# LIBRARY AUTOMATION IN ACADEMIC LIBRARIES: NEED AND PURPOSE

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## ABSTRACT

*'Mechanization was aimed at handling problems of bulk, weight and distance at replacing muscle and movement with machines.'*

*The term automation was first introduced by D.S. Harder in 1936. He defined it as ' the automatic handling of parts between progressive production processes' in relation to engineering industries.*

*Automatic Data Processing (ADP) refers to the use of mechanical and electronic equipment for the processing of data.*

*In the opinion of Bhattacharya "There are certain activities traditionally associated with libraries—such as, acquisition, serial control, cataloguing and circulation.*

**Key Words:** Library Automation, Academic Libraries, Networking.

**Introduction:**

The term automation was first introduced by D.S. Harder in 1936. He defined it as ' the automatic handling of parts between progressive production processes' in relation to engineering industries. Since then the term has been applied to a wide variety of automatic machinery and automatic systems, and is commonly used to describe any operation in which there has been a substantial substitution of controlled action for human efforts or intelligence.

**Characteristics**

The characteristics of an automated system are:

1.       The operations/processes are carried out automatically,

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2.       Avoids or reduces human action and thus saves labor, and

3.       It increases efficiency and speed in operation.

**Automatic Data Processing:**

Automatic Data Processing (ADP) refers to the use of mechanical and electronic equipment for the processing of data. Starting with semi-automatic mechanical devices, we have moved to sophisticated electronic equipment. When electronic machines are utilized, the term Electronic Data Processing (EDP) is also commonly used.

**Library Automation**

In the opinion of Bhattacharya "There are certain activities traditionally associated with libraries—such as, acquisition, serial control, cataloguing and circulation. Today the term 'Library Automation' is used extensively to refer primarily to the use of computers to perform some of the traditional library activities such as those mentioned above. Conventionally, some related fields—such as, information retrieval, automatic indexing and abstracting, automatic textual analysis, etc. — do not generally fall within the purview of 'Library Automation'. But this distinction is generally disappearing; for example, 'information retrieval' is now included within its purview. So also is the case with networking. Though computers play the primary roles in library automation today, yet the roles played by telecommunication technology and the reprography technologies are of great significance because of the extent of support they offer to library automation." This study, though, mainly aims to survey the automation of traditional library activities; it also deals with the computerization of information work, with an overview of the telecommunication and reprography technologies in University Libraries of Gujarat State.

**Advantages of Automation**

        Automation has the following advantages:

1.       Larger data can be handled with easy and accuracy

2.       Operates at a great speed and promptness

3.       High rate and better quality in performance

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4.      Labor saving

5.      Cost effective

6.      Easy in functioning

7.      Avoids/eliminates duplication of work

8.      Greater manipulation possible.

**COMPUTERIZATION**

**Role of Computers in Information Units**

The role of computers in information units has continued to develop at an ever increasing pace. Today, every information service relies directly or indirectly on the use of computers, and in the near future, integrated networks for computerized information are likely to become very common.

Information systems often handle very large quantities of data for relatively simple and repetitive processing and, like other enterprises, must also deal with administrative tasks. For this type of work the computer is the most appropriate tool.

The first computer applications were focused on information retrieval and the production of bibliographic bulletins and indexes, but their range has gradually extended to all technical and administrative operations and user services.

It is now common to find fully or partially computerized systems for acquisition, cataloguing, indexing, file construction, information retrieval, documentary products (bulletins, indexes. SDI, etc.), loan operations, data retrieval and exploitation, and routine control and administrative operations.

Computer systems, however, have to be designed, maintained, fed with information and used by people. In other words, they do not simply replace human beings but instead. call for a high level of qualification and at least as much, though admittedly different, work for advantage to be taken of their enormous processing capacity.

