (MFIs) and the ubiquitous neighborhood money lenders. There was a time when banking meant waiting in long queues during working hours on weekdays just to get a passbook updated or get the 'busy' bank staff to answer your queries.

Then Internet Banking and call-centers started to proliferate. However, it was not uncommon to find Internet banking and call centre systems lagging behind the in-bank systems because the "batch" processes only ran overnight to update the alternate channel. Numerous technical challenges emerged in creating an integrated channel infrastructure from a transactional perspective, largely because we were bolting new channels onto legacy systems that were simply not designed to work in real time. Today various channels and customer touch points are integrated such that there is no lag in the view the channels present. However, a lot of work still needs to be done to have common, consistent and integrated systems.

The need to provide personalized, speedy and cost effective services is pushing banks to further reorient and innovate the business model of banking and enabling technology. It has become inevitable and is seen as the only way for banks to survive in the increasingly competitive banking arena. Technology not only simplifies the banking process and service channels but also plays a holistic role in enabling financial inclusion.

Technology in banking has become so ubiquitous that it is impossible to imagine any area in banking that is still not touched by technology. Any new emerging

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activities are essentially tech-driven and it appears that technology and banking are welded together forever. The only issue that emerges is harnessing technology for the benefit of all stakeholders, be it customers, shareholders, Regulators, management without any scope for misuse. In this context, a natural question that pops up is 'Technology a boon or bane?'. This question needs to be answered by looking at various developments at the operational level at banks on adoption of technology and on achieving near on-line capabilities for most of the transactions. Here is a look at the operational units.

### **A Boon!**

#### **Core Banking Solutions (CBS) :**

Most of the banks have achieved complete automation of their operations and implemented the CBS program effectively. A decade and half back, transactions were conducted manually. Delay and inaccuracy were the hallmarks of functioning. Customers were dissatisfied. The Regulators had to grapple with number of complaints. The picture gradually changed with the advent of technology. Simple things like getting the passbook updated or knowing the balance in the account have become pleasurable acts. Earlier banks were advised to give acknowledgement for passbooks and also give a time for collection of the updated ones. There never used to be a smooth sailing and it was chaos and complaints were the order of the day. Knowing the balance in the account is a big issue. Banks were governed by secrecy laws and never used to divulge information over phone. This was the source of irritation to the customers. Needless to say, all this changed for the better. Customers are happy and the banks are more than happy with the use of technology in delivering banking services. Technology enabled the banks to move from a concept of 'Branch Customer' to an all embracing idea of 'Bank Customer'. Customers now enjoy all benefits and receive same attention at all branches of the bank irrespective of the place of his residence / business. The multi-city cheque books, the facilities to accept cash and cheques by all branches etc provide added comfort and convenience to the present day tech-savvy customers.

#### **Financial Engineering :**

A beautiful by product of technology in banking is emergence of a separate discipline called 'Financial Engineering' which would not have been possible without automation. Financial engineering involves using technology for creating new products and services in the banking and improving / adding value to the existing ones. Insurance linked Savings Bank accounts, sweep in / sweep out accounts, customized wealth management products are some examples of innovation. Without technology, these products would not have been made available to the customers. The 'Unfixed Deposit' is an excellent example of products developed for the customers wherein customers need not disband the whole deposit when they require small sums of money.

Another bonus to the customers is the regulatory fiat that interest on Savings Bank account should be calculated on daily balances method. Earlier banks used to struggle to calculate interest on SB accounts manually on monthly minimum basis (strictly minimum in 20 days) and credit before the due date. All this changed for the benefit of the customers, thanks to technology. Customers get interest on balances kept not only for the first 10 days of the month but also increased interest on the next 20 days.

Treasury is another great beneficiary of the advent of technology. Many new products emanated from Treasury that found favor with clients and banks. Treasuries created new avenues of investment for banks by creating highly tech-driven products. "Intelligent Carry Index" of Barclays Bank is one such example of treasury products being offered in the market. Technology is the mother of all such products.

#### **Speed, accuracy and transparency :**

It is well recognized that automation led to speed and accuracy of the transactions. The transparency levels have also increased like never before. The daily forex rates are available on the web sites of banks. The regulatory guidelines are there for dissemination to the public. Consultative approach is followed both



by banks and regulator. The views of the customers / clients are respected and taken into account and they become an integral part of the business strategy of the banks. When the pricing of products becomes transparent, customers have a choice and the market becomes highly competitive leading to efficiency in services. The speed of the transactions is quite visible in the case of remittances. Real time credit is possible to the account of the beneficiary in the case of a remittance. Circa 90s, one used to go to the branch, apply for DD and collect it the evening or the next day, send it by post to the beneficiary and the beneficiary used to wait for credit till the clearing process is complete. All this changed with the help of technology.

#### **Centralized Back-offices :**

Another result of the automation is the birth of centralized back offices in the banks. Centralized loan processing units, central back offices for issue of cheque books and passbooks, one-point KYC due diligence etc. have become order of the day. This centralization leads to increased efficiency and expertise. The front office is relieved of the drudgery of back office work and this enables front office to focus on customer service and business development.

#### **Loan follow up and monitoring :**

The automation in banks provided enough ammunition and time for follow up and monitoring of loans. There are systems which send automatic reminders / SMS in the case of delay in repayment. Some of the systems are programmed to track the Savings Bank accounts of customers to detect any credit in the SB account and recover the dues in the loan account. The monitoring and follow up is flawless and perfect and the customers can not go out of the radar of the bank.

#### **Data warehousing / Data Mining :**

Most of the banks finished establishing data warehouses in their banks. This enables the banks to pool enormous amount of data at one place and 'slice and dice' the data for the purpose of analysis. This enhances the abilities of the bank to do very critical analysis at the granular level and understand the trends and patterns

in various business segments. The decisions are used to prioritize the businesses and identify new opportunities. The shift of preferences by the customers, the demographic profile of customers, the potential customers and the most profitable business lines are all identified and appropriate direction to the business strategy is decided. In the earlier days this kind of analysis was not possible because of limitations of manual work and also because of difficulties in collection and quick retrieval of data. Presently the data analysis is very rich and becomes a very useful tool in the hands of the management.

#### **Financial inclusion :**

Another very relevant benefit of technology to a country like India where a substantial portion of population still reside in areas unbanked is the ability of the sector to increase financial inclusion. The Government and the Regulator recognized the enormity of the task and put before the banking industry a challenging order of providing banking services in unbanked areas. With the help of technology, this work is going on. In a country as big as India, even though it may not be impossible, it is very difficult to provide 'brick and mortar' banking to every nook and corner of the country. Banks, with the help of technology, are trying to address the issue. 'Cloud computing', 'hub and spoke model', 'hand held devices' are some of the in things that aid in financial inclusion.

#### **Automated Teller Machines :**

Moving from a manual, scale-constrained environment to a global presence with automated systems and processes, it is difficult to envisage the adverse scenario the sector was in the era before the reforms, when a simple deposit or withdrawal of cash would require a day. ATMs, mobile banking and online bill payments facilities to vendors and utility service providers have almost obviated the need for customers to visit a branch. Branches are also transforming from operating as transaction processing points into relationship management hubs. The change has been very effective for banks bringing in an increase in productivity and operational efficiency to be more competitive.

### **Plastic cards :**

Electronic payments through credit and debit cards have also emerged as a fast-growing segment providing ease of use and convenience to customers. Technology enabled creation of plastic cards (Plastic money) that revolutionized the nature of financial transactions. The credit cards, debit cards, smart cards, pre-paid cards, charge cards, club and membership cards are some of the cards popular now. These cards provide transactional facility to the users unheard of in earlier times. The on-line connectivity with the central servers eliminated human errors and the authorization of the transactions on-line is a leap in technology. This improves the bottom lines of banks and provides another avenue of income through Member Establishments (MEs). The introduction of travel cards and smart cards by Railways and Road Transport authorities is another innovation. The list is still expanding and time only will tell us whether we are moving towards totally cashless society by popularizing the plastic money.

