

Dr. Hamlata Bhat
Associate Professor
G.L. Bajaj Institute of Management & Research
Greater Noida (U.P)

Dr. Naushad Alam
Associate Professor
G.L. Bajaj Institute of Management & Research
Greater Noida (U.P)

Application of Knowledge Management System in Banking Sector: A new Paradigm

ABSTRACT

The traditional function of banking is limited to accepting deposits and make loans and advances. Today's banking is known as Innovative banking. The coming together of information technology, communication and entertainment (ICE) has given rise to new innovations in the product design and their delivery in the banking and finance industry. For the past few years, banks have been actively automating their manual processes. This has resulted in the creation of many information systems even within one bank. These information systems were able to help banks to better manage their processes and resources. The Financial Reforms that were initiated in the early 90s and the globalization and liberalization measures brought in a completely new operating environment to the Banks. The arrival of foreign Banks and Financial Institutions, are also setting-up services and products like "Anywhere Banking", "Tele-banking" "Internet banking" "web banking" E-banking, e-commerce, e-business etc. have become the buzzwords of the day and banks are trying to cope with the competition of offering innovative and attractively packaged technology-based services to their customers. Information Technology has basically been used in two different avenues in Banking. One is Communication and Connectivity and other is Business Process Reengineering. Information technology enables sophisticated product development, better market infrastructure, implementation of reliable techniques for control of risks and helps the financial intermediaries to reach geographically distant and diversified markets. The Knowledge Management System in banking sector is not a new concept in the history of banking.

Therefore, the objective of this paper is an attempt to find out the extent of application of Knowledge management system in the banking sector. This study is based on the secondary data and references are collected through the various books.

Keywords: Knowledge management, Banking Information System, Core banking, Electronic banking, ATM, Debit card, Credit card, Electronic Payment System, Internet banking.

INTRODUCTION

Due to globalization & liberalization many significant changes are taking place in various sectors of economy like industry, business & management. To keep pace with these changes, banking industry has also adopted several innovative practices and methods in its day-to-day functioning. Such new changes in the procedures, methods of operation, and management in the day to day working of banks are known as "innovative banking".

The changes, that the banking industry has witnessed in the last decade is the outcome of globalization & liberalization, which perhaps were not seen, anywhere, in its entire history. These changes are not only seen in developed countries but they are found in developing countries like India. The financial reforms that were initiated in the early 1990s and globalization & liberalization measures brought in a completely new operating environment to the banking services and products like Computerization in banks, use of Banking Information System, Implementation of core banking and commencement of electronic banking like 'anywhere banking', 'telebanking', 'internet banking' and so on. The development of information technology has been a big boon to the banking industry.

The term 'Information technology' describes the phenomenon created by the convergence of technologies associated with computing, communication and office systems. The Internet is one of the major distribution channels of banking products and services. Today, Knowledge Management plays an important role in the banking sector for the purpose of spreading knowledge about various products and services in world wide. The question arise that, what is new in knowledge management in banking sector? The answers is, apart from large volumes of knowledge, the use of Information Technology (IT)

in managing knowledge has given knowledge management a new dimension. The knowledge management process, by various banks focuses more on IT tools in managing knowledge. It is significant that the use of technology for the social benefit and improving the functioning of the banking.

WHAT IS KNOWLEDGE MANAGEMENT?

Knowledge is a set of information which provides ability to understand different situations, enables to anticipate implications and judge their effects, suggests ways or clues to handle the situation. Therefore, Knowledge Management is the combination of activities involved in gathering, organizing, sharing, analyzing and disseminating knowledge to improve an organization's performance. Knowledge Management is the attempt by organizations to put procedures and technologies in place to do the following:

- Transfer individual knowledge into data bases
- Filter and separate the most relevant knowledge
- Organize that knowledge in database that allows employees easy access to it or that "push" specific knowledge to employees based on pre-specified needs.

KNOWLEDGE MANAGEMENT IN BANKING SECTOR

The application of knowledge management in the banking sector does not differ from other industries but the increasing complexity of bank's environment makes its implementation more difficult. Banks have realized the crucial role of knowledge management in gaining an edge in this competitive world, but there have been struggle in the adoption of knowledge management usually due to wait and see attitude of what will be the true benefits and pitfalls from early adopters. The Knowledge Management strategy in Banking Sector is implemented in the three phases.

