IMPLEMENTATION OF CORE BANKING SYSTEMS (CBS) IN THE BANKS IN INDIA – WITH SPECIAL REFERENCE TO URBAN CO-OPERATIVE BANKS (UCB)

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Abstract

This paper gives an overview of Implementation of Core Banking Systems in the Banks in India. This study is based on Secondary data. A bank is an institution which deals with money and credit. It accepts deposit from the public, makes the funds available to those who need them, and helps in the remittance of money from one place to another. It is a financial institution that creates demand deposits, that is deposit account which are subject to withdrawal by the owner on demand and subject to transfer to a third party by means of a cheque, in fact a modern bank performs such a variety of functions that is difficult to give a precise and general definition of it. CBS stand for Core Banking System or Core Banking Solution. Core Banking System is another way of saying the core functions of a bank. These functions represent the essential (core) business of banking. Because of the plethora of services banks now provide, it is easy to forget that the root of banking is the accepting deposits and lending money the definition of core banking may have been mudded by the emergence of package computer solution which combine core banking functions, with other elements of a bank's operation but at the most basic level core banking manages financial transactions and their impact on the accounts of each customers. The core banking system will often offer a basic customer database function; often refer to as a customer information file or CIF. The customer of CBS is no more the customer of a branch he becomes the bank customer thus CBS is a step towards enhancing customer convenience through anywhere and anytime banking. Core banking became possible with the advent of computer and telecommunication technology that allowed information to be shared between bank branches quickly and efficiently. A few decades ago it used to take at least a day for a transaction to reflect in the account because each branch had their local servers, and the data from the server in each branch was sent in a batch to the servers in the data center only at the end of the day (EoD). Nowadays, most banks use core banking applications to support their operations where CORE Banking may stand for "centralized online real-time exchange". This basically means that the entire bank's branches access applications from centralized data centers. This means that the deposits made are reflected immediately on the bank's servers and the customer can withdraw the deposited money from any of the bank's branches throughout the world. These applications now also have the capability to address the needs of corporate customers, providing a comprehensive banking solution.

Key Words: Core Banking Solution, Accepting Deposits, Lending Money, Emergence of Package Computer Solution, Customer Database Function and Telecommunication Technology.

Introduction

Banking in India in the modern sense originated in the last decades of the 18th century. The first banks were Bank of Hindustan (1770-1829) and The General Bank of India, established 1786 and since defunct. The largest bank, and the oldest still in existence, is the State Bank of India, which originated in the Bank of Calcutta in June 1806, which

almost immediately became the Bank of Bengal. This was one of the three presidency banks, the other two being the Bank of Bombay and the Bank of Madras, all three of which were established under charters from the British East India Company. The three banks merged in 1921 to form the Imperial Bank of India, which, upon India's independence, became the State Bank of India in 1955. For many years the presidency banks acted as quasi-central banks, as did their successors, until the Reserve Bank of India was established in 1935. In 1969 the Indian government nationalised all the major banks that it did not already own and these have remained under government ownership. They are run under a structure known as 'profit-making public sector undertaking' (PSU) and are allowed to compete and operate as commercial banks. The Indian banking sector is made up of four types of banks, as well as the PSUs and the state banks they have been joined since the 1990s by new private commercial banks and a number of foreign banks. Generally banking in India was fairly mature in terms of supply, product range and reach-even though reach in rural India and to the poor still remains a challenge. The government has developed initiatives to address this through the State Bank of India expanding its branch network and through the National Bank for Agriculture and Rural Development with things like microfinance. This also included the 2014 plan by the then prime minister to bring bank accounts to the estimated 40% of the population that were still unbanked.

Objective of the Study

The present study reveals the following objectives:
1. To know about the Core Banking System in India.
2. To study the software solutions for CBS.
3. To study the Core Banking Solution/System in urban co-operative banks (UCB).
4. To extract the advantages of core banking systems.

Core Banking System in India (CBS)

The major objectives of bank automation are better customer service, flawless book keeping and prompt decision-making that leads to improved productivity and profitability. The concept of bank automation started in the year 1981, but it was during the period 1984-1987 banks in India started the branch level automation, making use of the then available MSDOS based stand alone computers. This initiative was taken by the banks on the basis of "First Rangarajan Committee report" on bank computerisation submitted in the year 1984. ALPMs (Advanced Ledger Posting Machines) were the fashion in those days. However, the pace of bank automation was very slow in the banks primarily owing to the lack of trade union consensus on bank automation. Another committee was constituted in 1988 under the chairmanship of Dr. C. Rangarajan, the then Deputy Governor of RBI to slate down a perspective plan on automation of banks for a five year period. This paved way to the implementation of multi-user Total Branch Automation packages running on a LAN (Local Area Network), either on a Netware or a UNIX operating system. With the