### **RTGS/NEFT :**

With the Advent of technology, the way becomes easy for introduction of new payment and settlement systems. Regulator caused the enactment of 'Payments and Settlement Act'. Technology facilitated introduction of 'Real Time Gross Settlement' and 'National Electronic Funds Transfer'. These real time transfer facilities provide intra-country movement of funds with utmost precision and speed. The systems have stabilized and now Regulator is looking at 'NGRTGS' (Next generation RTGS) with improved features and efficiency. There is standardization of timings, amounts, costs and procedures and this leads to transparency and customer satisfaction. The introduction of MTSS (Money Transfer Service Scheme) for inward cross border remittances is another addition to the remittance tools that technology facilitated. The beneficiaries in the remote corners of the country being able to receive amounts from Indian diaspora up to US\$ 2500 is a real boon to the small customers / non-customers of the bank.

### **Treasury :**

Treasury is one area greatly influenced by technology. Technology changes the face of treasury like never before. Concepts like integrated treasury have become possible with the application of technology. Technology facilitated scanning of global markets, spotting of arbitrage opportunities, quick analysis, and quick decision making that led to optimization of profits. The functioning of front office, mid-office and back office has acquired new meaning with the help of technology. The real time monitoring of deals by Mid office, the Straight Through Process (STP) in the case of settlements by Back office and the direct dialing platforms in Dealing Room all lend a new meaning and efficiency to Treasury.

The Back office functions, be it capturing the deals, following the Standard Settlement Instructions, noting holidays globally, monitoring the funds flow and profit evaluation have become efficient, automatic and smooth, thanks to STP. The complaints to Foreign Exchange Dealers' Association of India (FEDAI) and intermediation of FEDAI in inter-bank disputes have come down dramatically with the use of technology.

The funds management has acquired a new meaning with the advent of technology. Correspondent Banks have started offering new facilities like sweep in / sweep out accounts so that balances in Nostro accounts yield better incomes. Banks are no longer required to maintain nostro account in different currencies. Correspondents are offering one single currency account with the facility / ability of meeting commitments in any currency. The reconciliation of Nostro accounts and consequently timely detection and remedy of omissions and commissions has improved a lot. Faster reconciliation and quicker response from correspondents has become the order of the day. Many new products have been created by the correspondents for the Treasury.

Many correspondents have installed direct dealing platforms in the dealing rooms. These systems facilitate quick access to the foreign banks and deals are made possible in real time. These systems are of great help

when the Indian market remains shut for some reason. Constant scanning of these systems provides arbitrage opportunities to Indian Banks. Needless to add that because of competition and transparency, the rates become finer and better and the whole global forex market gets integrated that only spells happiness to the ultimate customer.

### **Risk Management :**

One area that derived the salutary benefits of technology most is risk management. The areas of risk identification, measurement, monitoring and management / mitigation underwent sea change with the entry of technology. The myriad risk limits became possible only with technology. The on-line risk monitoring and the dynamic controls enhanced the abilities of banks to take larger exposures.

Tech-driven risk management has become the order of the day, especially in treasuries. Very granular monitoring of risks has become possible with technology. Dealer-wise limits, dealer-wise profits / losses, hierarchy-wise powers, currency / tenor-wise limits, stop loss and take profit limits are all the byproducts of technology. Counter party exposure limits, country risk exposure limits can be calculated on global basis in real time. Very sophisticated risk limits like Value at Risk (VaR ) are put in place to quantify the prominent risk in Treasury i.e. market risk. Banks have also acquired the capability to calculate intra-day VaR also. The back testing is regularly done with the help of technology. Stress testing has become wider in coverage with technology. With 'what if' options a number of scenarios can be conceived and tested. Thus risk management has become a very effective and helpful tool in the hands of management with the extensive use of technology.

### **Quality MIS :**

The computer systems facilitate production of quality information for the benefit of top management. The slicing and dicing of information within data warehousing and data mining improves abilities to analyze the data from billion angles and detect patterns, behavior, direction, trends that help banks avoid risk pitfalls. The MIS which used to take lot time earlier can now be produced at the push of a button.

### **Cash Management Services :**

With CBS, all branches of a bank are connected. This kind of connectivity opened up new opportunities of business for banks. Banks started leveraging technology for business and introduced products like 'Cash Management Services' for the benefit of their clients. With these products, the cash flows of clients improved tremendously, so also fee income for the banks. Cash management services have become very popular with the clients and many innovations are happening in this area.

### **Monitoring for Defaults & AML / KYC Compliance :**

One clear area of improvement with the adoption of technology is monitoring defaults of clients. There are capabilities for real time detection of defaults, monitoring SB accounts for any sudden credits and for recovery of amounts due. Thus the omissions and commissions that used to plague the banking system earlier have become a thing of the past. The dissemination of information on defaulters in the banking system has accelerated, thus improving recovery prospects.

### **Saving manpower :**

The technology provided relief to the back office people who are now available for developmental work. Banks are redrawing their strategies for deploying the excess manpower in mobilizing new business for the banks. This creates enormous potential for banks to enter new areas, innovate and create new products and create specialized, dedicated customer service teams to really reap the benefits of technology. This, of course, presupposes re-skilling and re-equipping the excess staff to handle new work areas.

### **Off-site surveillance :**

With the networking of all branches, banks are now in a position to conduct off-site surveillance of transactions at the branches. Some of the banks have already created 'Off-site Surveillance' departments at a central place. This provides capabilities to detect the violations and exceptions from laid down procedures and initiate quick remedial actions thus minimizing the damage. This makes the check and control over branches almost real

time as compared to a postmortem in the earlier non-computer era.

### **New Vistas**

The basic technology adoption is almost complete and banks are now looking at improving the efficiency and effectiveness of the IT Infrastructure created. Newer areas of technology initiatives are enterprise risk management, business intelligence, improving internal effectiveness and managing IT risks.

### **Or bane!**

#### **Cyber crime :**

The cyber crime is direct and immediate result of the introduction of technology. Fraud and cheating, information theft, cyber extortion, cyber stalking, denial of services and computer vandalism have become common words now a days. Cyber criminals use various techniques for committing different types of cyber crimes. Some of them include dumpster diving, wire tapping, eaves dropping on emanation, denial of services, masquerading, data attacks, unauthorized copying of data, trap doors, traffic analysis, harassment, software piracy, session hijacking, phishing, spoofing and data diddling etc. Viruses, worms and spywares create havoc in the functioning of the banks if not checked by anti-virus programs, firewalls and other tools. Thus the banks are required to be constantly vigilant about the potential loopholes in technology to reap full benefits of the same.

#### **Specialization :**

The technology has facilitated creation of central processing units for various activities like issue of cheque books, pass books and processing of loans etc. This leads to concentration of expertise at one place and results in concentration risk. Gradually the branches and other operational units lose the expertise and simply become mechanical interfaces between banks and the customers to the utter discomfort of customers. Already we are aware of complaints by customers that when they enquire about some interest on a Fixed Deposit or collection of installment of a loan, the usual reply from the branch staff is that it is done by the system. Probably, the

eye for finer details and the intelligence quotient which used to characterize the operational staff appear to recede into the background, if not being lost irretrievably. Technology should not lead to a situation where in a specialist tries to know more and more about less and less until one knows nothing about anything.

#### **Attrition :**

Another fall out of technology appears to be attrition in the industry. As technology is implemented, certain select people get expertise and manage the technological platforms of the bank. Attrition is happening from these select pockets. This is perennially plaguing IT departments of banks. Unfortunately, there is poaching also by some vendors. Some banks have taken up implementation of some software program and ended up losing their staff to the IT company without the implementation itself being complete.

#### **Effect on expenditure :**

The very technology which should help banks optimize expenses, some times leads to increased expenses. The switch over of interest calculation on Savings Bank deposits to daily basis method is an example of such peculiar contribution of technology. Such a method would not have been thought of in the absence of technology.

