Status of Automation in Special Libraries and Information Centers of Gwalior: A survey

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Abstract

The study presents the status of automation in special libraries and information centers of Gwalior District in Madhya Pradesh. Aims at understanding and analyzing the various problems faced by the authorities and the staff during the process of automation. The methodology adopted for the present study is survey using a structured questionnaire. The lack of staff, hesitancy and lack of attitude towards automation and unsatisfactory library software problems are the major hindrances to speedy automation. However, 50% of special libraries opting for automation show that the libraries have a mind to adapt to the new changes and the other libraries will follow the suit.

Keywords: Special Libraries; Information Centers; Library Automation; Library Computerization; Automation Problems; Automation Prospects

Introduction

Special librarianship is relatively a new branch of profession, which grew up at the beginning of the twentieth century. At this time, a number of organizations felt the need to collect documents to satisfy the special interests of their users. The special libraries also recognizes the value of Ranganathan's law "Save the time of the users" and that of slogans such as "The right information to the right person at the right time." Special libraries and Information Centers exist to serve the information needs of its users. It aims at providing required information pinpointedly, exhaustively and promptly in a usable form. For this purpose, the library should either build up its own collection or store of information or should be able to depend on other sources. Information centers are similar to special libraries but provide personalized high quality reference service usually in science and technology, and often using mechanical or electronic method for storage and retrieval of document.

Modern society is characterized by an increasing need for specialized institutions in various fields of activity for the performance of their day-to-day functions as well as research and consultancy work. These institutions require access to published information. Explosion, the methods of storage and dissemination are changing fast. So no library can store all that published information and can provide efficient services with its old manual operations. That's why "Automation" is important and necessary to handle the vast amount of information and for providing faster, accurate, precise, efficient and effective services.

Gwalior City was the Capital of the princely state of Gwalior until 1948 and the summer capital of Madhya Bharat State from 1948 to 1956. Gwalior's history is traced back to a legend in 8th century A.D. when a chief tain known as Suraj Sen was struck by a deadly disease and cured by a hermit-saint Gwalipa. As a gratitude for that incidence, he founded this city by his name. The new city of Gwalior became existance over the centuries. Today, Gwalior is spread over 2002 square miles with a population of 16,32,109 and a literacy rate of 69.7%.

Why Automation in Libraries

The primary objective of special libraries and information center is to make available the reliable and up-to-date information in a convenient form. The two major reasons for automating the library activities are:

- To provide better services, and
- To give added benefits at less cost.

Automation saves the effort, time and resources involved in the manual operation of libraries. In an automated system, the information can be altered and updated without the repetition involved in the manual system. Other reasons for library automation are:

- To increase the retrievability of the resources
- To achieve a new level of library management
- To avoid duplication of the work
- To use the services of the existing staff effectively.
- To facilitate resource sharing and increase technical processing efficiency over a manual system.

Review of literature

Various studies and surveys conducted, shows that the problems faced by the special libraries in automating their house-keeping activities and services and also the benefits reaped by automation. Veeranjaneyulu (2003) describes the need for automation and enumerates the different aspects of library operations. Mentions about agricultural research information system, lists agricultural libraries in Andhra-Pradesh. This paper provides information about utilization of computer and also enumerates problems faced in automating the agricultural libraries. Verma (1995) makes a case study of the computerization activities undertaken by the Jawaharlal Nehru University library (New Delhi) and discusses about the future plans. Chandhok (1994) highlights some of the unique features required by an automated system for IGNOU library. The library short term as well as long term plans of actions regarding computerization of library operations are briefly discussed. Kaula (1992) refers to the report on computerization of library and information service and the evaluation of the public library policy. Emphasizes the national responsibility and UNESCO'S medium term plan for providing library and information services according to a national plan and policy. Yodagiri (1997) discusses the definition of the database, management and brief description of steps taken to create database of library's holding, automation of house keeping service like circulation desk, OPACs and cataloging etc. And the latest technology in retrieval of information through multimedia CD- ROM's and introduction of bar-coding system. Singh (2002) mentions about the various library oriented software packages being used in Indian libraries. Describes the features of LIBSYS package along with hardware and operating system requirement, functions that can be performed with this software, concludes the developers must address the problem faced in its application so that it becomes more robust and flexible. Raddy (1988) explains salient features of CDS/ ISIS software. Its applications in creating a database on space technology are discussed in detail. The various information services generated using this database at SHAR library are presented. Mishra's (1999) suggested needs of computerization of all housekeeping operations, networking, Bar—code, facility, OPAC etc. The software selection is highlighted as the prime requirement during computerization of any library. Jambhekar (1995) discussed the factors that led to adoption of automated circulation system in Indian Institute of Management, Ahmedabad. Presents the in detail system design and output features of the system. Sengupta (1997) highlights circulation control modules and its essential features. Discusses how this menu driven system