implementation of TBA, banks started to offer the facilities of exclusive Customer Terminal, Single window transaction, on-line and off-site ATMs, Tele-Banking etc. But with the advent of new generation private sector banks in India during 1994-1996, the real era of bank marketing started and these banks started to offer anywhere and anytime banking facilities to its customers. This was possible for them mainly owing to the fact that they opted for the implementation of a WAN (Wide Area Network) based centralised banking solution rather than a LAN based branch banking solution to network their limited number of branch outlets. The old generation banks in India hesitated to follow this banking fashion on account of its large network of branches on one hand and the then prevailing exorbitant IT cost on the other hand. But with the globalisation and liberalisation of Indian market and with the enactment of TRAI (with a mission to create and nurture conditions for growth of telecommunications in the country in a manner and at a pace which will enable India to play a leading role in emerging global information society) during the late nineties, there happened a drastic reduction in IT cost. Improved telecommunication facilities and reduction in hardware as well as networking cost changed the mindset of the banks in India to try the CBS option. This also equipped them with the required technology leverage to compete in the Indian market by offering the similar technology products and services, as those offered by their new generation competitors.

Software Solutions for CBS

Core banking solutions are new jargon frequently used in banking circles. The advancement in technology, especially Internet and information technology has led to new ways of doing business in banking. These technologies have cut down time, working simultaneously on different issues and increasing efficiency. The platform where communication technology and information technology are merged to suit core needs of banking is known as core banking solutions. Here, computer software is developed to perform core operations of banking like recording of transactions, passbook maintenance, interest calculations on loans and deposits, customer records, balance of payments and withdrawal. This software is installed at different branches of bank and then interconnected by means of communication lines like telephones, satellite, internet etc. It allows the user (customers) to operate accounts from any branch if it has installed core banking solutions. This new platform has changed the way banks are working. Gartner defines a core banking system as a back-end system that processes daily banking transactions, and posts updates to accounts and other financial records. Core banking systems typically include deposit, loan and credit-processing capabilities, with interfaces to general ledger systems and reporting tools. Strategic spending on these systems is based on a combination of service-oriented architecture and supporting technologies that create extensible, agile architectures. Many banks implement custom applications for core banking. Others implement/customize commercial ISV packages. While many banks run

core banking in-house, there are some which use outsourced service providers as well. There are several Systems integrators like Capgemini, Accenture, IBM and HP which implement these core banking packages at banks.

Many times we can observe a board "CBS" or "CBS Branch" written outside a bank branch in India. CBS means Core Banking Solutions and it refers to the first perspective as discussed above. It is a modern platform established for Indian Banking industry with an objective of increasing the productivity and efficiency of banks, reducing manual errors which are committed while recording a banking transaction and increasing transparency in all banking transactions. CBS has completely changed banking scenario in India. It is due to the fact that with advent of internet and information technology, the way of banking has changed completely. CBS has networked all the constituents related to banking like bank branches, ATMs, internet technology, mobile technology and point-of-sale counters (PoS) and converted it into a highly complex but efficient and effective banking network. This networking of diverse technologies and hardware has resulted in a very smooth system of sharing information pertaining to banking transactions. Practical usage of CBS are many and are easily visible – We can operate our bank account from any other branch also and can do transactions through any medium like mobile phone or internet, we can use ATM of any bank according to our requirement and can easily transfer money from one account to another in a matter of seconds. Core Banking Solution or the CBS uses advanced networked software to record transactions and share them among all the banks attached with CBS in a highly secure manner. These services are called Core Banking Solutions because they form the core operation of any bank, i.e., recording and sharing information. CBS software are installed at all bank branches and are interlinked through many modes such as telephone, internet or satellite. Many times CBS is also called by the name of Back-End-System (BES). CORE or CORE Banking is a very important terminology used in Indian banking industry. The term CORE is used in two perspectives in Indian banking industry.

First Perspective of Core Banking

In the first perspective CORE stands for Centralized Online Real-time Environment (CORE). It is a system of centralized banking under which all banks use a centralized data-centre for all their banking transactions. It can be said that all banks under this system share all information about banking transactions conducted by them. What is important is that all transactions are done in a real-time environment under CORE banking and all transactions are reflected in the central banking servers of the CORE system. Therefore CORE from this perspective means bringing highest level of transparency in all banking transactions by establishing a high-technology network of banks.