#### **Transparency :**

With technology, banking has become an open book. Customers can easily know the pricing of products, spreads and other critical information. Customers become demanding and the spreads are likely to move southwards only. Competitors also can know and understand the strategies of bank and take them into account while formulating their own business initiatives. All this creates a very competitive market and banks are required to play the game of volumes only carefully to stay afloat in the market and move forward.

#### **Automated Teller Machines :**

ATMs provide an effective alternate channel of delivery of bank products which have become very popular in

recent times. But this delivery channel creates headache to the branch manager. Any bank customer can withdraw cash from the ATM. Cash outflows have become very unpredictable and cash management has become very difficult. The customer complaints on account of downtime because of some immobility provide constant source of worry to the manager. In the rural areas, the problem is different. Even though ATMs are installed, old, illiterate customers prefer cash payment through the cash counter of the branch. Power is erratic in rural areas thereby limiting the ability of banks to serve the customers efficiently.

#### **New problems :**

New problems arise before banks completely understand the systems and products. Let us look at a case in SWIFT department of a treasury of a bank. The bank centralized the Swift operations in Mumbai and up country branches are required to route their messages through Mumbai. One evening, Delhi reported a problem in their server. The central Mumbai office suggested the remedy and asked the Delhi branch to retransmit the messages which the branch did. There is check in the system to avoid duplication of messages. The messages are serially and uniquely numbered by the system and it sends only those messages which are numbered higher than the last number of the previous day. After receipt of information from Delhi branch, the Swift server at Mumbai developed a problem and the operator rebooted the system, which is a normal standard practice. After that the messages were transmitted. At the end of the day they take a printout of the Swift activity for a casual glance. To their utter, dismay they found that apart from the messages Delhi sent that day, another eight messages were also sent. Some of the messages were payment messages involving millions of dollars. The department stayed overnight and contacted correspondents and it took a complete week to come out of the problem. What happened is interesting. There is a system of keeping the messages in the warehouse. When the transmission signal is given, messages including those in warehouse are sent. There is however a check to send only untransmitted messages by way of numbering the messages. In the

instant case, when the system is rebooted it renumbered all the messages including those in warehouse starting from one and the operator ordered transmission of messages which are transmitted. Then the bank revised the manual by incorporating one more check which says that the operator should empty the warehouse everyday at the end of operations. This is a peculiar problem that arose because of incomplete understanding of the system.

I regale you with another story. The treasury of a bank in Mumbai had what is called direct dealing platform of a foreign bank in their dealing room. It helps the bank in getting finer quotes and also helps the bank to cover the transactions at odd times even when the Indian markets are either closed or not very convenient. One day the dealing room covered a deal through the autobahn system and was happy. In the evening, the dealers were agitated not to find the cover deal in MIS. First thing the dealers did was to cover the uncovered deal which of course, resulted in a loss of ₹1,00,000. The matter was taken up with the foreign bank which ordered a global review of the system. After six months the report was released. It was an issue of 'latency' . When the cover deal was struck, the confirmation number was generated but by the time the signal reached the other server the rates changed and the system did not accept the deal. The issue was remedied. The Indian Bank could manage to cause the foreign bank to bear fifty per cent of its loss of ₹1,00,000.

#### **Real time transfers :**

Technology produced a slew of remittance products which are all for the benefit of the customers. Real time transfers are a reality and customers need not handle paper drafts etc. Likewise, internet banking facilitated transfer of funds at the instance of the customers. These developments resulted in two issues for banks. The banks lost the benefit of float which they used to have earlier. Secondly, the absence of manual intervention at the branch level to transmit funds created a scenario where in the branch manager does not know what is happening to the deposit balances in the branch. The deposit balances in the branch have become very unpredictable and volatile.

### **NPA Management :**

With the technology taking over the computation of NPAs, peculiar problems are reported. NPA levels have gone up. Bankers' explanation is that the application of technology led to increase in NPAs. Deputy Governor, Dr. K. C. Chakrabarty commented whether computation of NPAs using technology leads to increased NPAs. It is true that the system will not create NPAs. It is only exposing certain hidden pockets of NPAs which earlier went unnoticed / undetected. But the subjective discretion is lost and it has become mechanical exercise.

### **Clearing activities :**

One of the areas that affected the customers unlike banks as discussed so far, is the activity of banks involving clearing of cheques. With the help of technology and connectivity, the clearing of cheques has become speedier accurate. But the point is that Central Accounts Office (CAOs) / Service Branches at the beneficiary's centre can now directly access the accounts of the drawers and debit the amount. Earlier banks used to contact their customers in the case of paucity of funds and clear the cheque on the instructions of the customers. Now this service is not possible. Upcountry branches see the balance and pass the cheque if balance is available or return the cheque. Customers must be vigilant as some of the benefits with technology have come with the loss of some benefits which were available under the old system.

### **Conclusion :**

The overt observation of some knowledgeable persons who passionately feel concerned for the welfare of humanity, in the wake of scientific strides and technological triumphs, laments that "technology creates more problems than it solves". Their concern echoes the similar sentiments of thinkers like J. G. Ballard for whom, "technology dictates the languages in which we speak and think. Either we use those languages or we remain mute", and for Omar Bradley "our technology has already outstripped our ability to control it". Despite these jarring notes, technology has acquired a halo that is almost impossible to shake off.

For ages the axiom, nothing is good or bad but thinking makes it so, was the golden rule that moulded human

perceptions and concrete actions. With the advent of science and technology, and their subsequent sway over human ideas, intuitions and ideologies, it is now 'the use or abuse' of technology that renders it either a blessing or a bane for humanity that lives and survives on the ever-spreading tentacles of technology. In short, it is the technology that rules the roost now and keeps its ambience alive all the time in various manifestations. With the frontiers of technology influencing all aspects of life, both in terms of time and space, it is anybody's guess as to what the future holds in store for humanity, that has become so enamored of technology.

There is no denying that our cares and concerns are being controlled by technology, in its various forms and facets. Whether in company or in solitude, technology has come to occupy a pivotal place in our day to day life. If the despots use it to perpetuate their repressive rule, the terrorists have employed it to explode symbols of progress. With no end to man's rapacious nature in sight, technology has become a hand-maiden of unscrupulous exploiters of natural resources and immoral traders of wild life species.

Technology as it reigns supreme over our intellect and imagination, is redefining human relations. In a bid to hit the jackpot, or make a quick buck, the individual has lost his / her identity and, in the bargain, has fallen an easy prey to alienation and estrangement. Smarting under physical fatigue and mental stress, he / she has become a victim of the phenomenon of being an "outsider" among his / her own people. Despite a host of benefits that technology has conferred on us in varying degrees, the onslaught of anger and angst is very much conspicuous. If today we are scared of some impending disaster, it is because technology has given such powers to individuals and groups which even the demons or deities of mythology did not enjoy.

We are standing at the threshold where technology as a source of boon or brazenness is staring in our face. In moments of introspection, we must bear in mind what Aldous Huxley had said : "technological progress has merely provided us with more efficient means for going backwards".

Nothing comes free in life. There is no free lunch in finance. Same is true with technology. It does not come alone. It comes with two of its trusted aides, the benefits and the limitations. It is wise to embrace technology with all its myriad facets and be aware of the limitations and develop new technologies to overcome the limitations. Technology is like a knife which has many uses to mankind but it saves a life in the hands of a surgeon and it takes a life in the hands of a mercenary. Wisdom lies in

increasing the tribe of surgeons while steering clear of rogues. In the banking arena also, attempts should be made to integrate technology into the functioning while being constantly aware of the pitfalls. In the long run, I am sure, technology becomes a boon to benefit the whole mankind in general and banking sector in particular. Let the surgeons tribe multiply!



### **MACRO Research Proposals for the year 2013-14**

Indian Institute of Banking & Finance (Estd : 1928) is working with a mission "to develop professionally qualified competent bankers and finance professionals primarily through a process of education, training, examination, consultancy / counselling and continuing professional development programmes. One of the objectives of the Institute is to promote research relating to Operations, Products, Instruments, Processes, etc. in Banking and Finance and to encourage innovation and creativity among finance professionals. With this in view, in 2003 the Institute had started to fund research studies on selected areas in banking and finance, known as 'Macro Research', the term macro suggesting the scope of the research and to distinguish it from the other research initiative of the Institute namely the 'Micro Research'. Under the Macro Research scheme, the Institute invites proposals from research scholars from universities, colleges and banks to take up research in identified areas.

