Introduction

Information is defined as "a set of organized procedure which, when executed, provides information to support decision making. Information as tangible or intangible entity serves to reduce uncertainty about future state or event". Information is a key factor in day-to-day life, and can be considered as the lifeblood of communication and interaction. While an information system is "a type of communication system which selects, organizes, stores and disseminates the public knowledge for the purpose of communication of that knowledge to users".

Library whether they are academic library, special library or a public library, being the back bone of any organization, identifies selects, collects and process, stores and disseminates the information at right time to the right person. The libraries have been looking forward for the better technologies even before the onset of the computers. The introduction of the typewriter into libraries was a revolutionary concept in late 1800's. Later stages of modernization witnessed the introduction of unit record equipment, the move of offline computerization, use of online systems etc. Now in information era, in order to avoid obsolescence of information a library professional is supposed to apply the advanced technologies to make his user community satisfied. One such application is library automation.

Library Automation

Earlier the library work was done manually but the following factors have forced to adopt automation in the libraries.
Growing Information and Shrinking Space: There is seen enormous growth or information explosion of literature in each area, subject in number and size and resulted fragmentation of literature and increasing specialization in every field of knowledge. Due to this information explosion, the quantity, variety and complexity of information are being increased rapidly in every field. Computer application can solve this problem, as it is capable of storing huge bulk of information on tiny storage mediums, i.e., a CD-ROM can store the text of the complete set of Encyclopedia Britannica. Serials, abstracts, indexing periodicals etc. are already available on CD-ROM.

Now a days, DVDs with 4.7 GB capacity and Blue Ray Discs with 120 GB capacity of storing data are coming in the market, but their use is yet to be started in library and information centres.

Incensement of Users and organizing the Flood of Information: Increasing the number of clientele of library and information centers and their specialized desires forces us to change the method of organizing information because traditional methods are going to become inadequate. The manual method has serious limitations and, facing problem to provide access to reader's information that is available in a wide variety of publications from so many sources. And this is possible through automation of library services.

Cost hike of Printed as well as Electronic Reading Materials and Resource Sharing: The rapidly enhancement price of information materials motivated the library and information centers to share their resources. They realize that the only way they could fulfill their client groups by effective cooperation between libraries, information centers and networks and the sharing of all type of resources.
**Enhancement in Budget:** With the increase in the members of the library, cost of information materials, services and growth of information or information explosion, the budget of the libraries is also raised. That is also allowing us to automate the library activities and to make maximum utilization of the library funds.

Thus, the libraries of all types are challenged to provide greater information access and improved levels of service, while coping with the pace of technological change and ever-increasing budget pressure. Besides, the growth of electronic information over the decades and the democratization of the Internet have paved the way for the emergence of digital libraries. Digital libraries can be seen as an extension of the existing libraries with all the three basic functions, viz., collection, organization, and dissemination of digital information resources. They also need some system to be tackled efficiently. The use of software applications in Digital Libraries has become essential due to a number of reasons. The most visible factors among them are – growth of electronic resources, anytime anywhere access and resource sharing.

*Automation* which is the use of computers in various activities helps in managing the library's resources in a better way at the same time saving time, money and manpower. For example, once the bibliographic details like author, title, edition, publisher, price, ISBN number, etc. are entered at the time of ordering, the same data can be used for accessioning, cataloguing OPAC, and circulation. Other important factors associated with automation are speed, and accuracy. It also facilitates generation of a number of reports for better decision making in the effective management of the library. Availability of various statistical and other usage reports and performance reports may
ensure better appreciation from library users. For example, vendor performance analysis is possible and subject-wise or project/department-wise budget can also be monitored.

Overall, the Library Automation may be said to be beneficial to the patrons, staff and the institutions.

*Benefits for Patrons:* The Library Automation offers many opportunities to improve services to the library users. Its benefits include faster access to resources through OPACs, remote access, access to online reference tools, etc.

*Benefits for Staff:* The Library Automation reduces the need to do repetitive jobs manually. It reduces the manual work involved in circulation, cataloguing, acquisitions, etc. Automation allows the staff to take benefit of online resources, and offline databases in giving reference services.

*Benefits for Institution:* The Library Automation or computerization not only builds positive reputation of the library services but it also increases access points for the users.