1. Banking Information System
2. Core banking System
3. Electronic Banking System

1. **Banking Information System:** One of the major features of computerization in banking is designing and development of "**Banking Information System**". It is very convenient and user friendly. The

importance of effective BIS for control operations and of maintaining customer and business/industry data base for strategic planning has also surfaced; while Banks are looking at Data warehousing, Data mining, Business Restructuring etc. as most essential things to have as early as possible, they are taking urgent steps to computerized the operations in their administrative and controlling machinery, so as to evolve an effective BIS. In this phase, the new communication revolution sweeping the nation and the world has come in extremely handy, as the communication infrastructure has improved significantly and the Internet technologies are available to network branches at a relatively low and affordable cost with a high degree of reliability. The present level of BIS covers, basically, information needed for control, performance monitoring, decision making etc. and encompasses most activities in administrative offices like processing of statutory returns under Reserve Bank of India Act, monthly/quarterly performance reports from branches, credit information/BSR, inter-branch transactions, personnel inventory, provident fund accounting, profit and loss accounts, cash and investment management, stationery stock accounting, and branch house keeping etc. The Information technology, globalization and related developments have made business increasingly dependent on high-quality information for decision making. Business decision makers need the relevant and reliable information, which should be available at the right time and at reasonable cost. In earlier days, customers obtained the information through manual data processing. It takes lot of time and with the possibility of error. Today is the age of Information Technology. Data is processed by computer system and generate the useful information. There is an information generating software which provides information to the user at required time. For Example, Accounting Information System, is computer based software or system with process the raw data and generate the information for the user or for the bank. Being an information system, accounting information must have a target (objectives) system. This system will

perform banking accounting operations as well as non-accounting operations such as Human resources information system, Production planning and scheduling system, Strategic planning system and so on. The target for an accounting system is to deal with the aspects of business operations that have to do with accountability for assets/liabilities of the enterprise, determining the results of operations that ultimately leads to the computation of comprehensive income, and the financial reporting aspects of business operations. An Accounting Information System (AIS) may be considered a discipline as well as a collection of system.

AIS study the structuring and operation of planning and control processes. Its main objectives are:

- (a) Providing information for decision making and accountability to internal and external user
- (b) Providing the right conditions for sound decision making
- (c) Ensuring that no assets illegitimately exist in the organization.

AIS relates to several more elementary disciplines of which Accounting and Administrative Organization (AAO), Internal Control (IC), Managerial Information Provision (MIP), and Information Systems (IS) are main ones shown in figure (c).

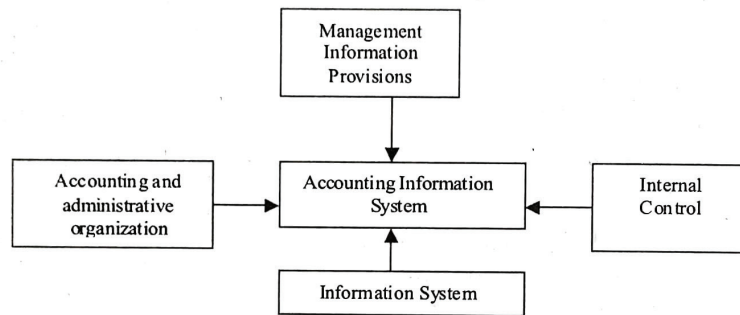


Figure-c: Accounting Information System and related disciplines

(Sources: Information System for Banks, INDIAN INSTITUTE OF BANKING & FINANCE, Taxman Publication (P.) Ltd (2005))

- (a) **Accounting and Administrative Organization:** The system of organizational measures with respect to data processing aimed information provision for management entity functionality and accounting purposes.
- (b) **Managerial Information Provision:** The system gathering, recording and processing of data aimed at the provision of information for management decisions.
- (c) **Internal Control:** Control of judgments and activities of others in so far as control is conducted for the management of the organization by or on behalf of that management.
- d) **Information system :** An information system is an asset of interrelated components working together to collect, retrieve, process, store and disseminate information for

the purpose of facilitating planning, control, coordination, and decision making in businesses and other organizations.

