CHAPTER -I

Introduction
I have strong faith in the understanding that the Libraries are the carriers of civilization. Without books, history is silent, literature dumb, science crippled, thought and speculation at a standstill. Without libraries, the development of civilization would have been impossible; they are the engines of change. My work is little contribution in the ocean of the knowledge. I hope and believe that proper use of the modern tools/methods of library management will help in the optimum dissemination of knowledge.

Management of the library is the basic and core activity which helps the academic community in identifying and accessing knowledge resources in a university. Living in an age of information explosion it is estimated that the amount of information in the world doubles every 20 months. Libraries, as centres of learning are experiencing unprecedented rates of change, both internally and from external sources. Therefore, Libraries have to transform themselves into organizations that support the values of quality and quality management (Brophy & Couling, 1996).

This also means that libraries should build organizations that support learning. (Senge, 1994) Libraries that focus on customer needs increase their ability to provide quality service to their customers. By concentrating on their ability to learn and create solutions, the learning organization “is continually enhancing its capacity to create its future” (Senge, 1990).

A changing user population, technology enhancement, transformation of the scholarly communication system, digital libraries,
new approaches to planning and assessment throughout the library are propelling the new environment. It has now become inevitable for Libraries to redefine their vision, mission, values, structures, and systems support behaviour that is performance and learning focused (Lakos, Phipps & Wilson, 1998-2000).

Today, Libraries are to be examined in terms of their planning system, financial management, buildings utilization, the state of automation, participation in cooperative activities and collection management, staffing, evaluation process, reader’s services, instruction, resources, budget etc. Success of an academic library is increasingly dependent on the most effective utilization and strategic management of new technologies in libraries.

The concept of the user-centred library emerged in the late 1980s and early 1990s, fostered by strategic planning, total quality management, the external demands for accountability and measurable outcomes, and rapidly changing information and budgetary environments. Libraries must move from defining quality by the size of the inputs— and especially from valuing staff and collection size as “goods” in and of themselves. Early opinions of the potential uses of computers in libraries varied. The decision to introduce library automation was usually based on a re-appraisal of the objectives of the library to make the most effective use of existing library manpower and resources for the benefit of
library users, to allow for integration of all aspects of information management relevant to the library’s work now and in the future.

It is believed that the versatility and power of IT which includes accommodation of increased workload, achievement of greater efficiency in improving existing services, ability for generation of new services, facilitating cooperation and in providing for an integrated approach without regard to format, location or medium through which it is served, which can be called one-stop information shopping, can stand in good stead in the quest for quality and productivity in information services and products. Library services need to reach to the Readers with the use of the technology to provide online access to globally generated information and to provide un-interrupted world-wide access to the library resources searchable from anywhere, anytime, by anyone.

We find that global changes through the information and communication technologies (ICT), have had an impact on the functioning of academic libraries. The developments in ICT have changed the Reader’s expectations from the academic libraries in many ways particularly the e-learning process. ICT holds the key to the success of modernizing information services. Not only does ICT introduce new ways of information handling, it also brings about change in the very structure of information and its communication. Concepts like universal bibliography, accessibility to and availability of documents, irrespective of
location, highly personalized services matching user needs/interests with document databases, full text searches, storage and retrieval with speed and accuracy, etc. have all been accomplished to a great extent.

Integrated library system, or ILS, is another enterprise resource planning system for a library, used to track items owned, orders made, bills paid, and patrons who have borrowed. An ILS is usually comprised of a relational database, software to act on that database, and two graphical user interfaces (one for patrons, another for staff). Most ILSs separate software functions into discrete programs called modules, which are then integrated into a unified interface. Examples of modules include: acquisitions (ordering, receiving, and invoicing materials), cataloging (classifying and indexing materials), circulation (lending materials to patrons and receiving them back), serials (tracking Journals and newspaper holdings), and the OPAC (public interface for users). Each patron and item has a unique ID in the database that allows the ILS to track its activity.

Larger libraries use ILSs to order and acquire, receive and invoice, catalog, circulate, track and shelve materials. Smaller libraries, such as private homes or non-profit organizations (e.g. churches and synagogues), often forego the expense and maintenance required to run an ILS, and instead use a library computer system.
ILSs were often known as library automation systems or automated systems in the 1970s and early 1980s. Before the advent of computers, libraries usually used a card catalog to index its holdings. Computers were used to automate the card catalog, thus the term automation system. Automation of the catalog saves the labor involved in resorting the card catalog, keeping it up-to-date with respect to the collection, etc. Other tasks automated include checking out and checking in books, generating statistics and reports, acquisitions and subscriptions, indexing journal articles and linking to them, as well as tracking interlibrary loans.