supports features like management, Registration/Renewal of members, check-in and out, reservation of documents and queries like status of loan record of a user, status of a document, over due charges and statistics of circulation transactions.

Subramanian (1995) explains the structure, storage capacity and processes involved in the making of CD-ROM disc. Highlights the features of CD-ROM in terms of versatility, storage density durability, usability and cost relating to searching and also indicates its limitations. States the CD-ROM products in the field of library and information science and the project on document delivery through CD-Rom by the Commission of the European Communities. Ahiya(1991) describes the need for networking a library with various constituent units of its parent organization. A case for building a microcomputer based local area network is put forth to achieve this goal. Its compares the characteristics of a mini--computer based system with those of a microcomputer-based system. The article also defines the concepts of network, networking, networking topology etc. and its application in the library. Mishra (1999) analysis the state of local library networks in India. Describes the objectives, facilities and services offered in the local library network. The library networks discussed are ADINET, CALIBNET, PUNENET and MALIBNET. Concludes that the development of these local library networks is not similar DELBNET is growing fast by adding new services to its members. Subhashini (1994) presents a proposal by Small Industries Developments Organization (SIDO) for the national network of industrial information by linking existing organizations, working for the development and promotion of entrepreneur, for effective transfer of information to the need of entrepreneurs. Vohra's (2003) examines the impact of information technology on libraries, especially development of digital libraries, Internet, Electronic publications, CD-ROMs etc. Online public access catalogues have made it possible to access catalogue of libraries world-wide. CR-ROMs are accepted as standard storage medium, which can be subscribed and accessed on CD-Net.

Objectives of the Study
(i). To analyze the various problems faced by the authorities and the staff during the process of automation of library.
(ii). To appreciate the advantages of automation with respect to economy in expenditure, increased use of library resources and services.
(iii).To understand the important and necessity of automation to handle the vast amount of information and for provide faster, accurate, precise, efficient and effective services.
(iv).To suggest ways of overcoming the problems faced during automation in special libraries and information centers.

Scope and limitations

The study is delimited to the special libraries and information centers of Gwalior, Madhya Pradesh only. How over the industrial libraries have not been covered become it was seen most of the industries in Madhya Pradesh do not have a library and the industries that do maintain a library have poor collection and infrastructure.
As the rates of response to the questionnaires are very low, the libraries were personally contacted to able maximum response. Due to this factor, data could be collected from 14 out of 20 libraries identified as using computer, 6 libraries did not respond.

Methodology used

The methodology used for the present study is questionnaire-based survey. The questionnaire consists of both open ended and close-ended questions and arranged according to the various aspects of investigation including staff, budget, circulation, bibliographic database, number of computer units, nature of computerization, software, networking etc.

The addresses of different institutions were collected through formal and informal sources. A shot structured questionnaire was sent to each of these institutions to ascertain whether these libraries have computers. Depending on the information collected, the libraries which are using computer were short-listed for further study. A detailed questionnaire was sent to each short-listed libraries to study the status of automation and understand the problems faced by them in automating their routine functions and services.

Analysis of Data

In the process of the above investigation, it is found that only 14(50%) out of 20 special libraries and information centers identified in Gwalior have opted for computerization as reflected in Annexue1.

The data collected from the 14 libraries shows that only 7(50%) libraries, namely MITS, IIITM, LNIPE, DRDE, IITTM, ITM and MPCT have been able to computerize their house-keeping activities and other services. The libraries of ACG, NITM, PCM, GMC, GEC, NRI and BCG, 7(50%) out of 14 libraries, have just initiated the process of computerization in their house-keeping activities.

Status of Automation

The seven libraries namely ACG, NITM, PCM, GMC, GEC, NRI and BCG, which have just initiated the process of computerization, have not been considered for the analysis.