2. **Core banking System:** The one of the biggest achievement in this period is development and implantation of “**Core Banking Solution (System)**”. In the Core banking, all the data base of a particular bank is centralized and a bank can access any information and customer can get the services of that bank in any of its branch. It is a combination of Management Information system and small network banking system. 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.

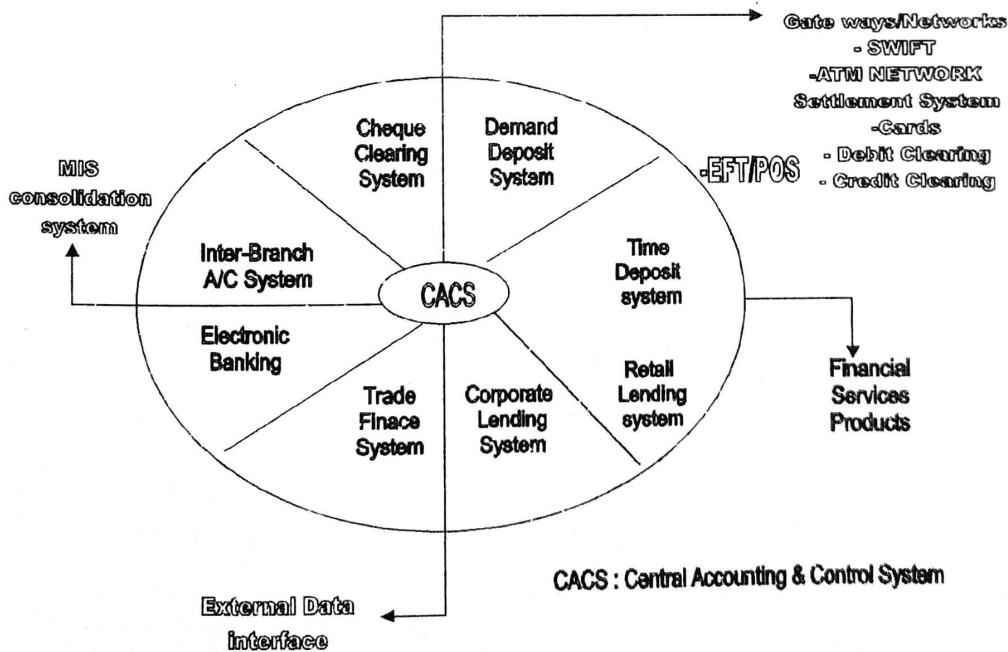
Core Banking is normally defined as “the business conducted by a banking institution with

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. Larger businesses are managed via the Corporate banking division of the institution. Core banking basically is depositing and lending of money. Normally core banking functions include deposit accounts, loans, mortgages and payments. Banks today know better than anyone the opportunities and the risks they face in an ever-changing competitive environment. The Old Management Information system is turned to Core banking System (solution). The banks were traditionally grouped into one of the several business areas such as commercial, wholesale or Retail Banking to indicate the thrust they are giving to customer acquisition strategies, the "core" of their banking operations continue to be Deposits, Loans, Money Transfers and MIS. The aim of any core banking solution will have to meet these core-banking requirements. The role of technology is to make available core banking solutions that can be deployed centrally to take advantages of both the central administration and distribution operations. The core banking solution fulfills the requirements of wholesale banking by providing robust and industry strength Trade Finance and forex modules. And For Retail banking, such a solution should

address various types consumer lending from housing loans to commodity loans etc. The core-banking operations will be done through all branches, wholesale banking will be confined to selected branches and much of the retail banking will be done in metros. Hence the core banking solution should be not only cost effective in meeting this varied requirement but also efficient and consistent when accessed centrally. The new private sector banks have brought in new shift in banking operations by meshing core banking with subsidiary banking which generally cover Investment banking, Insurance, Mutual funds and so on and have set expectations that core banking solution should address these requirement as well. They want to do "Universal Banking" through a small network of brick and mortar branches and large network of ATMs and expect that the technology should address this effectively. The emergence of

Internet technology has reduced the cost of information delivery substantially and is also readily "available" for commercial exploitation to reduce the cost of online banking operations.

