



Automation in Libraries

**Sindhav Rajnikant
Dhanabhai**

Ph.D Scholar, CMJ University

Dr. M. G. Patel

PhD Guide, CMJ University

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.

KEYWORDS:**Advantages of Automation**

Automation has the following advantages:

Larger data can be handled with ease and accuracy, Operates at a great speed and promptness, High rate and better quality in performance, Labour saving, cost effective, Ease in functioning, Avoids/ eliminates duplication of work, Greater manipulation possible.

The role of computers in information units has continued to develop at an ever increasing pace.

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.

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.

Mechanization and Automation

'Mechanization was aimed at handling problems of bulk, weight and distance at replacing muscle and movement with machines.' Automation is the name given to an automatic system of working. The difference between automation and mechanization, a related term, is mainly one of degree.

Origin of the Term 'Automation'

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,
2. Avoids or reduces human action and thus saves labour, 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 technology 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 ease and accuracy
2. Operates at a great speed and promptness
3. High rate and better quality in performance
4. Labour saving
5. cost effective
6. Ease 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 pricewise 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 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 industrialised countries, libraries and information centres have been quick to realise that, in the context of stock of knowledge enlarging so rapidly in a post-industrialised society, classical approaches relating to storage, retrieval and utilization of information were no longer 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 be 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 realisation, though lately, that library and information systems in our country ought to take up computerization without any further loss of time and modernise 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 mechanisation. Application softwares 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

- 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;
- access to e-resources through INTERNET;
- developing local digital library/ institution repository;
- desktop publishing (DTP) for report generation; office automation.

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