

Core Banking Solution: A Panacea for Modern Banking Services

NIGAMANANDA BISWAS

Introduction

The rapid advancement in Information and Communication Technology (ICT) has had a profound impact on the banking industry and the wider financial sector over the last two decades or so and it has now become a tool that facilitates banks' organizational structures, business strategies, customer services and other related functions. The recent "IT revolution" has exerted far-reaching impacts on economies, in general, and the financial services industry, in particular. Within the financial services industry, the banking sector is one of the first to embrace rapid globalization and benefit from IT development. The technological revolution in banking started in 1950s, with the installation of the first automated bookkeeping machines at banks. This was well before the other industries became IT savvy. Automation in banking became widespread over the next few decades as bankers quickly realized that much of their labour-intensive information-handling processes could be automated. The first Automated Teller Machine (ATM) is reported to have been introduced in the USA in 1968, and it was only a cash dispenser then. The advent of ATMs helped both to improve customer convenience and reduce costs, as withdrawing funds, accounts inquiries and transferring funds between accounts earlier required face-to-face interaction between bank staff and customers.

Core banking is a general term used to describe the services provided by a group of networked bank branches. Bank customers may access their funds and other simple transactions from any of the member branch offices. Core banking is all about knowing customers' needs. It will provide the right product at the right time through the right channels 24 hours a day, 7 days a week using technology like Internet and Mobile ATM. It is normally defined as the business conducted by a banking institution with its retail and small business customers. Many banks treat the retail customers as their core

banking customers, and have a separate line of business to manage small businesses. It is basically depositing and lending of money. Normal core banking functions include deposit accounts, loans, mortgages and payments. Banks make these services available across multiple channels like ATMs, Internet banking, and branches. Core Banking solutions are banking applications on a platform enabling a phased, strategic approach that lets people improve operations and reduce costs. An overall service-oriented-architecture (SOA) helps banks reduce the risk that can result from multiple data entries and out-of-date information, increase management approval, and avoid the potential disruption to business caused by replacing CBS.

Core Banking Solutions (CBS)

Core Banking Solutions is new jargon frequently used in banking circles. The advancement in technology, especially Internet and information technology has led to new ways of doing banking business. These technologies have cut time, made it possible to work simultaneously on different issues and increased 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 etc. This software is installed in different branches of bank and then interconnected by means of communication lines like telephones, satellite, and Internet. This allows the users (customers) to operate accounts from any branch if it has core banking solutions. This new platform has changed the way banks were working.

Technology Solutions

There are a few technology providers around the world. Infosys Solution Finacle, TCS (Tata Consultancy Services) solution, BANCS (Bell Application Network Control System of TCS) and Iflex solution, FLEXCUBE (Oracle Financial Services Software) are some of the popular banking solutions which provide for universal banking and CBS. These solutions are developed after years of research and experiences of the clients using these solutions. CBS works on open technology platforms, which work on Windows and other architectures including Linux, allows for easy integration with the existing systems available in the banks and effectively deals with legacy problems. These solutions are compatible with any software and hardware system

available with the banks. The vendors customize these solutions to cater to the specific needs of the bank and also integrate them with the existing systems and processes in the bank. The integration is done in a very short span of time. Some of the solutions offered by some vendors come in the form of universal banking solutions, which apart from providing core banking solutions also provide solutions for wealth management, mobile banking, treasury, etc.

A Brief Review of Literature

The banking sector is leveraging on technology and end to end Core Banking Solutions (CBS) not only to cut cost but also to better serve the customer and beat the competition. Core Banking Solutions cut time and reduce the dependence on human intervention. Core Banking is the nerve centre of any banking operation (Satish 2007). The latest inclusions such as Internet banking and Core banking have made banking operations more users-friendly and easy (Saravanakumar 2009).¹ A centralized branch computerization is a model in which all its branches are connected on single software to a central host through its Wide Area Network infrastructure. There is a central data base for the transactions to be done centrally online. Core banking provides multiple and integrated products and services – debit card, ATM, tele-banking, and Internet bank online under one roof. In core banking, customer of a specified branch of a particular locality is a customer of the entire bank spreading its branch network across the world (Basha 2007). Technological innovations have simplified our life. The changes are visible in every sector. The banking and finance sector are among those sectors which have completely changed due to technological innovations. Nowadays, we use several advanced banking and financial services like Internet Banking, ATM Transactions, Core Banking Services (CBS), Electronic Funds Transfer, and Cashless Transactions (Jordon 2009).²