House-keeping Activities

Computerized house keeping activities ensure efficient library services. Most of the libraries, in initial stage of their computerization, assign priorities on house-keeping activities, as these activities are most rudimentary to make the foundation of automation stronger and the success of other advanced services depends heavily upon these activities.

Table-1
Automation of House-Keeping Activities

Activities	LICs in Govt. Sector					LICs in Private Sector	
	MITS	IITTM	DRDE	LNIPE	IIITM	MPCT	ITM
Acquisition	Yes	No	No	No	Yes	No	No
Classification	No	No	No	No	Yes	No	No
Cataloguing	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Circulation	Yes	In Process	Yes	Yes	Yes	Yes	In Process
Serial control	Yes	Yes	Yes	Yes	Yes	Yes	No

Table-1 depicts the status of automation in basic areas of house-keeping operations. Its shows that all the 5(71.4%) libraries under Govt. sector and 2(28.5%) libraries under private sector have been able to computerize their cataloguing activities but only two library namely, MITS and IIITM are able to provide computerized its acquisition activities. It is further observed that the 2(28.5%) libraries namely, IITTM and ITM are going to computerized their circulation section.

Literature search Service

In today's research oriented and mission-oriented information age, the user enquiries are specific and involve extensive and intensive literature search. The time of the user is also utmost important. Literature search using manual method are very difficult, tedious and time consuming, if not impossible. Computerized storage and retrieval of information makes it faster and efficient. Table-2 depicts the use of computer for on-line, CD-ROM based, current and retrospective literature search, in libraries under consideration.

Table-2
Automation of Literature Service

Activities	LICs in Govt. Sector					LICs in Private Sector	
	MITS	IITTM	DRDE	LNIPE	IIITM	MPCT	ITM
On-line	Yes	Yes	No	Yes	Yes	No	No
CD-ROM based	No	No	No	No	Yes	No	No
Current	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Retrospective	Yes	No	No	No	Yes	No	No

Table-2 shows that, 4(59.2%) libraries under Govt. sector are providing on-line literature search, only 1(24.2%) library is providing CD-ROM based   depicts the use of computer for on-line, CD-ROM based, current and retrospective literature search, in libraries under consideration.

Repackaging Service
The main purpose of information services is to facilitate access or disseminate information in order to assist in problem solving and decision making. To meet these objectives, the emphasis has to be on tailoring the information services to meet the clearly defined and individual customer needs. Hence, information needs to be packaged in content, method of delivery, format and timing specially targeted at the end user.
Table-3 shows the status of automation of repackaging services, namely indexing, abstracting, compilation of bibliography and translation, in libraries under consideration.

Table-3
Automation of Repackaging Services

Activities	LICs in Govt. Sector					LICs in Private Sector	
	MITS	IITTM	DRDE	LNIPE	IIITM	MPCT	ITM
Indexing	Yes	No	Yes	No	Yes	Yes	No
Abstracting	No	Yes	No	No	No	No	No
Compilation of bibliography	Yes	No	No	Yes	Yes	Yes	No
Translation	No	No	No	No	No	No	No

Table-3 shows that 3(42.8%) libraries under Govt. sector, 1(14.2%) library under private sector provide indexing service, only 1(14.2%) library is provide abstracting service and 3(42.8%) libraries of Govt. sector provide bibliography compilation service. The IIITM library use MARC format for compilation of bibliography. None of the libraries provide translation services.

Reference Service
Technology has had major effect on the services that libraries provide. Automation has led to modification of traditional library services such as the substitution of electronic access to conventional tools for response to reference queries through e-mail. Automation has also led to introduction of new services like CAS and SDI.

Table-4
Automation of Reference Services

Activities	LICs in Govt. Sector					LICs in Private Sector	
	MITS	IITTM	DRDE	LNIPE	IIITM	MPCT	ITM
CAS	Yes	Yes	No	No	Yes	No	No
SDI	No	No	No	No	Yes	No	No
Reference queries	Yes	Yes	No	No	Yes	No	No
User study	Yes	Yes	No	No	Yes	No	No

Table-4 shows that only 1(14.2%) under Govt. sector, out of 7 libraries has been able to computerized all the above mentioned reference services. Its further shows that which areas of reference services, namely CAS, SDI, reference service and user study could be computerized in all libraries under consideration.