#### **Topics for Macro Research:**

The Institute encourages empirical research in which the researchers can test their hypothesis through data (primary / secondary) from which lessons can be drawn for the industry (banking & finance) as whole. In this regard, the Institute invites Macro Research Proposals for year 2013-14.

1. Asset Quality : Private v/s Public Sector Banks
2. FSLRC (Financial Sector Legislative Reforms Commission)
3. Managing CAD : cross country experiences from developing countries
4. Gold & India's Monetary System.
5. Monetary Policy Transmission in India
6. Issues in Loan restructuring & provisioning (CDR)
7. Allowing CDS on bank assets-will it revive the market?

#### **Who can participate?**

Teams sponsored / identified by research organizations / institutes, as well as individuals (with a Ph.D. degree) affiliated to research organizations / institutions / banks having a proven track record, are eligible to apply. **The winners of the macro research award during the last two years (2011-12 and 2012-13) are not eligible to apply for the research award.** If the research is undertaken by individuals, the proposal should be routed through their organizations after taking requisite permission, wherever applicable.

#### **Research Proposal**

The Research Proposal/s submitted should, among others, focus on the research objective/s, hypothesis, research design, methodology and execution plan of the proposed project.

#### **Evaluation :**

Research proposals will be evaluated in terms of objective, relevance and methodology. The track record of the research organizations / researchers submitting the proposal is also taken into account for awarding the research. All the research proposals will be prima facie considered for suitability and final selection will be made after the short listed researchers make a presentation to the members of the Research Advisory Committee (RAC) of the Institute.

#### **Research Grant :**

The selected research project carries a cash award of ₹2,50,000/- (Rupees two lakh and fifty thousand only). On commencement of the project a part (25%) of the award money will be given by way of advance as per the request of the researcher. The balance will be disbursed only on acceptance of the final report. In case a report is found unacceptable during the midterm review and final review, the research organization / researcher will not be paid the balance amount. In case a research organization / researcher abandons the project mid way, they would be required to refund the advance availed together with interest at the prevailing Base Rate of the State Bank of India (SBI).

#### **Size of research report :**

Around 200-250 pages

#### **Time frame :**

The final research work should be completed and final report submitted within a maximum period of six months from the time it is awarded.


Applicant research organizations / researchers are required to submit typed proposals in English along with a brief bio-data highlighting their experience in conducting similar research.

Applicants must quote the full address, mobile no. / landline no. and email ID of the researcher. The last date for submission of the proposal is 15<sup>th</sup> December 2013.

Applications may be sent via post or courier to :

The Director of Academic Affairs,  
Indian Institute of Banking & Finance,  
Kohinoor City, Commercial-II, Tower-I, 2<sup>nd</sup> Floor, Behind Kohinoor Mall, Off. L.B.S. Marg, Kurla (West), Mumbai 400 070.  
Tel. : 022 - 2503 9604 / 9746 / 9907 / 2503 2971 / 2503 7307



 **N. S. N. Reddy \***

## Rupee Dollar Dynamics

Foreign exchange reserves are extremely critical for the countries who deal with international trade to meet the foreign currency commitments. Normally, the international trade transactions take place in couple of major currencies of which US Dollar plays a predominant role.

Exchange rates, like any other commodity, are based on supply and demand for particular forms of currency. Domestic currency supply changes as a result of a country's fiscal and monetary policies. Similarly, demand for currency can be influenced by a large number of factors, including interest rates, inflation, and views on impending government regulation.

A strong exchange rate (rupee appreciation) is often considered to be a sign of economic strength and can become a symbol of national pride. On the flipside, there are arguments that it can depress economic growth as it may tend to lead exports more expensive, therefore less demand for exports. At the same time it ignites more demand for imported goods on account of price competitiveness which pose threat to survival of domestic industry.

**Evolution of Exchange Rate :** The movement of exchange rates in India have undergone sea-change and the journey is quite interesting and fascinating. The evolution can be broadly categorized into three distinct phases viz., Regulated, Dual Rate, and Partial Deregulated.

i) **Regulated Regime :** The regulated exchange rate regime was in force in India for a very long period and the exchange rate (\$USD *vis-a-vis* Rupee) movement from 1952 to 1990 is furnished in Table-1.

<b>Year</b>	<b>Exchange Rate</b>
1952	4.75
1966	7.50
1975	10.41
1980	7.89
1985	12.37
1990	17.50

*Source : RBI Reports*

ii) **Dual Exchange Rate Regime :** The country faced serious economic crisis in the year 1990 and the forex reserves were dried up completely. In the above backdrop, the government adopted a dual exchange rate regime where the importers were allowed to pay for some imports with foreign exchange valued at free-market rates and other imports could be purchased with foreign exchange purchased at a government-mandated rate. Subsequently, Floating Exchange Rate was introduced in the year 1993 where the exchange rate is determined ostensibly by market forces. During the transition period (1990 to 1993) the exchange rates witnessed sharp upward movements. However, the post floating exchange rate regime i.e. beyond 1993, witnessed gradual depreciation of rupee against US Dollar. The year-wise movements are furnished in Table - 2.

\* Assistant General Manager, Andhra Bank, Head Office.



Year	Average Yearly Exchange Rate
1990	17.50
1991	22.75
1992	28.14
1993	31.28
1994	31.39
1995	32.42
1996	35.51
1997	36.38
1998	41.35
1999	43.13
2000	45.02
2001	47.29
2002	48.56

*Source : RBI Reports*

iii) Partial Deregulated Regime: The Indian rupee has been highly volatile in the recent past driven by implementation of economic reforms which ignited cross country trade volumes. The exchange rates were moved in different directions during the last one decade i.e. 2003 to 2013 which is evident from Table - 3.

Year	Average Yearly Exchange Rate
2003	46.63
2004	45.27
2005	44.05
2006	45.27
2007	41.21
2008	43.49
2009	48.36
2010	45.72
2011	46.68
2012	53.43
2013	54.83

*Source : RBI Reports*

The rupee appreciated from ₹46.63 level in 2003 to ₹44.05 in 2005. This again was short-lived as rupee depreciated continuously since 2007 and touched ₹48.36 in 2009 and later regained to ₹45.72 in 2010. The exchange rate has passed turbulent times from ₹45.72 to ₹54.83 during the last 3 years

and traded at a lifetime low of ₹60.71 in the month of June 2013.

The local currency is not only depreciating against the US Dollar but also other major global currencies too. The fall in rupee against US Dollar can be attributed primarily to the following major factors :

- The investors across the globe are considering US Dollars as a safe haven for their investments on account of turbulence in European markets and weak global economic outlook. This led to an increased demand for dollars vis-à-vis the supply for rupee and thus the depreciation.
- The Indian economic scenario over the years has been plagued by high rate of inflation, hovering around 5% to 10%, and tardy growth in manufacturing sector. The cumulative effect of these factors is leading to a shift in investor sentiments towards dollar market.
- Due to a sharp increase in the dollar rates, importers suddenly started gasping for dollars to hedge their position, which led to an increased demand for dollars. On the other hand exporters kept on holding their dollar reserves, speculating that the rupee will fall further in future. This interplay between the two forces further fuelled the demand for dollars while sequestering its supply from the market.
- There has been shift of FIIs from the Indian markets in the recent years and this has triggered increased demand for dollars which is further leading to a spiralling rupee.

The depreciation of rupee against US Dollar has cascading impact on the economy as we are operating in a liberalized environment dealing with multiple countries / currencies and this has bearing on the following sectors :

Exports - Businesses that rely on exports can find their products suddenly competitive in overseas markets as exchange rates fluctuate. The falling rupee has substantially appreciated the revenues for the exporters especially dealing with Information Technology, Pharma, Gems, Textile sectors as they receive more rupees for their dollar denominated

export contracts. It is a boon to IT companies as it generates more than 80% of their revenue from overseas market and this will enhance their revenue realizations.