Major Ingredients of CBS

There are five ingredients that form the Core Banking System. These are the essential building blocks for the entire banking institution.

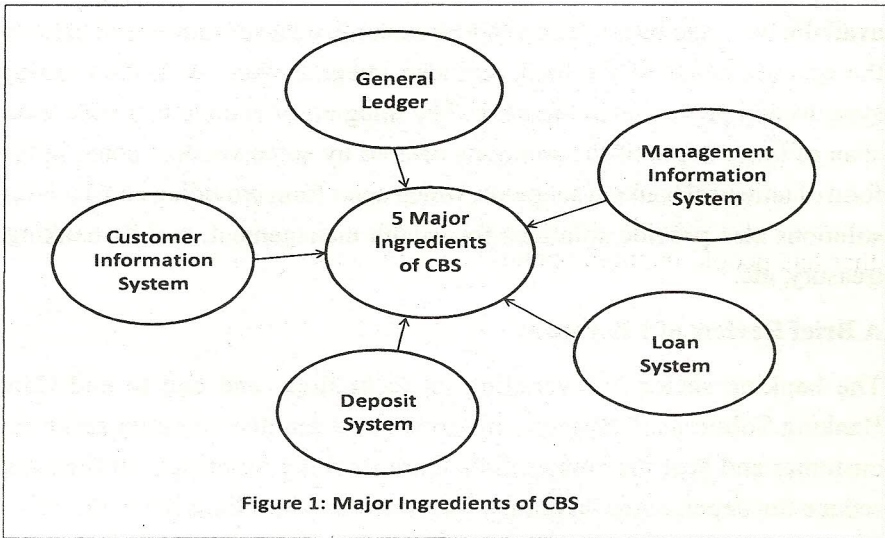


Figure 1: Major Ingredients of CBS

(a) General Ledger:

The absolute core of the banking system is the General Ledger (GL). Every single financial activity that happens at any location within the bank has to be reflected in the GL system that generates the financial statements for the entire bank and allows it to monitor the financial health of the bank. Throughout the world, almost all banks have their financial activities reflected in GL every night and next morning. The GL system provides the bank with enterprise-wide balance sheet and trial balance report. In short, for those who have successfully implemented Core Banking Systems, the concerned entities in the bank know the financial condition of the bank at the beginning of each business day. If one is looking at the financial statements of the whole bank the GL System must provide that. If one is in a regional office, the GL System must provide the financial statements for the region. If one is in a branch, the GL System must provide the financial statements of the branch. Each morning all these entities at the respective workplaces see these financial statements reflecting the condition as of close of business yesterday. In a Core Banking System, this is achieved by deploying a centralized GL System which provides for thousands of sub-ledgers.

(b) Customer Information System:

The next major ingredient of a Core Banking System is the Customer Information System or CIS. Accordingly in the CIS, a customer is identified

by his/her CIS number and all information related to that customer (name, address, phone, employment, credit history, relatives, family members, and demographic data) is stored along with this unique number. All this is stored in a centralized CIS system allowing the customer to visit any branch to do business with the bank. In addition, CIS stores customer-to-account relationships. A single unique customer could have a current account, a joint savings account with his wife, a time deposit, a car loan and a house loan. The CIS links all these accounts to this single unique customer ID. Whenever the customer visits any branch of the bank, all that he does is give his name (and/or address or phone number or CIS number) and the CIS system shows the branch staff the information about this customer as well as all the accounts linked to this customer and the latest balance in each of these accounts.

