

## THE ROLE OF AUTOMATION IN LIBRARY ROUTINE OPERATIONS

BY

**Samaila Abubakar Mafara**

*Department of Library and Information Science  
Abdu Gusau Polytechnic Talata Mafara*

### ***Abstract***

*The paper examined the role of automation in library day-to-day activities, major library activities includes acquisition, processing, organization (cataloguing and classification), circulation, serials management, reference and administrative unit etc. The process of conversion through associated technologies and uses of computer hardware and software for the tasks that otherwise required a lot of paper work and staff time. The study will be used to reduce cost and increase performance in the library routine operations.*

***Keywords:*** *Automation, Training, Hardware, Software, Networks.*

### **INTRODUCTION**

Many activities of a library are routine in nature; a few are repetitive. Automation of these activities helps in managing the library's resources in a better way and at the same time save 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. One can imagine the time saved in literature searches and in preparing bibliographies. Automation also offers freedom from doing repetitive and routine works as well as enables providing efficient services properly and more efficiently cutting down time and improving productivity. Automation 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 will ensure better appreciation from library users. For example, vendor performance analysis is possible. Subject-wise or project department-wise budget can be monitored. Circulation data can provide information on titles that are in great demand so that more copies can be procured if needed.

Many current awareness services like current additions, contents of books and journals, etc. can also be provided to users. (Moorthy, 2004)

## **MEANING OF AUTOMATION**

The word "automation" has been derived from Greek word "autosome" 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. 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. 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".

## **LIBRARY AUTOMATION**

Library automation may be defined as the application of automatic and Semiautomatic data processing machines (computers) to perform traditional library Housekeeping 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, automatic indexing and abstracting and automatic textual analysis" (Kent, 1977).

## **OBJECTIVES OF LIBRARY AUTOMATION**

1 To maintain bibliographical records of all the materials, in a computerized form.

2 To provide bibliographical details through a single enumerative access point of holdings of a library.

3 To reduce the repetition in the technical processes of housekeeping operations.

4 To provide access to information at a faster rate.

5 To share the resources through library networking.

6 To implement new IT processes to provide high quality information.

### **NEED FOR LIBRARY AUTOMATION**

From the above definitions, we can say that the need of library automation has several reasons. Need of computers present in all areas depending upon its usage.

They range from acquisition control, serial control, and cataloguing and circulation control. They are also used for library manager's evaluation of reports, statistics, etc.

For the good administration of the library computers are used in all levels of work.

Above all, the unique characteristics of computer made it the right choice for the library world. Computers right from the beginning are considered to aid man, in doing various operations.

### **STEPS IN LIBRARY AUTOMATION**

Since automation of a library is an important and essential step, it should be properly planned and implemented. Hence, while considering library automation a series of steps have to be undertaken as follows:

### **FEASIBILITY STUDY OF THE SYSTEM**

The aim of feasibility study is to determine if this is achievable, if the benefits outweigh the disadvantages and to examine alternative solutions. It is designed to answer these questions:

1. Is the proposed system realistic?
2. Is it necessary?

3. What other options are available?

4. Is it affordable?

The final output of the feasibility study is a report to be presented to the management.(Large, 2006).

### **BUDGET**

When planning for library automation and networking sufficient funds has to be provided by the institution or the funding agencies for purchasing of hardware, software and furniture etc. It should be noted that if sufficient funds are not available for purchasing the entire software, then the library should automate only those areas, which are of utmost importance and then later on go for overall automation modules.

### **TRAINING**

Manpower or personnel of the library is also an essential necessity. To provide effective and efficient services to the users, the staff should be provided training about the information communication technology (ICT), how to work with computers, and the essential features of the software adopted and how the software is used.

### **HARDWARE**

When automating the library, the hardware to be procured should also be given a thought. Today, different types of hardware are available in the market and due to new kinds of hardware available in the market; the earlier ones are getting outdated soon. Also, while procuring the hardware, it should be seen whether the software which will be implemented will be compatible with the hardware procured.

