

LIBRARY AUTOMATION

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LIBRARY AUTOMATION

Library automation is the application of ICTs to library operations and services. The functions that may be automated are any or all of the following: acquisition, cataloging, public access (OPAC and WebPAC), indexing and abstracting, circulation, serials management, and reference.

Meaning of Automation

The word “automation” has been derived from Greek word “automose” means something, which has power of spontaneous motion or self-movement. The term “automation” was first introduced by D.S. Harder in 1936, who was then with General Motor Company in the U.S. He used the term automation to mean automatic handling of parts between progressive production processes.

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Automation is technology of automatic working in which the handling method, the process and design of professional material are integrated. This is the effort to achieve an automatic and self-regulating chain of processes

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According to Webster's Third New International Dictionary of English

Languages, automation is, "the techniques of making an apparatus, a process or a system operate automatically". In other words, it is the machinery that mathematically manipulates information storing, selects, presents and records input data or internally generated data. Mechanization of library house-keeping operations predominantly by computers is known as library automation. (Gove, 1986).

According to Encyclopedia of Library and Information Science,

"automation is the technology concerned with the design and development of process and system that minimize the necessity of human intervention in operation". (Kent, 1977)

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According to McGraw Hill Encyclopedia of Science and Technology

It defines automation as “a coined word having no precise generally accepted technical meaning but widely used to imply the concept, development, or use of highly automatic machinery or control systems”. (McGraw, 1982)

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According to Webster's Third new International Dictionary of English Language Automation is defined as "automatically controlled operation of an apparatus, process or system by mechanical or electronic device that takes place of human organs of observation, effort and decision". (Gove, 1966)

According to the Oxford English Dictionary It defines automation as "application of automatic control to any branch of industry or science by extension, the use of electronic or mechanical devices to replace human labour". (Simpson & Weiner, 1989).

MEANING OF LIBRARY AUTOMATION

- Automation is a process of using the machineries for easily working and saving the human power and time.
- The main purpose of library automation is to free the librarians and library staff and to allow them to contribute more meaningfully to spread of knowledge and Information.

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- In the simple language “When we use machineries for collection, processing, storage and retrieval of information and do an other works of library with the help of machineries that called library automation.”

Definition of library automation

Library automation may be defined as the application of automatic and semiautomatic data processing machines (computers) to perform traditional library house keeping activities such as acquisition, circulation, cataloguing and reference and serials control. Today “Library Automation” is by far the most commonly used terms to describe the mechanization of library activities using the computer. (Uddin, 2009).

Encyclopedia of Library and Information Sciences

“Library Automation is the use of automatic and semiautomatic data processing machines to perform such traditional library activities as acquisitions, cataloguing, and circulation. These activities are not necessarily performed in traditional ways, the activities themselves are those traditionally associated with libraries; library automation may thus be distinguished from related fields such as information retrieval fields such as information retrieval, automatic indexing and abstracting and automatic textual analysis” (Kent, 1977).

Historical background

A process of great change has been taking place today in libraries due the impact of information technology and application of computers in library work. We hear a lot about library automation in libraries and library automation is nothing but application of machines viz. computers to the routine library housekeeping operations such as acquisition, serial control cataloguing and circulation. Before proceeding into the depth of library automation, it is necessary to know the historical background of automation.

Automation of library has passed through several of development, which can be divided into **3 phases**:

- 1 Experimental Phase (1930-1960)
- 2 Local systems Phase (1960-1970)
- 3 Co-operative Systems Phase (1970-)

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- **EXPERIMENTAL PHASE (1930-1960)**

The first application of automatic data processing equipments in libraries can be traced back to 1936 when the University of Texas adapted a mechanical system for its circulation function. In the first half of the 20th century, i.e. in the early 1960s library automation began especially in the U.S.A. after the World War II. During this period, many libraries in North America and in the U.K began to experiment processing of information by using computers. Many techniques were introduced in the universities and national libraries. Several of these systems were like tabulators, sorters; punched cards were used for circulation i.e. for providing books on loan, serial control, acquisition, cataloguing etc. (Laxminarayan, 1986).