(c) Deposit System:

The third major ingredient is the deposit system. The ability to process various types of deposits quickly is a must. These include current, savings, time deposit and hundreds of variations in each of these like simple current accounts, current accounts with overdraft, cash credit accounts, variable rate overdrafts, simple savings, multi-currency savings, time deposits, CDS, variable rate time deposit, recurring deposits, multi-currency, time deposits, and so on. This is required to handle the liability side of the banking business. These are achieved by having deposits system that are heavily parameterized, i.e., by simply setting a parameter "Fixed Rate" or "Variable Rate". The deposit account will be processed by the deposit system using the appropriate rate from the applicable rates. Around the world banks do not open a new deposit account for a customer directly in the deposit system. When the customer wants to open a new deposit account, the branch staff goes to the CIS screen, verifies the customer details and opens the account. This way, the existing CIS data of the customer remains intact and the CIS information shows that this customer has now increased his relationship with the bank. As a result banks that have implemented such systems do not need to have an inter-branch reconciliation organization/system.

(d) Loan System:

The fourth major ingredient is the loan system. This system handles the asset side of the business. In most banks around the world loans to retail customers are different from those to commercial customers and hence there are loan systems that cater to retail customers and those that cater to commercial or corporate customers. The loan process in a bank involves

multiple steps - loan appraisal and sanction, disbursement and monitoring, non-performance tracking, recovery and closure. Owing to the fact that a multitude of entities and processes are involved in the appraisal and sanction steps, most banks around the world separate the appraisal and sanction steps and implement a system called loan organization system. The other remaining steps of the loan process are handled by the loan system. With authorized access, any staff working in any branch around the country should be able to retrieve the customer's loan information on his terminal and help the customer do a financial transaction. These financial transactions are automatically sent to the bank's General Ledger and they update the appropriate credits and debits in the subsidiary ledgers in the General Ledger.

(e) Management Information System (MIS):

Once the core deposit and loan business transaction for all customers of the bank are captured and appropriate General Ledger accounts are updated, various users of the Core Banking System throughout the bank need to know what is happening within the entire banking institution. As a result, the fifth major ingredient is the management information system. This enables everybody in the bank to obtain relevant information from the system in order to carry out their business effectively. MIS in simple terms takes information from the General Ledger, CIS Deposit, Loan Systems and present them to the bank. Around the world, typical examples of information that bank staff (each with access rights) retrieves include: branch transaction activity for the day (list of all branch transactions), loan activity for a single customer or a group of customers, branch General Ledger report printed at the branch, NPA (Non Performing Asset) report for the entire bank for all transactions as of yesterday.

All the five major ingredients of a CBS can be operated by a bank staff from any location in the country simply by using the terminal at his/her workplace. Around the world, as banks started focussing on customer relationship management they realized that customers interact with the entire bank for banking transactions in many ways. They can go to the branch, visit an ATM, call on the phone, and log on to the Internet to do their transactions. They can use one or more of these delivery channels (called customer touch points) at the same time.

Application and Magnitude of CBS

The CBSs have to satisfy the requirements of all the entities that form part of the eco-system of the bank. Technological innovation has brought about

speedy processing and transmission of information, easy marketing of banking products, enhancement of customer access and awareness, wider networking, and regional and global links on an unprecedented scale. IT development has thus changed the product range, product development, service channels and type of banking services as well as the packaging of such services with significant efficiencies not only in the banks, but also about the ancillary and feeder services to banks. The financial services industry has thus become virtually dependent on IT development. Most banks make visible efforts to keep up with new systems and processes. Core banking offers several advantages over the traditional system of banking, such as the following.