Imports - Companies that rely on imports can see the costs of these imports rise and fall with the exchange rate. India has been importing crude and petrol to meet the growing needs of the corporate sector as well as domestic consumption. Despite drop in oil prices in international market, we are unable to take advantage due to weakening of local currency. Further, the increased gold imports added fuel to fire and widened the current account deficit. This has far reaching impact on increasing inflation with rise in energy cost to transportation cost.

raise resources to take advantage of low interest rates in international markets. As per Bloomberg reports, Indian corporates have borrowed more than \$12 billion every year since 2010. The falling rupee has direct bearing on the interest burden as majority of the corporate borrow funds through ECB. For companies that have availed of foreign currency loans for implementation of projects, the rupee depreciation will stretch their balance sheets, as the amount of debt will increase in rupee terms. As these loans mature, the cash flows will also be impacted. The rupee depreciation especially in economic downturn scenario is compressing the corporate margins and creating difficulties in making repayments to the creditors.

Year	Foreign Trade			Gross Domestic Product			
	Exports	Imports	Trade Gap	GDP at Current Price	% Exports to GDP	% Imports to GDP	Total Exposure
2006	4.56	6.60	-2.04	32.82	13.89	20.11	34.00
2007	5.72	8.41	-2.69	37.79	15.14	22.25	37.39
2008	6.56	10.12	-3.56	49.87	13.15	20.29	33.45
2009	8.40	13.74	-5.34	56.30	14.92	24.40	39.33
2010	8.45	13.64	-5.19	64.78	13.04	21.06	34.10
2011	11.43	16.83	-5.40	77.95	14.66	21.59	36.25
2012	14.66	23.46	-8.80	89.75	16.33	26.14	42.47
2013	16.34	26.76	-10.42	100.28	16.29	26.69	42.98

*Source : Economic Survey 2012-13 & Export & Import Data Bank*

It is evident from Table-4 that while exports showing tepid growth and imports are on the rise both in absolute terms as well as percentage to GDP. Further, the total exposure of the country to the rest of the world (% Exports and Imports to GDP) has been increasing over the years from 34% in 2006 to 42.98% in 2013 is also a cause serious concern as any change across the globe has direct bearing on the economy.

Falling value of rupee brings cheer to the economy only when the exports surpass imports as loss on imports is neutralized by gain on exports. However, it is alarming situation for our country as trade deficit is looming large over the years - from ₹2.04 lakh crore in 2006 to ₹10.42 lakh crore in 2013.

Corporate sector - Indian corporates have been increasingly accessing international debt markets to

Exchange rate movements can have a significant impact on corporate returns. Multinational companies may see significant shifts in their profitability, as foreign exchange rates may make locally held currency more valuable. Even local companies can be affected, as changing forex rates may substantially alter their material costs, or affect their ability to sell their goods in foreign countries at competitive prices.

Foreign investments - The rupee's weakness may make foreign investors think twice before investing in India whether it is Foreign Direct Investment (FDI) or Foreign Institutional Investors (FII) or External Commercial Borrowings (ECB). Foreign capital inflows are typically at risk when the local currency weakens. Already, portfolio flows into both debt and equity have been gradually tapering, with investors subscribing

to the view that the local currency could depreciate further. If the rupee touches a new low and stabilizes there, foreigners may then put in more money, as they would get more rupees for the same amount of dollars they would have put in earlier.

**Impact on economy** - The major impact of the falling rupee can be seen on the rising import bill as around 70% of country's fuel requirements are being met by imports alone. The imports have severely impacted the bottom line of majority companies as well as the subsidy bill of the government. Of late, the gold imports have added the woes further which widening the trade deficit. Increasing imbalance in trade has adverse impact on country's fiscal deficit, alarmingly stood at 5.4% of GDP, is a cause of serious concern. A falling rupee straightaway translates into an increase in the retail prices of all products across the board on account of imported fuel costs which also termed as "Imported Inflation". The spiralling inflation in turn leads to stagnant growth of the economy.

### Forex Management - Role of Banks

Banks have been playing a significant role by extending the required financial support to the corporates who are the backbone for economic development of the country. Of late, it is observed that the corporates have been availing foreign currency borrowings as the Banks / Financial Institutions are unable to meet their requirements on one hand and the cost of borrowings from the banking system is on high side on the other. Thus, the foreign currency borrowing has attained utmost importance to address the issue of access to funds and to take the advantage of interest arbitrage especially in stable / appreciating rupee environment.

It is estimated that around 60% of relatively long term foreign currency exposure and 40% of the short term exposure up to one year maturity are unhedged. The probability of Indian companies defaulting on their dollar loans has increased significantly on account of rupee depreciation and may pose a systematic threat to the Indian banking system. The forex risks, if not addressed suitably

by the corporates, may eventually lead to credit risk to the banks. Thus, it is also the responsibility of the banks to ensure that the borrowing companies should have a Board approved hedging policy in place and the policy guidelines are adhered scrupulously.

**Inward Remittances** - Indians settled abroad and NRIs working overseas temporarily are the major source of foreign exchange inflows to the country. The inward remittances (private transfers) during the last one decade are furnished in Table-5.

Year	Yearly Average Exchange Rate (₹)	NR Dep* (\$ bn)	Inward Remit (\$ bn)
2004	45.27	NA	NA
2005	44.05	32.74	20.52
2006	45.27	36.28	24.49
2007	41.21	41.24	29.82
2008	43.49	43.67	41.94
2009	48.36	41.55	44.80
2010	45.72	47.90	52.04
2011	46.68	51.68	53.14
2012	53.43	58.61	63.49
2013	54.83	70.80	64.00#

*Source : RBI & World Bank Reports \*cumulative #provisional*

Contrary to the common belief, the volatility of exchange rate has no significant impact on the forex inflows. India witnessed continuous flow of inward foreign remittances both in times of rupee appreciation as well as rupee depreciation which clearly demonstrates the fact that the inflows are not exchange rate sensitive. While NRIs' emotional connection to their country of origin is part of the explanation for this, the attractive domestic deposit interest rates also provide a powerful incentive. Inward remittances play an important role in bridging the current gap especially in falling rupee environment.

**NR Deposits** - It is observed that around 20% of inward remittances are being converted into bank deposits. From the above table it is evident that NRI deposits increased from \$32.7 billion in 2005

to \$67.6 billion in 2013 with compounded average annual growth rate of 13.40% despite volatility in forex rates. Banks can bank on this segment as it has potential to grow in the ensuing years due to increased migration to USA and Europe for education and employment purposes.

### **Way forward**

RBI has been extremely cautious in its intervention during the entire rupee depreciation crises and reacting with timely interventions by selling dollars intermittently to tame sharp fall of rupee. In order to curb the speculative forces, recently RBI introduced key policy initiatives such as intervening in the forward contracts policy whereby cancelled forward contracts cannot be rebooked. Further, RBI intermittently put trading limits for the banks in the foreign exchange market in order to tame the speculative forces and to manage the volatility and disruption to the macro-economic situation. However, the fact remains that India just does not have enough foreign exchange reserves to sell in the market to support the rupee and thus intervention is very limited.

External Commercial Borrowings (ECB) has become one of the major sources for corporates to meet their capital expenditure towards new projects and capacity expansion, which stood at \$121 billion as on 31<sup>st</sup> March 2013. However, the end-use restrictions are coming into the way to the free flow of funds from abroad. Though, the recent relaxations announced by RBI to use ECB route to pay for imported services which include technical know-how and licence fee is a welcoming sign, there is an imminent need to relax the norms further to invite inflows of foreign currency to meet the emerging requirements of the country.

The increased foreign trade necessitating the corporates to deal with multiple currencies which are fraught with currency risks on account volatile forex market and this trend is likely to stay in the ensuing years also.