Since the late 1980s, windows and multi-tasking have allowed business functions to be integrated. Instead of having to open up separate applications, library staff could now use a single application with multiple functional modules.

As the Internet grew, ILS vendors offered more functionality related to the Internet. Major ILS systems now offer web-based portals where library users can log in to view their account, renew their books, and be authenticated to use online databases.
One word, ‘INTERNET’ has completely changed the way Libraries operate. Today's libraries are having a paradigm shift towards web-based e-resources. The conventional bibliographic resources are now fast supplemented by the e-resources. It is huge task for librarians to maintain a supply chain that moves shoulder to shoulder with a global information rate that doubles at every 20 months.

Management Information Systems (MIS) have emerged as a solution to this capacity expansion requirement of Academic Libraries. According to McClure (1990), Management information systems are tools designed to improve management decisions. They have been around in industry and business since the 1960's. MIS is applied in libraries to track performance, monitor the results of innovation, identify problems and opportunities, evaluate alternative options, and conduct strategic planning. MIS assists library staff in daily decision making process to maintain better accountability and control of resources to monitor budget allocations, to improve overall library effectiveness, to improve long-term planning and to facilitate performance measures activities.

Generically an MIS can be defined as any reporting technique, manual or automated, which provides the key members of an organization with data used in its operation. Heim (2000) has defined a Management Information System as: ‘the process and structure used by an organisation to identify, collect, evaluate, transfer, and utilise
information in order to fulfil its objectives. It is a system that provides management with information to make decisions, evaluate alternatives, measure performance, and detect situations requiring corrective action’.

MIS is an interdisciplinary tool that has an amalgamation of computer sciences, information sciences, management sciences and Engineering sciences (as shown in figure 1.1 below).

MIS is an information system that integrates data from all the departments it serves and provides operations and management with the information they require. MIS refers broadly to a computer-based system that provides administrators with the tools for organizing, evaluating and
efficiently running their departments. Management of the library and information systems is the basic and core activity which helps the user community in identifying and accessing knowledge resources in a university.

The goal of MIS is to motivate staff to enhance their skill and expertise in conventional and e-library associated services and operations. The impact of MIS is enormous and global in its magnitude. It is now all set to become an integral part of all aspects of the library management. It has the potential to profoundly affect the library operations, information sources, services, and staff skills requirements and users expectations.

Amos Lakos, Charles R. McClure and other library professionals and educationists recognized the need for systematic application of management information systems in libraries some years ago. However,
systematic application of some kind of MIS in the library environment has been and remains rare. The MIS’s function is to provide library managers and staff with data, information, analysis and tools that enhance the effectiveness and efficiency of library services and assist in the decision-making process.

The objectives of an MIS are to assist library staff with the daily decision making process, to maintain better accountability and control of resources, to monitor budget allocations, to improve overall library effectiveness by focusing on outcomes to generate internal and external reports to improve long-term planning and to facilitate performance measures activities.

The four main objectives for Management Information systems have been defined as: (1) to facilitate the decision making process in the library by providing the managers with accurate, timely, and selective information that assists them in determining a specific course of action. (2) to provide for the objective performance measurement and assessment of selected relevant areas of the library. The areas are to be determined during strategic planning. (3) to provide pertinent information about the library’s internal and external environments, and (4) to provide information on alternative strategies and contingency plans.
In essence, an integrated Management Information System is very important because it can be used to provide supporting information to determine: (1) **Efficiency**: is the library doing things right? (2) **Effectiveness**: is the library doing the right things? And (3) **Competitiveness**: is the library heading in a direction which is consistent with the environment, that is, does the library have a strategy, and is it certain that it is the correct one?

The library should strive to innovate in the use of new technologies to enhance the usefulness of the MIS in the organization. Special attention should be given to the use of the Web as integrating and enabling tool, especially for collaborative work, particularly important in a consortia environment. Libraries have used MIS to track performance, monitor the results of innovation, identify problems and opportunities, evaluate alternative options, and conduct strategic planning.