Second Perspective of Core Banking

Another perspective for CORE banking is used in Indian banking. In this perspective CORE Banking refers to the banking operations with retail and small businessmen, which are

sometimes considered as the most-important or core segment for banks. Indian banking industry in this perspective simply refers to business operations with small traders and businessmen as its Core Banking operation. As far as banking with large business houses and businessmen is concerned, it is called by a different name like Corporate Banking

Urban Co-Operative Banks (UCB)

Today Urban Co-operative Banks (UCB) is facing stiff competition from Private Sector and Multinational Banks. The Urban Co-operative banks have upper hand in terms of services with human-touch, with very tightly knit relationship with the customer. However with fast-track lifestyles, customer needs are growing at much faster pace and UCBs are finding it difficult to cope up with it. At the same time with a strongly built setup of professionals and state of the art technologies, Private Sector Banks have already made a dent, in the market segment which is still dominated by Co-operative Banks and they are successful in providing much more effective and innovative products to the customers at much laser costs and blazing speed. The customer, in the process is switching loyalties and the swing is certainly towards PSBs. UCBs now need to upgrade their total infrastructural facilities in order to face this challenge. The infrastructural setup of UCBs is very much analogous with a Load Bearing Structure which was an age old technique of constructing buildings in the previous century while today we need to build the buildings with much more scientific method of construction which is widely accepted as RCC Structure. These structures can sustain much more load, impacts and shocks and at the same time can be built to great heights. In the same analogy UCBs need to make major structural changes in the setup and information technologies are to be used as steel bars forming the core of the structure. In a nutshell UCBs are more close to the customer but with poor ability to grow at the same time PSBs are strongly built to grow may be with pure commercial relationship with customer and a selfish agenda in mind. To ensure that UCBs can maintain customer loyalty, gain a competitive edge and meet the challenges of a changing market, banks need to build strong information technology infrastructure. If the UCBs upgrade their infrastructure with strong IT setup and revolutionary changes in management setup and rise to the level at par with PSBs then they will certainly have an edge over PSBs in terms of relationship based banking because UCBs basically have a socio-commercial view towards customers and not purely commercial focus which is the ultimate goal of people who promote or control PSBs.

Present State of Technology being used

Information Technology has become an essential and integral part of banking. As a result, during last five years UCBs have realized the need to create IT infrastructure in order to have a competitive edge. But with limitations on capital budgets on hand and skilled, professional and IT enabled manpower, the result is inadequate IT infrastructure to

face the challenges. UCBs tried applications developed by vendors who had limitations on technical capabilities, banking domain knowledge and ability to assimilate needs of the changing hour. These systems proved to be inadequate as well incompatible with the business needs except a few gains of saving labor in routine work. The management of the banks who were suppose to be the major beneficiaries had very marginal gains while employees at the front office were relived to a great extent in the labor and customers were benefited to some extent by way of few quicker services such as service at the counters for routine transactions, delivery of passbooks, statement of accounts, demand drafts, and better accuracy in interest calculations etc. UCBs have numerous vendors with varied technologies used with different level of comfort for end users. Multi-location or distributed location of data, ineffective back office activities, Management Information Systems with poor speed in gathering data and questionable accuracy. At the same time state of IT in PSBs is very different. They have implemented and Integrated leading edge retail banking systems, have improved overall management and appearance of documentation, have centralized databases resulting in quick gathering of data. And are using above systems for better risk cover, customer relations management, better identified and understood opportunities, promoted credit card services, introduced internet based primary banking services.

In short those who have taken lead in making most of available technology will gain in market share and advantage in an increasingly competitive market. Those satisfied with the status quo are left behind and have threat to disappear altogether. Considering the future it is proposed to have centralized solutions which offers advantages over existing system in following areas.

Particulars	Present Setup	Proposed Setup
Software Architecture	Hierarchical Flat file Data	Distributed + Centralized database
Application Software Focus	Branch Automation	Bank Automation
Development Approach	Modules Based	Fully Integrated, seamless, N-tier
Application Performance	Vendor Specific	Highly Optimized
Maintenance of Software	Difficult, delayed, expensive	Easier, Real time, cheaper
Maintenance of Hardware	More, heterogeneous items	Less, standardized items
Average Transaction Cost	High, multiple acquisitions	Low, single acquisition instance
MIS Compilations	Time Consuming, inaccurate	Quick, guaranteed accuracy
New Products Launching	Slow, more co-ordination	Quick, Central launching
Manpower Requirement	More due to distributed data	Low due to centralized data