The adoption of proper hedging policy is the need of the hour to optimize their resources to focus

on the core business for its competitive advantage. In this scenario, the Forex Risk Management policies of the corporates have to remain strong and have to be strictly adhered to protect the interests of all the stakeholders and in preventing system risks. However, the corporates can take best hedging decisions only when the risk managers acknowledge that market movements are unpredictable and hedging should always seek to minimize risk but should not represent a gamble on the direction of market prices.

Given global demand conditions and price competitiveness, there is no much scope to augment exports and at the same time imports are on the rise which is likely to widen the current account deficit further in the ensuing years. Reform in fuel and fertiliser price policies and fiscal consolidation may ease the situation. On the other hand, better growth and investment opportunities and lower inflation will enable our country a more attractive investment destination. Thus, it is imperative for policy makers to focus on medium to long-term measures to restore investor confidence to improve capital flows (FDI/FII/ECB) to bridge the gap.

The most potent symbol of a nation's economic strength is the soundness of its currency. If the decline in rupee continues then it will have adverse impact on all key sectors of the economy. It is therefore high time that government should push the second generation economic reforms so that Indian exports get the much needed boost and also encourage import substitute industries to augment the net trade inflows to ensure the stability and soundness of the rupee against all major currencies in the long run.



## Banking Technology Products

### 1. Introduction :

In the past, banks in India used to provide plain vanilla banking products and services. Of late, use of technology has impacted banking operations and business substantially. It has enabled banks to offer the existing products with more / additional features to suit the requirements of various categories of customers. For example the traditional Savings / Fixed Deposits underwent changes with the advent of technology. Now, a customer can keep a threshold amount in his savings account and have an option to convert any amount over and above that threshold into FD automatically. Further, there is also a Sweep in facility wherein he can withdraw the amount of the FD as and when required in parts without losing any interest.

Technology has also helped banks to evolve many new products / services to suit the growing needs of their customers. The introduction of core banking solution and Automated Teller Machines made the banking possible anywhere at any time. Besides this, technology has also helped banks to offer banking services to financially excluded people in remote rural areas in a more cost effective manner. Micro ATMs, PoS with smart cards and mobile banking etc are some of the products used in reaching the unreached. In this article, an attempt is made to discuss different technology-based banking products / services.

### 2. Types of technology-based banking products / services

Over the years, to make banking more convenient for the customers, banks in India have created a variety of technology based products / services. These products / services include mainly ATM services, PoS, plastic cards

(debit, credit and smartcards), electronic funds transfers, internet banking and mobile banking etc. A glimpse into the products is provided below.

**ATM** : Automated Teller Machine is a computerised machine that provides the customers of banks the facility of accessing their accounts for withdrawing cash and to carry out other financial transactions without the need of actually visiting a bank branch. The ATM cards / debit cards, credit cards and prepaid cards (that permit cash withdrawal) can be used at ATMs for various transactions. In addition to cash withdrawal, ATMs can also be accessed for services / facilities such as accounts information, cash deposit, regular bill payment, purchase of re-load vouchers for mobiles, mini statement, request for cheque book / bank statement, fund transfer and loan account enquiry etc.

The services offered at ATM may vary from bank to bank and depend on the capacity of the machine to provide such services. Customers can transact free of cost at their bank's ATM. The SB account holders of a bank can transact free of cost at other bank's ATM up to first five transactions (financial and non-financial) in a calendar month. Here, non-financial transactions include all activities other than cash withdrawal including balance enquiry, mini statement, PIN change etc. Some banks have also introduced Accessible and Talking ATM to bring financial independence to differently enabled persons.

**ATM-cum-Debit Card** : Bank customers need not carry cash in their wallet and they can make purchase at merchant establishments, make online payments and withdraw cash anytime with the use of ATM-cum-debit cards. The debit cards can be used for making purchase,

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recharge of mobile phones, payment of utility bills, remittance towards donations, booking movie tickets / train / air / bus tickets etc. In order to attract different segments of customers, Banks are issuing different types of debit cards (such as classic debit cards, silver / gold / platinum international debit cards) with added features. To meet the specific needs of target customers, banks are also issuing separate cards for youth, women etc. For all cash withdrawal / purchase transactions / online transactions made through debit cards, banks are sending SMS alerts to the customers. Banks have fixed minimum and maximum daily cash withdrawal / transaction limits on the use of debit cards at ATMs and at PoS / on-line transactions. These limits vary from bank to bank. Some banks have blended these cards with free insurance (accidental death only) facility. Banks have started various promotional initiatives for use of these cards through bonus points / rewards. Though many banks issue cards without any issuance charges, they collect charges for annual maintenance and card replacement. Like mileage rewards system in airlines, banks have started reward system for using debit cards for purchases.

*Pre-paid cards* : Banks have started issuing pre-paid cards in the form of gift card cards, e-pay cards, money cards, travel cards. These cards have replaced traditional banking products such as gift cheques, traveler's cheques. Gift cards can be used for purchase at POS or for making e-Commerce transactions over Internet. An e-pay card is an ideal card for making periodical payments such as payment of salaries / wages from employer to employees or commission / incentives to agents etc. These cards can be issued to individuals as well as corporate (both personalised & non-personalised). Banks issue cards to individuals after complying with KYC guidelines. In case of corporate cards, corporates have to submit KYC documents of beneficiaries before loading / activating the cards for use. Money card is a prepaid Card which allows cardholders to access their remittances at ATMs through PIN or at PoS by PIN / signature or e-commerce transactions. It helps beneficiaries, who do not have access to basic banking facilities to receive inward remittance from abroad. In other words these cards are

issued for loading Inward Remittances received under Money Transfer Service Scheme (MTSS) of Reserve Bank of India. In case of travel card, customers can also obtain Add-on Cards, along with the Primary Card to use in case primary card is misplaced.

*Virtual Card* : It is also known as Electronic Card or e-Card with a similar function of debit card. It is a limit created for e-commerce transactions. Electronic commerce, commonly known as e-commerce, refers to the buying and selling of products or services over electronic systems such as the Internet and other computer networks. Any customer having internet banking facility with transaction rights can create Virtual Card for a limited validity period say 48 hours and use it for e-commerce transactions. This card is only for single use. In case of virtual cards, the customer details such as bank account no, mobile no, email address, etc. are not shared with Merchant / Vendor.

*Point-of-Sale (POS) or Swipe Machine* : PoS or Swipe Machine as it is popularly known is a technological instrument provided to a Merchant Establishment (ME) to carry out the sale of goods or services to their customers in a cashless environment. What all the customer has to do, is swipe his / her Debit, Credit or Prepaid Card.

*Money Transfers* : Money Transfer is a special service that allows customers to transfer funds electronically from their account to other accounts maintained with any banks in India through RTGS or NEFT.

*RTGS* : It stands for 'Real Time Gross Settlement'. RTGS is a funds transfer system where transfer of money takes place from one bank to another on a real time basis. It is an electronic payment system in which payment instructions between banks are processed and settled individually and continuously, on a real time basis, throughout the day. It is available for transaction of value of ₹2.00 lakh and above.

*NEFT* : National Electronic Funds Transfer (NEFT) is also electronic funds transfer system, which facilitates transfer of funds to other bank accounts across the country. In this case, payment instructions between banks are processed and settled on Deferred Net

Settlement (DNS) basis at fixed times during the day. Fund transfer transactions are settled in batches as opposed to the continuous, individual settlement in RTGS. There is no minimum or maximum stipulated transaction value for using this facility.

*RuPay Cards* : RuPay is a domestic card scheme floated by National Payments Corporation of India (NPCI). It has been conceived to fulfill RBI's vision to offer a domestic, open-loop, multilateral system which will allow all Indian banks and financial institutions in India to participate in electronic payments. RuPay is a portmanteau word formed by the combination of Rupee and Payment. In simple words, RuPay is a domestic alternative to the global real time payment firms like Mastercard and Visa.