In the U.K. the Public Libraries of Camden and West Sussex and the University libraries of Newcastle and Southampton were involved in the Experimental phase. Many systems such as edge-notched cards, optical coincidence, punched cards, and early computers developed during this phase failed due to the following reasons:

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- ❖ Computer technology at that time was inadequate.
- ❖ Librarians were not sufficiently definitive in their requirements of the computer based system.
- ❖ Computer people thought that they knew the librarians' requirements of the computer based system.
- ❖ It was thought that all the individual systems in a library should be simultaneously converted to computer based. (Tedd, 1977).

LOCAL SYSTEMS PHASE (1960-1970)

This period applied general purpose digital computer for retrieval of information. In this era, the computers were applied offline. During this period, many librarians made use of the computer as a tool in the organization of many of the library's procedures. Most of these systems were developed locally, either in an academic library, special library or public library. In this phase focus was mostly on acquisition, cataloguing and circulation process. During this phase, OPAC i.e. Online Public Access Catalogue was in an experimental stage in the U.S.A. During this phase, Machine Readable Catalogue i.e. MARC came into existence in year 1963 at the Library of Congress, U.S.A for providing standardization in automation. In 1967, the Ohio College Library Centre (OCLC) was set up which is an online system which marked the beginning of cooperative systems and union catalogue. In 1969, the Library of Congress started distribution of records in the new MARC II format. (Tedd, 1977).

COOPERATIVE SYSTEMS PHASE (1970)

In the 1970s there has been an increase in library cooperation and resource sharing by libraries developing computer based systems. In this phase, designing of online systems and conversion of batch systems into online mode was done and also the growth of library network and databases were seen in these Phase.

Here magnetic tapes and floppy disks were used for storing information. In the 1980s there was intensive use of online systems networks, optical disks, CD-ROMs etc.

In this period, microcomputers came to be used in libraries. Later on through Internet and library networks, all processes of libraries were integrated. (Rajagopalan, 1986).

Kaul (1999) has given the growth of library automation can be better understood from the following table:

GROWTH OF LIBRARY AUTOMATION YEAR DEVELOPMENTS:

1940-1949:

Semi-mechanical applications including edge-notched cards, optical coincidence, peek-a-boo cards.

1950-1959:

Use of punched cards, data processing equipments, early computers and micro image searching systems.

1960-1969:

Application of general purpose digital computers, feasibility studies of online interactive and advance micro image systems, experiments in library networking.

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1970-1979:

Design of online systems and conversion of batch systems into online mode, growth of library network and databases.

1980-1989:

Intensive use of online systems, networks, mini and microcomputers, optical disks, CD-ROMs, FAX etc.

1990:

Use of internet and library networks aims towards higher levels of computer application such as recording through electronic media, artificial intelligence etc.

conclusion

- Automation and networking of libraries are still in their formative stages in India. Their full impact on libraries and library resources will be known in the course of time. INFLIBNET, DELNET, and other metropolitan networks are providing training facilities for computer applications. The Indian Library Association, IASLIC, and NISSAT have jointly helped academic libraries in the choice of software and hardware, and in manpower training. Every year, INFLIBNET organizes a conference — CALIBER (Convention of Automation in Libraries) — to discuss issues related to the computerization of academic libraries. In the first convention of CALIBER, held at Ahmedabad in February 1994, the Chairman of INFLIBNET, Professor Yashpal, said that the government of India should provide more funds for the speedy networking of higher education and research and libraries. According to him, the progress of INFLIBNET is far from satisfactory, and so the UGC should provide funds for hardware and software to accelerate the pace of library automation and networking.

References

- **Based on APA** (American Psychological Association) Style:
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