**Library Automation** Stands as a major prerequisite for the Management Information System. The present study aims to focus on Library Automation status for successful implementation of MIS. The library world is moving into network-based environment. Data management is the essence of such environment that enables fast transmission, retrieval and dissemination of information for better customer (reader) service. The entire process originates with management commitment and vision based leadership. Feedback from customers (readers) provides a basis for **continuous improvement** (as exhibited in the figure 1.3).
Figure 1.3 exhibits an environment framework for an MIS based library. Besides the MIS operations as expressed in the figure, the most vital element for a successful MIS project is the customer focus. The evolution of MIS is to provide for better customer services with a commitment for
continuous improvement through the customer’s feedback on its services. Figure 1.4 below demonstrates the continuous improvement cycle with customer feedback being instrumental at all stages of a product life cycle.

![Figure 1.4](image)

In the present study, the MIS based libraries maintain customer focus as their central idea during all performances. The objective of an MIS based Library is to be an effective library through:
(1) Providing **convenience and justice** to its readers.

(2) **Attract non-readers** to become readers.

The five cardinal laws of Library Management, as enunciated by Dr S.R. Ranganathan (1892 – 1972), state that:

1. Books are for use
2. Every reader his book
3. Every book its reader
4. Save the time of the reader
5. Library is a growing organism.

Living in the age of information exploration, MIS based libraries, powered by automation; I humbly propose (on the lines of the 36th Chamber of Shaolin) the sixth law for library management, that is: *"One library for all"*

Maintaining this sixth law in letter and spirit allows us to further the scope of our performance to be extended through integration with all neighbouring libraries through resource sharing that again provides achievement of aforesaid library objectives of convenience and justice to readers, and, attracting non-readers to become readers. Figure 1.5 below exhibits the macro model of our concept of the MIS based university libraries.
Like the conventional libraries, MIS based university libraries too are surrounded with the administrative and academic environment forces of the university that govern the finance, selection of bibliographic resources, and staffing decisions of the library. As the major driving force at its core, stand the aforesaid library objectives, supported with an integrated database covering the Membership Data, Bibliographic Data, Circulation Data, and the Library Maintenance Data. Based on the figure 1.5 the Figure 1.6 ahead exhibits the proposed model for our study of Library Management System.
PROPOSED MODEL FOR A LIBRARY MANAGEMENT INFORMATION SYSTEM

INTRODUCTION
The two major benefits that MIS provides over the conventional libraries are its decision support and transaction support. MIS enables all decisions of library stake-holders (staff and readers) from procurement to classification to cataloguing to retrieving and maintaining of the bibliographic resources. Such decisions are powered by automation (computerization) and fuelled by the integrated database. The transaction support provides for effective circulation in a wider span of not just the domestic library but inclusive of readers of all neighboring libraries (eight university libraries of Chhattisgarh, namely: Pandit Ravishankar Shukla University (PRSU), Guru Ghasidas University (GGU), Indira Gandhi Krishi Vishwavidyalaya (IGKV), Indira Kala Sangeet Vishwavidyalaya (IKSV), Hidayatullah National Law University (HNLU), Chhattisgarh Swami Vivekanand Technical University (CSVTU), Pandit Sundarlal Sharma (Open) University (PSOU) and finally Kushabha Thakre Patrakrita Avam Jansanchar Vishwavidyalaya (KBTU)).

The objective of customer focus can never be arrived at unless featured with provisions of continuous improvement. Internal performance evaluation of all decisions is done by the staff, while the external performance evaluation is done by the readers. Such feedback mechanism makes improvement cyclic and continuous in MIS based libraries. The present study, through its survey of readers (teachers and students) makes an effort to attempt the measure their perceptions on library effectiveness of all eight university libraries of Chhattisgarh in
context of their automation level. Library effectiveness in this study was measured in terms of library performance, reader satisfaction and staff competence while the automation level was measured through commitment, infrastructure, services and staff training. To make improvement self-sustaining, the present study also offers a Library Audit checklist, ensuring compliance to which shall determine the effectiveness of any library under question.

Starting at a state level implementation, the most economical resource sharing, something what the deprived students of a developing nation like India, through the MIS library environment can be extended to the national and then global environment, as exhibited in the figure 1.7 below, enabling the realization of this dream by means of this present study and written today on the 20th April of 2009 when our nation has taken a big leap in the field of education with the launch of “ANUSAT”.

![Figure 1.7](image-url)