Core banking solution: Develop the laundry list of requirements for selection of a suitable core banking solution that will have to meet the basic business functionality and network requirements show in fig.(g).



(Source: INDIAN INSTITUTE OF BANKING & FINANCE, "Information System for Banks, Taxmann Publication (P.) Ltd)

3. Electronic Banking System: The use of IT in banking implies timely and hassle-free banking services. The services provided by banks today, that is called "E-Banking". Through e-banking, customer will get the services like Tele-banking, ATM 24*7*365 banking, Internet banking, online bill payment, intra-branch banking (inter banking ATM(VISA)/Master Card ,debit card), credit cards, Wireless banking, Web Teller, AAA Banking (anywhere, anytime, any service Banking) and other similar services. The objective of this chapter is to study various Services and their Functions of Electronic Banking in present banking system.

Following represent the various banking services provided by the modern banks to their customers:-

ATM (Automated Teller Machine): An Automated Teller Machine (ATM) is a computerized telecommunications device that provides the customers of financial institution with access to financial transactions in a public space without by need for a human clerk or bank teller. On most modern ATMs the customer is identified a plastic ATM card with a magnetic strip or a plastic smartcard with a chip, that contains a unique card number and some security information. Using an ATM customer can access their bank accounts in order to make cash withdrawals and check their account balances as well as purchasing mobile phone prepaid card etc.

Credit Cards: Credit card allows consumers to make purchases without paying cash immediately or establishing credit with individual stores. Credit cards eliminate the need to check credit ratings and to collect cash from individual customers. Credit card are issued on account, has been approved by the credit provider, after which cardholders can use it to make purchases at merchants accepting that card. When a purchase is made, the credit card user agrees to pay the card issuer. The cardholder indicates his/her consent to pay by signing a receipt with a record of the card details and indicating the amount to be paid or by entering a personal identification number (PIN). The verification is performed using credit card payment terminal or point of sale (POS) system with a communications link to the merchant's acquiring bank.

Debit Card: A Debit Card is a plastic card which provides an alternative payment method to cash when making purchases. Functionally it can be called an electronic cheque, as the funds are withdrawn directly from the bank account. There are two types of debit cards: i) Online debit cards electronic authorization of every transaction and the debits are reflected in the user's account immediately.. ii) Off-line debit card transactions may or may not be authorized against the cardholder's current balance, and a PIN is not required at the point of sales. Off-line debit cards include the Visa Check Card and MasterCard's Master money cards. The cards can be used at customer-accessible POS terminals.

Electronic Payment System: There are different types of electronic payment system existed in the banking sector. These are:

- (i) EFT (Electronic Fund Transfer) funds from any branch to any other branch.
- (ii) ECS (Electronic Clearing System)
- (iii) RTGS (Real-Time Gross Settlement System)
- (iv) SPNS (Shared Payment Networks system)
- (v) EDI (Electronic Data Interchange)

Mobile Banking: Mobile Phones are a mobile (or wireless) communication devices used by customers for accessing the banking transactions. Wireless mobile phones, which were first introduced as a means of telephonic conversation, are now being used for different purposes such as recording and sending text messages, taking snapshots and now for carrying out banking transactions. It is a service that permits the customer to do banking transactions without making a call through the use of short Message Service (SMS)/ wireless application protocol (WAP) facility.

Tele banking: Tele-banking requires authorized customers to use a special telephone number of the bank. Tele-banking can be done from anywhere, at any time. There is no need of physically visiting bank sites or there are no time bounds. Tele-banking is of two types. The general information about banking services/ facilities can be obtained by customers and non-customers alike, by dialing a special enquiry number of the bank (call centre) and the desired information can be obtained after reaching the concerned extension number/desk and the account-specific information can be accessed only by the account holder by disclosing his/her secret personal

Identification Number (PIN) and customer ID. Customer can access various services through Tele banking like account balance, request for cheque etc.

Internet Banking:

Internet banking is also called online banking, is an outgrowth of PC banking. Internet banking uses the Internet as the delivery channel by which to conduct banking activity. Through Internet banking, customer can access or get the banking services through Internet or on PC without visiting a bank branch. Internet banking is an element of E-Banking. Customer can get banking services in three different ways, through Internet i.e.