The main activities and services of library automation are –

- *Information Resource Building*
- *Data Entry*
- *Classification and Cataloguing*
- *Circulation Control*
- *Serial Control*
- *Documentation and Allied Services*
- *Information Retrieval*
- Communication Networks
- Access to Database comprising of CD-ROM Services, Online search and E-mail & Internet access

But some software to manage the library work smoothly, efficiently and speedily are needed to do all works in library and providing the necessary services. Thus, Library & Management Software (LMs) came into vogue not only to manage the resources in traditional libraries as well as digital libraries but also provide efficient services to their clienteles. It has a great impact on various library activities including management also (Dhiman, 2001).

Library Management Software

The roots of software development has its base in starting of the computerization [or automation] which had its beginnings in India when punch cards were used during the late 1950s and early 1960s (Lakshmana Moorthy, 1994). However, in reality the library automation can be said to start in India in late 1970s where it was introduced in few special libraries which has now reached in most of the libraries including public and academic libraries. The computerization was started in the libraries to increase the efficiency and effectiveness of the library operations and services, but the development and use of information and communication technology (ICT) has enabled the libraries not only to offer their clientele the appropriate information available within their libraries and also to provide access to information of other libraries, both local and outstations. There is a greater responsibility on the libraries and information centres to provide the latest and timely information to their users to facilitate improvement in the quality of education in
the country and this cannot be done until each institution has an efficient library and information management systems at its command in the current scenario.

Early software or system development was piecemeal, with some libraries developing cataloguing system first, and others focusing instead on, say, circulation control systems. Current systems are integrated systems, based on relational database architecture. In such systems the files are interlinked so that deletions, additions and other changes in one file automatically activate appropriate changes in related files. These are known as Library Management Systems.

Sonker (2001) states that Library Management Systems (LMS) are now established essential tool in the support of effective customer service, stock management and, in general, management of the services offered by libraries. The focus of such systems is on maintenance, development and control of the documents in the collection. These systems support selection, ordering, acquisitions, labeling, cataloguing and circulation control of library stock. In many functions the system acts primarily as an information source on the state of the stock, and hence must hold records, which describe the stock and its whereabouts. This information makes it possible to answer questions such as "What is in stock?" or "What is on loan to whom?" Occasionally, the system may actually control the stock - for example, by using a trapping store, which triggers a light of a 'buzz' when a reserved book is returned to the circulation desk. The more current the information is, the more effective is the control of the operation. Most systems embrace the majority of the library collection. Serials, however, because of their ongoing nature, pose special problems, especially in the area of acquisition and subscription control. But this is also being tackled efficiently with the help of library automation.
Thus, the libraries seem one of the most enthusiastic user groups of information technology in general and computer software in particular. But the rapid growth in utility of hardware, software & connectivity and reduced costs gives the development of LMS a vital breakthrough to achieve a remarkable height. The market place for LMSs is also now a mature one in India. Almost all special libraries and larger academic libraries in India have adopted a computer-based system. The academic libraries attached to private institutes may also seen to have the use of library software.

**Commercial and Free Library Software**

Now a days, a plenty of library automation/management software are available in the market. Many of them have been produced by commercial organizations, e.g., LibSys, Troodon etc., and some by non-commercial or governmental organizations, e.g., DRDO, INFLIBNET etc. (Dhiman, 2003). Few of them are free (Anonymous, 2006) but majority of them are priced, i.e., we have to purchased them.

*Commercial Software* are simply the software used in a commercial environment, or software developed that has "profit as a main aim". Commercial software are the software being developed by a business, which aims to make money from the use of the software. ‘Commercial’ and ‘proprietary’ are not the same thing! Most commercial software are proprietary, but there is commercial free software, and there is non-commercial non-free software. Majority of them are paid i.e., we have to pay money to subscribe them. Alice for Windows, LibSys, Libman and Troodon are some of the examples of commercial software.

*Alice for Windows* is developed by Soft Link's Alice. It has wide usage and follows constant features upgrade enabling to meet all kind of requirements of all range
of libraries. *LIBSYS* is a fully integrated multi-user library system designed to run on wide spectrum of hardware/software platforms in client-server environment. LIBSYS with its headquarters in Gurgaon has its reach nationwide with regional commercial offices in Kolkata and Bangalore.

*Troodon* is developed by the developer of Suchika for DESIDOC, who markets a variant of this software under the trade name Troodon. Its 4.0 version has been released in the market recently.