Another important point is that computer technology is making such rapid progress that price wise and in conditions of use it is now within the range of most organization-and of individuals too-throughout the world. Having long ceased to be a luxury for powerful organizations, the

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computer is becoming a familiar object, and an understanding of how it works is nearly as important as knowing one's own language.

**Computer Systems**

A computer system comprises: (a) specialized personnel; (b) electronic data-processing devices (hardware), i.e., the computer and its peripheral equipment; (c) telecommunication devices if needed; and (d) software, i.e., the programs of sets of instructions by which the machines are made to execute specific predetermined tasks.

Each of these factors can be aligned with the particular needs of each application, the level of qualification or the performance required all vary considerably. It is now possible to purchase or develop a wide range of products and services relating to these four factors.

Moreover, organizations can also utilize some of the possibilities available in other organizations, such as their hardware, certain of their staff and some of their software, In order to computerize certain activities without having to bear the cost of a full computer system. It has become common practice to turn to a company offering computer services or to the computer centre of another organization (service bureau), or to join a time-sharing computer network.

Like any piece of equipment, a computer—particularly a large one—should be used at full capacity. The big computer centres generally work on a continuous basis, in shifts.

**Impact**

A process of great change is taking place in library and information systems as a result of computer application and information technology. Modern technology is tending to alter radically the nature of our society and affect the prevailing economic, political, and social values. Library and information systems are also, in the process, required to change, improve and adapt to new conditions. A new wave of information technology, based on electronics, is forcing library and information systems to undergo a major transformation. In western industrialized countries, libraries and information centers have been quick to realize that, in the context of stock of knowledge enlarging so rapidly in a post-industrialized society, classical approaches relating to storage, retrieval and utilization of information were no longer

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adequate and that an effective solution lay in making fullest use of new developments in electronics, computer, telecommunication, micro-recording, etc.

While computer application has become an established fact in bibliographical information handling in industrialized countries, our country is very much behind. We have been regrettably slow in introducing computers in information work. The reasons could by many. Perhaps, our library and information systems would have had a greater stimulus and support had there been an overall computer environment in the country. However, the situation seems to be changing fast for better. There has been realization, though lately, that library and information systems in our country ought to take up computerization without any further loss of time and modernize their operations and services. Serious attempts are now being made to solve the problems of hardware, software and manpower training to switch over to computerization. Locally made, inexpensive microprocessor systems are today within the reach of many library and information systems to introduce mechanization. Application software for bibliographical information handling are also becoming available. Above all, library and information professionals are getting motivated and are showing keenness to get trained to take up computer-based work.

## Areas of library automation and networking in University Libraries:

Areas of library automation and networking are as follows:

- → Acquisition of reading materials
- → cataloguing and indexing
- → circulation control
- → serial control
- → library administration and management
- → on line public access catalogue
- → information retrieval and dissemination
- → CD-ROM databases searches
- → inter-library loan or ILL (cooperative sharing of library materials)/ resource sharing through library network

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$\rightarrow$ access to e-resources through INTERNET

$\rightarrow$ developing local digital library/ institution repository

$\rightarrow$ Desktop publishing (DTP) for report generation; office automation

**Conclusion:**

Library automation is the process which needs proper planning, timely implementation and periodical evaluation. The librarian with the administrators has to set the priorities after analyzing the current status and future requirements. Selection of the suitable integrated library management software according to the needs of the users and the library is important. Retrospective conversion, OPAC, circulation and serials control, etc. should be conducted with care. Staff training and user education are keys to the success of the process. Library automation invites realistic approach. Librarian should acquire adequate knowledge about the hardware and software options available. All libraries should use standard software packages for automation and database creation to facilitate the exchange of bibliographic records between libraries. Databases may preferably be created in the MARC21 format because most libraries at the international level follow this. There is need for continuous monitoring of automation activities for improvement of the situation and for meeting the future needs. Academic achievement of a student is closely related to his/her ability to find, evaluate and use the required information according to the curriculum needs. An automated dental library with a variety of resources and user oriented services can lead them to the goals.

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