- (i) **Access banks general information:** The first type e-banking service is to only access the general purpose information related to banks and its products. For example:- Nature of Bank, Types of Accounts, E-banking products and services, Interest Rates, Branches and its Locations, Loan schemes, Terms and deposits etc. There are bank's web (www) sites, for allow to the customer downloading of applications forms. Interactivity is limited to a simple form of 'e-mail'. No identification or authentication of customers is required and there is no interaction between the bank's production system (where current data of accounts are kept and transactions are processed) and the customer.
- (ii) **Access electronic information:** These systems provide customer specific information in the form of: a) Account balances b) Transaction details, c) Statement of account etc. The information which is retrieved is 'read only'. Identification and authentication of customer takes place using relatively simple techniques like "password". Information is fetched from the Bank's production system in either the batch mode or offline. Thus, the bank's main application system is not directly accessed.
- (iii) **Access fully transactional system:** These systems provide bi-directional transaction capabilities. The banks allow customer to submit transactions on its systems and these directly update customer accounts. Therefore, security and control system need to be strongest here. In fully transactional system of internet banking, customer can

access various live banking services at 24 hours. These services are: Open an Account, Service Requests, Transferring funds; Paying bills Cash Trading & Margin Trading, Investing in Mutual funds etc.

CONCLUSIONS

The conclusion of the study is that, the modern banking is tending to be more information speedy as an impact of e-revolution. Thus, the banking is using technology in day-to-day transactions, by the customers to access their banking services electronically, whether it is for payment of bills, transfer of funds, retrieval of information and providing services. The electronic services that are made available to the customers are through phone, personal computers through Internet etc. Hence the important elements which we have studied in this paper are, how the knowledge management system can improve the functionality of banking system and how it is effective in the various phase of banking for e.g. in the Banking Information System, Implementation and Transforming core business & expandable e-banking applications, Building flexible and expandable e-banking applications, Running scalable, available, safe environments by providing security and Leveraging knowledge and information etc.

REFERENCES

- Kanugovi Sreenath, "ATM Advertising: Can Indian banks Leverage", Edited by Katuri Nageswara Rao, IT in Banks Strategic Issues, The ICFAI University Press (2005)
- "ATM Reduce Workload of Banks", the Journal of Banking Studies, April 2008.
- "Indian banks cash in on delivery channels" – URL- Express Computer, issued date-2nd December 2002.
- INDIAN INSTITUTE OF BANKING & FINANCE - Know Your Banking-I, "Basics of Banking", (2005), Taxmann Publication Pvt. Ltd...
- <http://en.wikipedia.org/wiki/atm>.
- S.S.Kaptan, "New Concepts in Banking", Published by Sarup & Sons Darya Ganj NEW DELHI, (2002).
- D Ramani, "The E-Payment System", E-business the Icfai university press, Hyderabad, May 2007.
- Manoj Kumar Joshi, "Mobile Banking At the Doorstep of the Messes", Professional Banker, the Icfai university press, Hyderabad, sept. 2007.

S. Gurusamy, "BANKING in the New Millennium Issues, Challenges and Strategies", KANISHKA PUBLISHERS, DTRIBUTER NEW DELHI, (2001).

<http://www.banknetindia.com/present level of computerization>.

<http://www.banknetindia.com/special/itb1.htm>

P. Mohan, "Management Information System", Himalaya Publication House Mumbai, (2003).

<http://www.britannica.com/EBchecked/topic/287895/information-system>.

L.M. Prasad, "Management Information System", Sultan Chand & Sons, Educational Publishers New Delhi (2003).

S.M. Padwal – IT, MIS AND PRODUCTIVITY IN BANKS, Himalaya Publishing House, (1997).

Prof S.M. Padwal & Dr. V.T.Godse, "TRANSFORMATION OF INDIAN BANKS WITH INFORMATION TECHNOLOGY", HIMALAYA PUBLISHING HOUSE MUMBAI, (2004).

INDIAN INSTITUTE OF BANKING & FINANCE, "Information System for Banks, Taxmann Publication (P.) Ltd"., (2005).

Effy OZ – Management Information System, Cengage Learning India Private Limited, 2011.