*LIBMAN* has been created by a group of professionals dedicated to ensuring user satisfaction. It is a Comprehensive Library Manager as it incorporates all aspects of a library. It is a User - friendly Library Manager Software.

*Open software or Freeware* includes any software for which the author and/or publisher seek no remuneration whatsoever from the user for the full software package, i.e., freeware must be able to perform some useful function in and of itself, and not only in conjunction with a "scaled-up" version of the submitted software. Third-party "add on" and "plug ins" to commercial products such as Filmmaker or PhotoShop may still be considered freeware, as long as there is no charge for the use of the entire add-on or plug-in. Freeware may be either copyrighted or public domain. However, most "open source" titles are considered freeware, though products do not by any means have to be open-source to be freeware that is binaries without source distribution are freeware as long as they meet the other criteria. Software that is free for private use but fee-based for commercial use may also be considered freeware. Several freeware are available for library automation, for example – Koha, GNU Library Management System, ABCD and New Gen Lib etc
Koha is the first Open Source Library Management System (LMS) with true enterprise class LMS functionalities including circulation, cataloging, acquisitions, serials, reserves, user management, branch relationships, etc. It is built using library standards and protocols to ensure interoperability with other systems and technologies, and provide a platform-independent solution (Sonker, 2001). Developed initially in New Zealand by Katipo Communications Limited, Koha was first deployed in Jan 2000 and has spread across the world since then. It is distributed under the General Public License (GPL).

GNU Library Management System is a library management software that is developed using PHP and PostgreSQL to automate the different activities carried out in the library. It has been renamed as Karuna and hosted at sarovar.org. It is being sponsored and administered by Sharmad Naik, Gaurav Priyolkar. It is also distributed under GNU General Public License.

NewGenLib is another Integrated Library Management System, which is freely available as open source under the most widely used free software license, GNU General Public License (GNU GPL) v3. NewGenLib is the result of collaboration between specialists in library automation and software specialists. The software was developed over a 4-year joint effort between a professional charitable trust, Kesavan Institute of Information and Knowledge Management (KIIKM) and a fledgling software development company, Verus Solutions Pvt. Limited (VSPL), both in Hyderabad, India.

ABCD stands for Automatisación de Bibliotecas y Centros de Documentación (Anonymous, 2009). It is developed by BIREME (WHO, Brazil) in collaboration with
the Flemish Interuniversity Council, Belgium, using UNESCO’s ISIS database technology. It has some special features not very common for a general library software. The primary aim of ABCD is to provide an integrated library management tool, covering all major functions in a library, such as acquisitions, bibliographic database management, user management, transactions, serial control, online end-user searching on local and external bibliographic databases, and library portal.

**Literature Review**

There are seen four generations of library management software. The first generation LMSs were module based systems with no or very little integration between modules. Circulation module and cataloguing module was the priority issue for these systems and they were developed to run on specific hardware platform and proprietary operating systems. The second generation LMSs becomes portable between various platforms with the introduction of UNIX and DOS based systems. The LMSs of this generation offer links between systems for specific function and are command driven or menu driven systems.

The third Generation LMSs were fully integrated systems based upon relational database structures. They embodied a range of standards, which were a significant step towards open system interconnection. Colour and GUI features, such as windows, icons, menus and direct manipulation have become standards and norms in this generation. The fourth generation LMSs are based on client-server architecture and facilitate access to other servers over the Internet. These systems allow accessing multiple sources from one multimedia interface. The latest LMSs allow customized report generation and to allow manipulating data and investigating various scenarios, therefore they have all the
potentials to be a decision support tool (Dempsey, 1996). Rowley (1998) states that the progress of LMSs through the generations provides us an effective and straightforward user interface which supports access to multiple sources and services from one multimedia interface. Today’s most of the library software fall under the fourth generation LMSs which are based on client-server architecture and facilitate access to other servers over the Internet. But the most important question is – which software should be procured or selected for the library?

A software to be procured should be on the observation of experts, the discussion should be made by the selection committee and most suitable in regard of flexibility, capacity, expandability, security, economically, user’s friendly, module based and updated with the latest technology is to be procured. Rowley (1990) has provided some of the guidelines on the evaluation and selection of library software packages. Though Mukhopadhyay (2006) has also given five laws and ten commandments for the library automation in India, but the presence of many software makes its selection a very complicated issue. There are some leading names of the software packages which are available in the market that may be competent with the needs but sometimes they may confuse more.