General Benefits

- The introduction of CBSs by some banks and their links with the improved telecommunication network has enabled banking transactions to be done online, in contrast to the batch-processing mode used earlier. The integration of e-trading with Internet banking and banks' websites is also a notable feature. These IT advancements have enabled banks to gradually replace manual work by automated procedures with online real time processing.
- The development of Internet services, which is an extensive, low-cost and convenient financial network, has facilitated banking services to customers, anywhere and anytime. Along with Internet and Web-based services, a need for changing core banking architecture has emerged.
- The present day ATMs are sophisticated machines that can scan the customer and a bank teller, accept cash or cheques, facilitate customer application for loans and allow for face-to-face discussion with a service representative via video.
- The development in ICT has enabled banks to provide more diversified and convenient financial services even without adding physical branches.
- It is capable of handling more number of branches with minimum hassles, can help innovating new products and services based on demographics and other factors and can also provide 24-hour banking services to its customers.
- Core Banking Solution has stabilized to some extent but a lot more needs to be done to use the technology for retaining the existing customers and to draw a set of new customers.

- Solutions from Microsoft and its partners enable you to renew core banking systems in a managed, gradual, and modular way at a differentiated cost. Leveraging modern banking applications on a platform based on Microsoft technologies enables a phased, strategic approach that lets people improve operations, reduce costs, and prepare for growth. Implementing a modular, component-based enterprise solution ensures strong integration with existing technologies. An overall service-oriented-architecture (SOA) helps banks reduce the risk that can result from multiple data entries and out-of-date information, increase management approval, and avoid the potential disruption to business caused by replacing the entire systems.

- Core banking functions include deposit accounts, loans, mortgages, and payments. These services are available through bank branches, ATMs, and websites. The use of real-time transaction processing has increased due to electronic clearing and transfer of payments. Old core applications designed for batch processing are not equipped to handle real-time transactions.

- The retail core system is the centre of all banking operations. Not only have real-time transactions placed pressure on banks, but also old systems may be more complex and inflexible and thus more difficult to manage. This hinders the growth of banks, especially older banks. Therefore, upgrading core banking systems is an urgent need.

- Foreign banks, small and mid-sized banks, and credit unions find it easier to bring about changes in their retail core deposit systems. Smaller banks with new systems and greater flexibility have become tough competition for large banks. Larger banks tend to resist implementing changes and upgrading existing systems for a variety of reasons. They may fear anticipated problems resulting from transitions from old to new systems. The risks associated with transitions can create inconvenience for existing customers, which may affect institutions' reputations. Also, the costs of upgrading core processing systems are considerable for large banks. Some banks cannot justify the large expenditures to their shareholders despite the fact that a number of banks currently spend nearly 50% of the cost of upgrading their core systems every year to maintain old systems.

- It is widely accepted that under older systems, bank workers spend considerable amount of time attending to customer-related back-office

activities and less time on face-to-face customer interactions. Bank workers are also aware that core banking systems need improvement to increase efficiency and cut operating costs.

Major Benefits of Core Banking Solutions	
Common benefits	Reduce transaction time
	Substantial reduction of operation costs
	Offer a choice of Multiple Delivery Channels (MDC)
	Easier introduction of new products
	Faster customer service
	Enable Customer Relationship Management (CRM)
	Improved risk management real-time transaction processing
	Scaling up of operations
	Provide e-trade options to bank customers
	Efficient and easy transactions which can be conducted 24/7
	Meet the demands of the market
	Standardize the process across all business
	Comply with the changing regulatory environment
	Performing transactions of account from the bank counter at any part of the country
	All branches of the bank are interconnected
Details of the accounts can be viewed online just by login to view email account	
Business benefits	Increased Operational Efficiencies and Productivity
	Differentiated Product Spread
	Agile Operations
	Robust Cross-sell Framework

Business Benefits

- *Increased Operational Efficiencies and Productivity:* CBS supports business events automation and process orchestration, thus eliminating manual tasks and reducing process time. The elimination of error and data redundancies also results in increased branch productivity. Straight Through Processing (STP) abilities enhance reduction in turnaround and processing time, increasing output and enabling speedy completion of tasks.
- *Differentiated Product Spread:* Finacle Core Banking Solution offers an unlimited palette of features for banks to design and deploy products