### **SOFTWARE**

The term software refers to a set of computer programs, procedures, and associated documents (flow charts, manuals, etc.) that describe the programed and how they are to be used. To be precise, software is a collection of programs to enhance the working capabilities of the hardware. Software is a set of programs written or developed to enable the computer to do desired operations.

It is one of the most important components which should be taken notice of, while automation. Today, a number of application software is available in the market manufactured by different companies

#### **HOUSEKEEPING OPERATIONS:**

Housekeeping operations of a library include all operations such as acquisition, cataloguing, circulation and serials control.

#### **ACQUISITION**

Acquisition is one of the important functions of any library. The goal of the library which is to satisfy the users will depend on the acquisition system of the library i.e. the user of the library will be satisfied only if the library acquires reading materials based on the users' demands. Acquisition also results in effective and efficient collection development of the library and hence acquisition of reading materials is an important job and is also highly labor intensive. Therefore automation in this area is very much required.

#### **The Major Objectives of an Automated Acquisition System May be:**

1. Elimination of maintenance of several manual files which consumes a lot time of the staff which intern eliminates may errors in reporting, control etc.
2. Improve accuracy in all facets of acquisition process.
3. More effective and efficient handling of claims and cancellations.
4. More accurate and timely financial data recording, accounting and reporting.
5. Eliminating of the need for manual processing of discount. Foreign exchange and other invoice data.
6. Improved ability to track orders, receipts, invoice and claims.
7. Improved binding control including maintenance of binding data records, provision of binding alerts, production of binding orders and tracking.
8. Integration of acquisition with cataloguing and serial control for more effective bibliographic holdings.
9. To provide necessary management information reports.
10. Improved services to the users through faster, timelier processing of orders and receipts.

## **CATALOGING**

The library catalogue is considered as a mirror of the library because it reflects the collection of the library i.e. whether the library possesses good, bad or satisfactory collection. It is considered to be the base for most of the library activities such as acquisition, reference, inter library loan etc. In acquisition activity, the catalogue is referred to avoid duplication of reading materials. In reference and inter library loan activities, the catalogue is consulted to see reference and other documents which can be provided on loan or can be consulted to answer reference queries. Hence, the catalogue is considered as an important tool in the library. So, if automation of the catalogue is done, then it will be very much beneficial to the users and the staff wherein they can get the desired information with no time. Similarly if the catalogue is made available in a network environment through LAN, then users can have simultaneous access to the same database. So also the library staff will appreciate the automated system since it will eliminate their job of printing the cards, filing the cards, keeping the catalogue up-to-date, etc.

The automated catalogue also conserves space as compared to the large catalogue cabinet, which occupies a lot of space in the library.

OPAC (Online Public Access Catalogue) is one of the existing aspects of library automation. OPAC is a catalogue, which is available for searching online.

Such OPAC may be searched from a terminal within the library or at a terminal elsewhere in the organization remotely via national or international telecommunication networks. Today majority of the software which is used for automation in libraries provide a separate module of OPAC. With the latest developments in integrated systems the OPAC is connected to the circulation system so that the user can come to know whether the document he/she is looking for is currently available in the library or on loan. OPAC also promotes resource sharing program and bibliographic search can be done by author, title, accession number, ISBN, Keywords etc. Search in OPAC is by using Boolean logic or by truncation. (Hussain & Raza, 2002).

## **CIRCULATION**

The main component of a circulation control system is the transaction of documents i.e. issue and return of documents. This database contains bibliographic details of the documents which provide information on titles, authors and publishing details, which are used in notifying the users about the overdue. Circulation involves the charging and discharging of library materials, reservations, statistics, sending of reminders for the over-due material, etc.