Delivery Channels	Less, Costlier for each Branch	More, Seamless Integration
Any branch Banking	Virtually impossible	Bye-product of Central System
ATM Facilities	Restricted to Branch	Available Bankwide, Interbank
Mobile Banking	Not Possible	Easily available
Card Based Transactions	Limited availability	Easily available
Payment Gateways	Not Possible	Very much Possible
Internet Banking	Not Supported	One aspect of Integration
Inter-branch Activities Control	Laborious & poor	Easy & Total
Focus on Business Functions	Low, less time for business	High, more time on hand
Business Policy Standards	Variations, lead to losses	Centralized, efficient control
Inter Organization Transactions	Not Possible	Protocol based easy exchange
Customer Relation Management	No capabilities	Effective due to strong database
Monitoring of Advances	Ineffective, delayed information	Effective, real time information
Risk Management	Lack of IT based assistance	Better understanding, evaluation
Overall Decision Support	Delayed, less reliable	Real time, highly reliable
Statutory Compliance	Hard to meet deadlines	Easier and quick
Business Opportunities	Less due to more entanglement	More due to simple to administer

Objectives of CBS in Urban Co-Operative Banks (UCB)

- Replace old technologies seamlessly with state-of-the-art multi-tier Software.
- Replace multiple disparate and older generation software systems with single integrated multi-product tailor made application software.
- Move to Centralized Processing and handle much higher volumes without a proportionate increase in resources or infrastructure costs.
- Use business intelligence tools to analyze customer needs and create new product offerings.
- Build and retain customer relationships based on the strength of customer service capability.
- Enable and modify product offerings quickly and efficiently based on market needs.
- Reduce costs, improve governance, bottom-line and stakeholder rewards Enable multiple new delivery channels (RTGS, ATM, POS, Mobile, Internet, Telephony)

Solution

- Entire bank will operate as one Unit (Single General Ledger).
- Central Server facility will be created within the premises of head office.

- Operations of the branches will be synchronised with the Central Server.

Action Plan
- The Central Facility Creation will need three major areas to be addressed:
- Building Infrastructure for the Data Centre to be located at the Head Office.
- Upgradation of the hardware at the Branches and Implementation of the new software.
- Establishing Network of all the branches and synchronisation with the Central Host.

Following are the Distinctive Features of Core Banking

• Parametrized Operations. • Scroll based browser Screen. • Multilingual Operations. • Single Window Operation • .Client ID concept. • Max. operations & information on Hot keys. • User configurable printing-DD, FDR, Passbook etc. • Daily Receivable, Payable. • User level based security. • Data Export Facility. • Parameterized Teller, Officiating Clerk Transaction. • Cascaded day End/Begin • Auto generations of all type of charges. • Normalized data structure for consistent and quick access. • Online Snapshot backup after specified time interval. • Remote Transactions through modem of media are available • Strong system for Bills (OBC, IBC, Bank Guarantee and Pay Orders) are available. • A/c. Opening documents received / pending message while transactions on A/c.	• Secured & Authorized Signature Operations. • User Configurable Trial Balance and P & L Account with multiple formats. • Auto Log off when no key pressed. • Transfer Transaction Set is scrolled only when debit & credit totals are matching. • While authorizing the transactions officer has to enter amount from the voucher. • Auto import of inward clearing. • ECS Clearing. • FIU Reports in softcopy. • Customers photo, sign can be directly captured through SHRIBHUSHAN itself. • Auto service tax transactions. • Officerwise passing levels, Overdraft limits. • While transacting a Loan account status regarding Overdue/Overdraft, Insurance due, Renewal, Stock Statement will automatically appear on the screen. • NPA calculations & Health Code undation. • Connectivity Interfaces for pigmy Terminals, ATM IVRS, Touch Screens is built-in. • Clearance of Outward Clearing Cheques based on Fate Dalay and Branch weekly

- Userwise Reminder Setting. - Standing instructions of any period and effect are possible. - All types of MIS, Statutory report, RBI Returns (Form9, Annexture-1, CRR, SLR Register), OSS CRAR Statements.	off. - TDS, enquiry, TDS Applicability for individual customer. TDS Intimation letter to customer. - Surety Liability Register. - Locker Details, Dead Stock Account, Depreciation Register details. - Multiple Session Operations. - Updated version is available on internet

Advantages of Core Banking Systems or Core Banking Solutions

Data base Advantages
- More rugged no need for external indexing
- Data corruption possibilities are very low
- More Secured and restricted access
- Better Performance with Stored Procedures
- Better Data Integrity and Concurrency
- Easier Data Administration and Backups
- Improved and Efficient Data Structures
- Highly Scalable from Mega to Terra capacity
- Image Data Storage using Blob Data types