*Internet banking* : It enables bank's retail banking customers to operate their accounts from anywhere anytime, removing the restrictions imposed by geography and time. It's a platform that enables the customers to carry out their banking activities from their desktop, aided by the power and convenience of the Internet. Customers can use internet banking to transfer funds, give online standing instructions for periodical fund transfers, open & close accounts, cheque books request and pay utility bills / insurance premium etc.

*Mobile Banking* : Banks provide mobile banking service to customers over Wireless Application Protocol (WAP), SMS and Unstructured Supplementary Service Data (USSD). The mobile banking services provided by Banks include the following :

- i) Over WAP, banks provide services such as funds transfer within & outside the bank, balance enquiry / mini statements, cheque book request, bill payments, demat enquiry service, mobile / DTH top up and m-commerce (merchant payment)
- ii) Over USSD, banks provide services such as balance enquiry / mini statements, mobile top up and funds transfer within bank.
- iii) Over SMS, banks provide services such as balance enquiry / mini statements, mobile top up, DTH top up / recharge, IMPS-mobile to mobile transfer, change MPIN etc.

Unlike the application based or the service over WAP, only one account can be enabled for USSD service in a mobile. The customers, already using Application based / WAP based Mobile Banking Service, are not permitted to use the service over USSD.

Banks have started offering pre-paid account on the customer's mobile. It is a prepaid virtual mobile wallet on mobile phone. The facilities include transactions like Deposit (Cash-in), withdrawal of money (Cash-out) and fund transfer. This facility also can be used by persons other than customers of the bank (non-account holders). Interbank Mobile Payment Service (IMPS) is an instant interbank electronic fund transfer service through mobile phones.

*Kiosk Service* : Banks offer kiosk services such as E-ticketing etc by placing their kiosk machine at important places. Customers of Banks can book railway e-ticket using bank's kiosk machines.

*Tele banking services* : With the introduction of tele banking services, customers can transact most of the banking transactions by dialing the number allotted by the bank. This service is available for balance enquiry, status of cheque, stop payment instructions, product information, demat a/c details, reporting of ATM / debit card loss, last 5 transactions in the a/c, request for account statements thro fax / e-mail / post, loan a/c details, funds transfer, talk to phone banker, change of password etc.

### **3. Issues faced by customers while using technology products**

Although benefits of technology based products are undeniable, there are some concerns / issues which need to be addressed to make them more convenient and hassle free. Banks have given the detailed procedure / demo / security safeguards etc. in their websites to help their customers to understand these products and use them properly. However, many customers more particularly from rural areas are unable to understand these products. At the same time, there is not much effort to sensitize the

rural customers on the risks involved in ATM or mobile banking facilities. In using technology based banking products, security of transactions is a big issue. The security concerns are not clearly known to the staff who are dealing with such products. As a result, the features / security aspects to be followed while using such products are not clearly explained to the customers. IT and its security safeguards implemented by banks seem to be more banker friendly than customer friendly.

The credit / debit card related issues formed the single largest (21% of total complaints received) ground of complaints among the complaints received by Banking Ombudsman during 2011-12 as per the Annual Report on Banking Ombudsman Scheme for year 2011-12. Out of 14492 complaints relating to cards, 9,348 complaints were those pertaining to ATM / Debit Cards. One reason for this might be increasing use of ATM / cards by customers. At the same time, it gives a broad indication on the magnitude of the problem. Some of the issues / problems faced by customers while using banking technology products are mentioned below :

1. The delay in reversing the amount wrongly debited (either due to technology failure or frauds) to the customer's a/c. But in some cases, banks even after repeated mails, numerous phone calls from the customers and branch visits could not resolve complaint against fraudulent use of his credit / debit card. In this regard, RBI has mandated banks to resolve customer complaints by re-crediting the customer's account within 7 working days from the date of complaint. Effective from July 1, 2011, banks have to pay customers ₹100/- per day for delay beyond 7 working days. The compensation has to be credited to the account of the customer without any claim being made by the customer. If the complaint is not lodged within 30 days of transaction, the customer is not entitled for any compensation for delay in resolving his / her complaint.
2. There are instances wherein short payment is made to the customer by the ATM. In other words,

ATMs dispensing less cash than the amount debited to the customer's account.

3. When a customer visits an ATM, there are instances wherein the machine is out of order or out of cash.
4. Most of the time, customers get only higher denomination notes at ATMs and there is also no facility to exchange the same for smaller denomination notes or coins.
5. In order to prevent damage to the magnetic strip, ATM card is to be kept in the specially designed pouch provided by banks along with card. However, this pouch is neither durable nor replaced by bank.
6. In case of cash depositing at ATMs, even though the ATM envelope carries the caveat that the "cash deposit accepted in ATM is subject to verification by the bank staff and in this respect bank's decision will be final, there are chances of disputes. In this connection there is a need for customers' education.
7. When a wrong PIN is used three times repeatedly to do either ATM or online transactions, after that it denies the particular transaction and also no other transaction can be done till next day. As the customer has no alternative, he has to wait till next day.
8. In online transaction if the customer uses wrong PIN continuously for three times, the transaction stops without instruction.
9. In online transaction, banks provide OTPS (One time Password) and the same should not be shared by the customer with 3rd party. If he shares the same with the 3<sup>rd</sup> party then there are chances that the 3<sup>rd</sup> party might misuse the same and the customer will incur loss.
10. Whenever transactions are made at merchant establishments using credit / debit cards, merchant establishments are privy to vital information of the customer. There is a scope of misuse.
11. Mis-selling advertisement through mobiles create unnecessary burden on the customers.



12. In mobile banking or online banking for transfer of funds, one needs to register the payee and get confirmation. This is a cumbersome process.

13. Another issue is that sometimes it becomes difficult to note whether the transaction was successful or not. It may be due to loss of internet connectivity or slow connection or the bank's server is down.

## Conclusion

Banks need to become more proactive and take measures such as monitoring of cash at ATMs, maintaining a well balanced proportion of different denominations of notes, reversing the wrong debit to customer's account in time etc. Customer education and proper risk disclosures are a must for safe and smooth technology banking.



### Technological Innovations and Efficiency Gains in the Banking Sector

With the advent of the process of liberalisation in the early 'nineties, the demands on banks' resources and capabilities increased as banks had to match the challenges of being financial service providers in a globalised, competitive environment. This posed a dual challenge for the banking industry. The first challenge was to manage the growing needs of their existing customer segments and business locations for better and more efficient services, and the second was, how to expand the reach of their services and business beyond the traditional services and locations, which had large socio-economic implications because large parts of the population did not have access to even basic banking services. At this juncture, banks in India were looking at huge potential in business growth as well as several constraints, such as inadequacy of infrastructure and human resources, geographical, topographical and distance limitations, communication inefficiencies, cost implications and delivery, as well as the processing capability to manage more business information and larger accounts.

Increased use of information technology emerged as the key to meeting these challenges. Several measures were mooted at the level of the Government, the Reserve Bank and industry, which provided an impetus to adoption of technology in the banking sector. CBS implementation has made customer account maintenance seamless and enhanced data storage and retrieval capabilities tremendously. It has also enhanced the banks' capacity to develop and market new products, as technology has increased information availability and the capacity for analysis and communication manifold. Such capabilities and efficiencies are poised to rise further with the advent and adoption of evolving technologies like cloud computing and virtualisation, which have the potential to significantly bring down financial and management costs.

Economic theory supported by empirical evidence suggests that, in general, increases in technology investment will raise productivity, lower costs, and allow firms to operate more efficiently. Information technologies and the innovations they enable are strategic tools, since they reduce the costs of financial transactions, improve the allocation of financial resources and increase the competitiveness and efficiency of financial institutions. Technological innovation not only enables a broader reach for consumer banking and financial services, but also enhances its capacity for continued and inclusive growth (Subbarao, 2009).

Globally, the effect of IT on the banking industry has been positive. In general, studies have concluded two positive effects regarding the relation between IT and banks' performance. First, IT can reduce banks' operational costs (the cost advantage). Second, IT can facilitate transactions among customers within the same network (the network effect). Eyadat and Kozak (2005) examined the impact of the progress in IT on the profit and cost efficiencies of the US banking sector during the period 1992-2003. The research showed a positive correlation between the level of implemented IT and both profitability and cost savings. Berger (2003) also showed improvements in bank performance and consolidation of the banking industry in the US during the deployment of new technologies.