Laxman Rao (1994) states that library software are available in range from Rs. 10,000 [now 25-30,000] to 6,50,000. Malwad (1995) also states the same thing - readymade software packages are available in the market for a wide range of applications including library housekeeping operations, and information storage and retrieval. Their capabilities differ, prices vary and their versions keep on changing. So the main problem
is to select a good and cheap library software which could manage our library smoothly. Whether we should go for commercial software or rely upon free/open source software? Earlier some authors have attempted to evaluate or tell factual information about the available library software. Vyasmoorthy (1992) has discussed some the software packages available in India for library and information work. Chowdhury and Chowdhury (1994) have high-lighted the present Indian scenario by presenting a brief overview of 10 selected indigenous packages, namely CATMAN, CDS/ISIS, LIBRARIAN, LibSys, MAITRAYEE, MECSYS, NIRMALS, SANJAY, TULIPS, and WILISYS. Later, Patel and Bhargava, (1995) have also made a comparative study of software available in the Indian market for library automation. Sengupta (1997) has evaluated the circulation control modules and its essential features at IIT, Kanpur.

Saxena and Srivastava (1998) have also evaluated some of library software packages. They have concluded that - a suitable hardware is needed for implementing software in a library according to operating system of the software. The availability of suitable hardware in Indian libraries is a problem mostly due to non-availability of funds or non-priority to libraries. Operating system of software is also selected according to the needs of library, skill of manpower, availability of hardware, etc. Mishra (1999) has emphasized on the needs of computerization for housekeeping operations, networking, bar-code, facility, and OPAC etc. He has given the main emphasis on the software selection as the prime requirement during computerization of any library.

Bhardwaj and Shukla (2000) have discussed some important software like – LibSys, SCIMATE, CDS/ISIS, Sanjay, MAITRAYEE and OASIS etc. for library computerization work in different libraries. Vasantha and Mudhol (2000) have discussed
in details a few library software packages for library automation in their work *Software Packages for Library Automation*. They have given main emphasis to describe LibSys and Soul, developed by INFLIBNET, Ahmedabad. Mukhopadhyay (2001) has also given an account on the progress of library management software in Indian scenario. Singh (2003) has made an overview on the important library automation and networking software. Dhiman (2003) and Dhiman and Rani (2005 & 2007) have also provided a bird’s eye view on the different library software available in the country.

Hussain and Ansari (2007) have studied the cataloguing modules of Alice for Windows, LibSys and Virtua. Harinaryana and Raghavan (2008) have evaluated the retrieval capabilities of CDS/ISIS and LibSys. Besides, Kushwah et al., (2008), has studied some library automation and open source solutions with emphasis on major shifts and practices in India. More recently, Ahmad and Iqbal (2009) has emphasized over various points on the library automation using Alice for Window Library Software in libraries.

**Present Problem**

But it is clear from above review of literature that either library software were evaluated with very few points taken into consideration or emphasis is given on a particular software being used in a particular organization or the library. Thus, these studies seem not sufficient, hence, the present problem “Free/Open versus Commercial Software: A Study of Some Selected Library Management Software” is undertaken for research purposes.

**Objectives of the Research**

The main objectives of the present research will be:
- The evaluation of some software packages to provide basis ideas to libraries in selecting a suitable software which could perform all the required functions of library automated in cheaper and/or efficient way.

- A comparison of special features of free/open versus commercial software will also be made to conclude some concrete results that may be useful for the libraries to select the most appropriate library management software according to their needs and capabilities.

**Research Methodology**

Various methods are available to conduct a research (Dhiman and Sinha, 2002; Sinha and Dhiman, 2002), but the present type of research is different from traditional research. This type of research needs continuous and constant practical watch on the performance of software, which is overall not possible. So the information basically will be collected from secondary literature.

Attempts shall be made here to evaluate a few important software packages on the basis –

- of published literature,
- demonstration of software packages in conferences/exhibitions and
- some practical use, observed in other libraries etc.

The software packages will be evaluated here from the aspects of hardware requirements, operating system platform, language of development, various facilities available related to library activities, search technique, and data storage technique, etc.
It is hoped this study will be useful for librarians in selecting a good and cheap & best library management software for their libraries at various levels.