Improved and Revised Processes
- Multiple Postponements of Clearing
- Recording of Post Dated Cheques
- Drill-down facilities on Customer Ledger
- Internal Reconciliation of Fund Accounts
- Future Date Standing Instruction Schedules
- Auto Log-offs for idle workstations
- User Configurable and Multilingual Customer Intimations or Notices
- GUI and Color effects for effective handling

Special Facilities for Loan
- Deferred installment Loans
- Rescheduling of NPA or Bad Loans
- Special or Discretionary Interest Rates
- Interest Application based on Credit Ratings
- Multiple Interest Rates within same facility
- Multiple Commodity Pledge and Release

- Membership information thru softcopy
- Pre-intimation on new probable NPAs

Reports for Decision Support
- Movement Analysis for Term Deposits
- Performance monitoring of Cash Credits
- Term Loans Recovery Performance for Rebates
- Graphical Analysis of Trial Balance and P&L Account
- Interest Provisions for any date
- Projected Over dues, NPAs and expected recoveries
- Interest waiver estimation for Onetime Settlements, Court Orders for concessions in Interest, penal etc
- Future Maturity patterns of Deposits and Loans
- Average Cost of funds and Earnings on Loans

Advance Facilities
- Any Branch at par Payment and Collections
- Interfacing of ATMs with different protocols
- Mobile Banking with SMS based alerts
- Touch Screen or Keyboard based Kiosks
- RF based remote Extension Counters
- Information Feeds for Internet Portal
- Tele-Banking with user defined Scripting

Back End Handling
- Consistent Performance due to well defined objects
- ANSI Standard queries hence backend independent
- Direct capture of Image data - Signature/Photo
- Snapshot Backups at user defined intervals
- Automated Audit Trails and alerts mechanism
- More exhaustive User Profiles, limits and controls
- IP Sockets based remote interfacing with database

Efficient Processes
- Cash Dockets with multiple account effects
- Strong OBC, IBC, Remittances systems
- Cascaded Transactions for Fixed Deposit Maturity
- Automated Transaction Uploads from Softcopies
- Pre-stored Batches and Lot Transfers

- Hot-Keys for quick response to Customer Queries
- Easier Transaction Acquisition Processes
- Easier Configuration of Passbook, FDR printing Client ID Concept
- Customer Identified by Customer ID
- Single point acquisition of signature/photo
- More exhaustive Customer Profile
- Customer wise due Receivables and alerts
- Customer Profiling and statistical analysis
- Easier compliance of TDS and KYC
- Monitoring of Critical Parameters
- Easier monitoring of Group Loans and NPA
- Better control over dormant customers remote monitoring of Policies

Conclusion

It's all about future-proofing the bank's risk and compliance. The recent credit crisis has underscored the importance of proactive risk mitigation for banks. Banks need to first effectively and efficiently identify the potential risks associated with each and every banking process and then measure the same. Every process, operation and service performed at the bank needs to run through the 'X-Ray machine' of the risk department so that every possible transactional risk becomes known. Doing so can mitigate risks well before they turn viral. A sophisticated core banking system with: adequate risk controls embedded within; the ability to churn out consolidated risk-data in reports showing deviation in any banking process from the prescribed norm; the ability to represent data such that it can be audited; the capability to supervise over and above human supervision with automated trigger mechanisms for highlighting deviations; the "four eyes" concept; proper access and transaction controls; and a proper rule based engine with process orientation is the answer. A core banking system with the capability to capture, classify, measure and report data and operational processes in accordance with most prescribed guidelines in its specific geography, is the ideal solution. Today the role of a core banking system is not just that of a transaction processing engine; it is the key repository of information to further analyze and detect risks. It is a single source of truth which is accessible by all stakeholders in a transparent way. Providing risk management capabilities as an embedded component of a core banking system will enable banks with a more effective and accurate view of risk across the enterprise. On the other hand, if a bank does not have a flexible, modern and optimized core banking system with proper risk controls, it could find it extremely difficult to function in a complex, high-risk, financial environment. So the critical drivers for core banking management are reinforced by the need for more disciplined risk management practices; rigorous regulatory compliance capabilities and oversight; and most critical of all, the strength and stability of the balance sheet. That

being said, the role of a bank's risk department cannot be undermined. Most have existed as purely advisory units; it is now time for them to take on a more proactive role, and function hand in hand with the business. A risk culture pervading all levels of hierarchy; a strong internal audit procedure; and a strong IT system to monitor and mitigate business risks over and above what a human eye can detect, makes risk identification, ownership, control, measurement and reporting part of the DNA of a progressive bank. This is the only way to achieve sustained, stable and risk free growth.

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