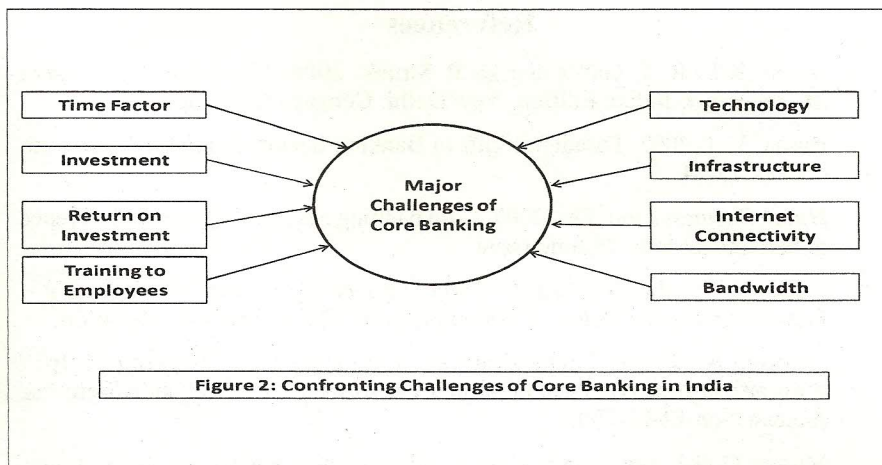
for varying market segments. The product bundling capabilities of the solution offers a wide range of possibilities for banks to create products with innovative features. The facilities provided for differential pricing, channel rules and customization through Finacle Studio – the scripting engine, empower banks to continuously innovate and extend their suite of products, across segments.

- *Agile Operations:* The Service Oriented Architecture (SOA) enables the IT team at the bank to effect changes without touching the base code, ensuring lesser vendor dependency and faster adaptability to changing business conditions.
- *Robust Cross-Sell Framework:* The CIF and CRM capabilities in Finacle offer a unified view of the customers across the entire solution and across multiple back-end applications, enabling the bank to view them from a completely informed angle. This empowers banks to effectively manage customer relationships and aggressively explore cross-sell opportunities.

Confronting Challenges of CBS

Core banking is the nerve centre of banking business, but even today it has inflexibility and legacy problems. The major critical challenges of CBS are:

- Though CBS offers a lot of benefits, there are some challenges in implementing it in emerging economies like India. It takes a long time to implement these solutions because of several reasons including non-availability of adequate infrastructure in the banks. Tailoring the solution for the banks takes a long time. However, now, all the solutions offered by different vendors promise quick time and flexibility in their solutions to customize the needs, irrespective of the technology available in the bank.
- Implementing CBS involves a lot of investment. So the bank directors usually postpone their decisions but as the competition is catching up the bank management is going for these solutions to beat their competitors but at the same time they are also looking for return on investment which is often a challenge to evaluate and find out.



There are some banks which have not absorbed technologies in their rural branches. They feel it as a challenge to train the staff and make them use the new technologies. Neglecting some of the branches will not make it possible to effectively leverage on the solutions. Also, even now, connectivity and bandwidth are still a major problem in a country like India. It is not the same throughout the entire length and breadth of the country but regional disparities in these matters affect the functioning of the CBS.

Some other key challenges in core banking transformation are vendor capabilities and credentials, dependence on legacy/vendor applications, impact on envisioned technology architecture and bank's business goals and alignment to leverage the new technology.

Conclusion

CBS tries to address this problem by providing the backbone technical infrastructure. It is a necessity for any bank in today's dynamic and turbulent competitive market environment. Apart from enabling the transaction processing, adding value to the customer services and having competitive edge over the counterparts, it is a unique weapon for winning the customer. It also addresses other pressures and makes banking simple in the complex environment. The new Basal Accord calls for effective risk management with focus on internal as well as external environments. At the same time there are calls for greater transparency and good corporate governance. CBS is the panacea to all the problems and enables the banks to achieve all this effectively and efficiently.

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