In the Indian context, technological innovation and investment in IT during the period 2005-06 to 2009-10 led to efficiency gains for the scheduled commercial banks (Rajput and Gupta, 2011). Technology is encompassing the entire set of business processes in the banking industry and technological innovations are enabling banks to cope with burgeoning customer requirements, social and developmental expectations, strategic and competitive business needs, internal control and risk management needs, governance and regulatory reporting requirements.

However, going forward, banks need to innovate appropriately in terms of products, services and strategies and will also need to align their IT and business perspectives to fully leverage the benefits of technology. Predictive analytics can bring in competitive advantage in banking and help banks move from product-centric to customer-centric operations.

*(Source : Report on Trend & Progress of Banking in India 2011-12, Reserve Bank of India)*

**Name of the Book : Breaking Barriers - Success Stories of India's Leading Business Women**

**Author : Janaki Krishnan**

**Published by : Jaico Publishing House, A-2, Jash Chambers, 7-A, Sir Phirozeshah Mehta Road, Fort, Mumbai.**

**Pages : 212**

**Price : ₹ 195/-**

**Reviewed by : V. Raghuraman**

The book under review chronicles the lives of some leading women entrepreneurs in the country. It is aptly titled "Breaking Barriers", as one thing common to all the entrepreneurs featured in it is that they all happen to be very successful business women. Whether it is Kiran Mazumdar Shah, Vandana Luthra, Shaheen Mistry, Renuka Ramnath or Zia Mody, they all refused to succumb to the pressures of society and chose to boldly pursue their dreams and thereby fulfil their ambitions.

The author, Ms. Janaki Krishnan, a financial journalist who has covered several developments in the corporate sector, especially after liberalisation, has highlighted the inherent power in these women which has helped them immensely to steer their companies out of trouble and lead 'fulfilling lives'. She has, through this publication, tried to emphasize that parents have to ensure that girls are given every opportunity to realise their full potential - both in terms of learning and education - in their field of choice. They should also have the right to assert their rights as human beings and individuals. More importantly, men should not appropriate the responsibility of deciding what a woman should do or how she should conduct herself.

At the same time, she does not paint all men with the same brush. Many men, in fact, are active supporters of several causes of women and fight for them vigorously. They go all out to support and encourage women in all their endeavours and help them climb up the corporate ladder rapidly.

According to the author, the theme behind all the stories is simple: anything is possible provided one has a sense of purpose and believes in oneself. All the women entrepreneurs described started off as just ordinary. Single-handedly, braving all odds and sometimes going against the wishes of others, they rose to such dizzy heights mainly due to their determination and will power.

Author cites the case of Biocon Industries founder and CEO, Kiran Mazumdar Shah. One of Mazumdar's teachers had openly admitted that "she never thought that Kiran had it in her to be independent, confident and entrepreneurial". Author adds that it was while in Australia undergoing a course in brewery, at the behest of her father, that she got totally transformed - from a diffident little girl to a confident woman. The experience of living alone in a strange land brought out the 'hidden reserves in her'. She recounts that Biocon was set up in 1978 with

a paltry capital of ₹10,000 in a small garage. It was only with the help of some solid backing that she received from many people like Mr. Narayan Vaghul, eminent banker, by way of both funds and technical advice, that helped her see through the troubled days.

Similarly, Renuka Ramanath, formerly of ICICI Ventures and presently founder CEO of Multiples Alternate Asset Management, has made a long journey - from an ordinary middle-class woman in a small suburb of Mumbai to becoming the head of her own firm - by her grim determination. She fulfilled all her ambitions - studying textile engineering, a male-dominated course those days, becoming a CEO of her own enterprise and rose rapidly in her career path.

Women as a class, Janaki Krishnan observes, are quite dynamic and pushing. But many of them do not like to go against the wishes of their elders' and have their names 'tarnished' by becoming the subject of salacious gossip. Educating women much beyond the basic level and allowing them to enter the field of their liking is the only solution.

Author has done well in bringing out such a book at a time when there is a lot of talk of giving more freedom to women and allowing them to come up their own way in their chosen careers. In a humble vein, in the introduction to the book, she has hoped that the book "inspires millions of girls and women to shake off their lethargy, unshackle their minds from generations of ingrained subservience to antiquated oppressive attitudes and live their lives as individuals with a sense of purpose". One cannot but agree with this hope. It is a good read for all persons interested in women empowerment.



### Books Added to the IIBF Corporate Library

No.	Title	Author	Publisher & Year of Publication
1.	10 - day MBA; A step-by-step Guide to Mastering the Skills Taught in Top Business Schools	Steven Silbiger	Piatkus Books, 2005
2.	Big Book of Virtual Team - Building Games : Quick, Effective Activities to Build Communication, Trust and Collaboration from anywhere	Mary Scannell & others	Tata McGraw Hill, 2012
3.	Business Law, 4 <sup>th</sup> edition	S. S. Gulshan	Excel Books, 2012
4.	Business Laws	Taxmann	Taxmann Publications, 2012
5.	Business Research Methods, 11 <sup>th</sup> edition	Donald R. Cooper & others	Tata McGraw Hill, 2012
6.	Corporate finance, 8 <sup>th</sup> edition	Stephen Ross & others	Tata McGraw Hill, 2009
7.	Effective coaching, 2 <sup>nd</sup> edition	Marshall J. Cook & Laura Poole	Tata McGraw Hill, 2012
8.	Essentials of Management; An International & Leadership Perspective, 9 <sup>th</sup> edition	Harold Koontz & Heinz Wehrich	Tata McGraw Hill, 2012
9.	Essentials of Organisation Behaviour	P. G. Aquinas	Excel Books, 2009
10.	Ethical Organisation, 2 <sup>nd</sup> edition	Robert Campbell & Alan Kitson	Palgrave Macmillan, 2008
11.	Financial Management : Theory & Practice, 8 <sup>th</sup> edition with CD	Prasanna Chandra	Tata McGraw Hill, 2012
12.	Handbook of Organizational Development : Ways to Remain Competitive	Ishwar Dayal	Ane Books, 2012
13.	Macroeconomics for Developing Countries, 2 <sup>nd</sup> edition	Raghbendra Jha	Routledge, 2008
14.	Manager's Guide to Business Writing, 2 <sup>nd</sup> edition	Suzanne Sparks Fitzgerald	Tata McGraw Hill, 2012
15.	Manager's Guide to Performance Management, 2 <sup>nd</sup> edition	Rober Bacal	Tata McGraw Hill, 2012
16.	Marketing Management : A South - Asian perspective, 14 <sup>th</sup> edition	Philip Kotler & others	Dorling Kindersley (India), 2013
17.	Mastering Change for Organizational Excellence	S. S. Bhakar	Excel Books, 2007
18.	Microfinance & Financial Inclusion	S. Teki & R. K. Mishra	Academic Foundation, 2012
19.	New Strategic Brand Management : Advanced Insights & Strategic Thinking, 5 <sup>th</sup> edition	J. N. Kapferer	Kogan Page, 2012
20.	Operations & supply management, 12 <sup>th</sup> edition with student DVD	Richard B. Chase & others	Tata McGraw Hill, 2012
21.	Organisational Behaviour : Text, Cases & Games, 10 <sup>th</sup> rev. edition	K. Aswathappa	Himalaya Publishing, 2012
22.	Performance and Reward Management	Tapomoy Deb	Ane Books, 2009
23.	SME White Book 2012 - 2013 : Essential Handbook for Small & Medium Enterprises, 4 <sup>th</sup> edition	Prosenjit Datta, (editor)	Business World Books & Guides, 2012
24.	Time Management : Proven Techniques for making the Most of your Valuable Time	Marshall J. Cook	Adams Media, 2005
25.	Working Capital Management	R. P. Rustagi	Taxmann, 2012

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