### **The Following Functions of an Automated Circulation Control:**

1. Provision of information on location of circulation items.
2. Identification of items on loan to a particular borrower or class of borrowers.
3. Recording of hold or personal reserves for items on loan but desired by another borrowers often with additional provision for notifying the library staff when the item is returned and printing a 'book available notice' for mailing to the persons who requested the item.
4. Printing recall notices for items on long term loan.
5. Renewal of loans.
6. Notification to library staff of overdue items and printing of overdue notices.
7. Notification to library staff of diligent borrowers (i.e. those with unpaid fines or overdue books) either at time of an attempted loan or at time a borrower is leaving the institution or on request forms the library.
8. Calculation of fines, printing fine notices, recording receipt of fines and sometimes printing of fine receipt.
9. Calculation and printing of statistics of various types.
10. Analysis of both summary statistics and statistics related to circulation of particular items for use in acquisition, planning of services and for other ministration purpose.
11. Provision for printing due date slips, automatically generating orders for lost book or needed addition copies and printing mailing labels for remote borrowers.

## **SERIALS CONTROL**

Serials are published at regular intervals and the publication is intended to continue indefinitely. Besides scholarly journals and popular periodicals, serials include

magazines and all other periodical publications as newsletters, newspapers, annual reports, proceedings of learned bodies, monograph series etc. the term serial control usually denotes two very distinct aspects: bibliographic control and processing control. Bibliographic control of serials involve preparation and maintenance of a central master list of all serial publications which includes full title, short title, variation form earlier titles, publishers, ISSN, frequency etc. Serials processing control comprises of acquisition, claims controls, cataloguing, circulation, binding, weeding out etc.

**The functions of an automated serials control system are:**

1. Input the data when the library receives issues.
2. Ordering new serials and renewing the presently subscribed journals.
3. Sending reminders to follow up missing issues.
4. Accessioning of individual issues when the library receives them.
5. Cancellation of presently subscribed journals.
6. Controlling of budget spent on subscription binding etc.
7. Binding of issues when a particular volume is complete.

**REFERENCE SERVICE**

Initially, the reference librarians depended on printed indexing and abstracting services, bibliographic sources and directories to perform literature search and answer questions of factual or bibliographical nature. But today it is seen that the important reference books like encyclopedias, directories, bibliographies, are available in the non-print format either in the form of CD-ROM or are displayed on the internet. They can be used as a database for accessing information for answering queries.

## **NETWORKING**

Networking involves the sharing of computers, peripheral hardware and software.

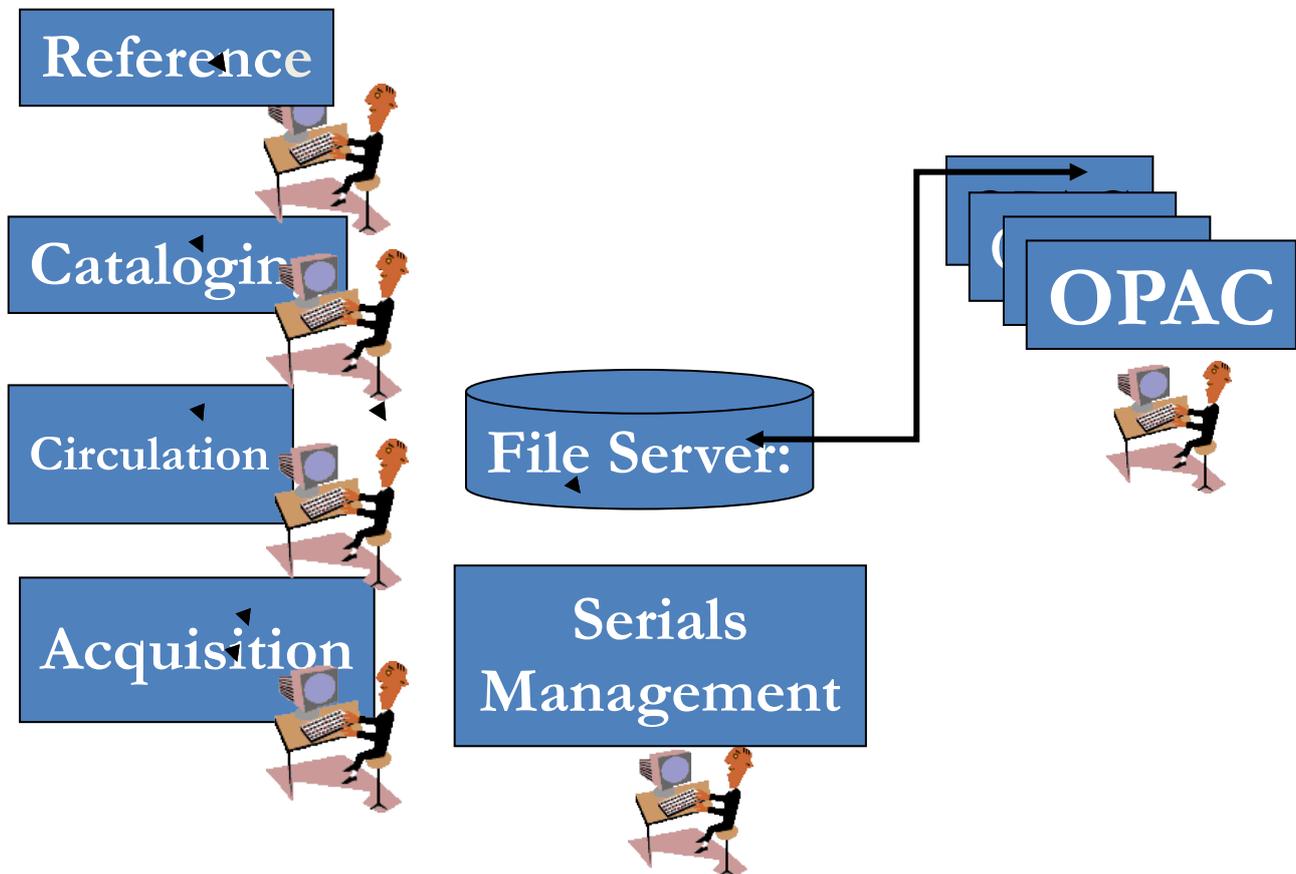
And switching all interconnected with communications channels used to establish a connection between network users. The end result is the shared use of information and resources. The intension of the network is to distribute information to the users requiring the network services. Computers and telecommunications may be the tools used for facilitating communication among them. A network mainly consists of three components viz. transmission media, mechanism of control and interface unit to the network. The components provide a mechanism to transport information to and from remote corners. Generally any network must have transport capability, internal switching mechanism and an ultimate user. Communication from the source host to the link or destination host occur through the interaction of two machines through their interface units under a structured set of operation referred to as a protocol. (Rao, Abhiram & Muralidhar, 1997).

### **LOCAL AREA NETWORK (LAN)**

LAN networking is transmission system for linking computers over restricted geographical area like single rooms, rooms within a building or buildings on a particular site. LAN normally transmits data in digital form with typical transmission speeds up to several megabytes per second. It is a combination of cables/connectors, computers, processors and interfaces, software's which interconnects computers and related devices. It regulates flow of information traffic among these devices. Usually the computers are within 300m of each other because they can be connected by a cable. A typical LAN connects computers located within half a mile of each other.

LAN is distinguished from other type of data network in that communication is usually confined to moderate size geographical area. This network is owned by a single organization. (Mandal, Datta & Podder, 1998).

Below is the example:



**CONCLUSION:**

Our country is very much behind in computer application in library operations and services. The reasons could be many; however, the situation is changing fast. Conditions are turning to be favorable and also the government is lying great emphasis on modernization, which covers libraries as well.

From the above, we can say that the need of library automation has several reasons. Need of computers is present in all areas depending upon its usage. It ranges from acquisition control, serial control, and cataloguing and circulation control. Computer is also used for library manager's evaluation of reports, statistics, etc. For the good

administration of the library computers are used in all levels of work. Above all, the unique characteristics of computer made it the right choice for the library world. Computers right from the beginning are considered to aid man, in doing various operations. With the advent of automation, the human intervention is reducing to a great extent. The appearance of computer has greatly increased the library operations.

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