IT Facilities

Table-5
IT Facilities

Activities	LICs in Govt. Sector					LICs in Private Sector	
	MITS	IITTM	DRDE	LNIPE	IIITM	MPCT	ITM
LAN connectivity	Yes	Yes	No	Yes	Yes	Yes	Yes
Internet browsing	Yes	Yes	No	Yes	Yes	Yes	Yes
Library network	No	Yes	No	Yes	Yes	Yes	No
Computer training for staff	No	No	Yes	No	No	No	No

Table-5 depicts that, 5(71.4%) libraries of Govt. sector and 2(28.5%) libraries of private sector have provide intra organization LAN connectivity and Internet browsing services. But DRDE not provides these services. The MPCT-LIC is connecting with DELNET and only 1(14.2%) library provides training for library personnel.

Library Software

In response to an open ended query in the questionnaire, the data shows that all the above mentioned libraries are using various types of software package. The LNIPE and ITM use SOUL, MPCT use to Libsys and others are using local made library software packages developed on dBase or FOXPRO.

Problems of Automation

Every institution, faced problems before any new services are introduced and policies are implemented. In order to ascertain the problems which the librarians encounter in introducing automation, the respondents were asked to respond to the assorted problems of both pre and post automation according to the significance of the problems under five parameters, namel very low (VL), low (L), average (AV), high (H), and very high (VH).

Pre-Automation Problems

The pre-automation problems are the constraints faced by the libraries prior to automation of their house-keeping activities and services.

Table-6
Pre-Automation Problems

Problems	LICs in Govt. Sector					LICs in Private Sector	
	MITS	IITTM	DRDE	LNIPE	IIITM	MPCT	ITM
Paucity of funds for initiating computerization	VL	VL	VL	VL	VL	L	H
Lack of trained staff	VH	VH	VH	VH	L	H	VH
Hesitancy in learning computer	AV	L	VL	L	L	L	AV
Lack of administrative support	VL	VL	VH	VH	VL	VL	L
Lack of funds for recurring expenditure	VL	VL	L	VL	L	VH	H
Lack of space	VL	VL	VL	VL	VL	VL	VL

Table-6 reflects various problems faced by the libraries. It can be seen from the above table that all the 5(71.4%) libraries under Govt. sector do not face the paucity of funds for initiating computerization or for recurring expenditure, but both libraries of private sector do face these problem. Lack of trained staff is a major problem of all the libraries. Hesitancy in learning computer and lack of administrative support is not a major problem of the libraries but only two libraries namely DRDE and LNIPE do face the problem of administrative support. Lack of space is also not a problem any of the libraries.

Post-Automation Problems
Automation in the libraries is done with the main objective of improving user satisfaction and freeing the professional staff from the drudgery of routine jobs. Hence, it is necessary to ascertain whether the automated services are up to the satisfaction of the users and staff. It is also required to determine whether there are any software and hardware problems in implementing the automated system.

Table-7
Post-Automation Problems

Problems	LICs in Govt. Sector					LICs in Private Sector	
	MITS	IITTM	DRDE	LNIPE	IIITM	MPCT	ITM
Computerization not up to expectation of users	VL	VH	VH	H	VL	L	VH
Computerization not up to expectation of organization	VL	L	H	VL	VL	VL	L
Paucity of funds for improvement	L	L	H	VL	VL	H	H
Serious technical problems encountered	AV	VH	H	VH	L	H	VH
Paucity of funds for staff training	L	L	H	VL	VL	H	VH
Lack of attitude of authority for staff training	H	VL	VH	VL	H	L	AV
Library staff not willing to go for training	VL	H	L	L	L	VL	VL
Software is not user friendly	VL	H	VH	VL	VL	VL	L
Lack of awareness among users	L	AV	VL	L	L	VL	VL
Lack of standardization and incompatibility of hardware	VL	L	H	VL	L	L	L

Table-7 depicts the problem faced in post automation of the libraries. It shows that 3(42.8%) libraries under Govt. sector and 1(14.2%) library under private sector found the library software satisfaction but IITTM and DRDE did not find it up to their satisfaction. All libraries faced technical snags in implementation, which required the help of technical people from outside the library for rectification.

Prospects of Automation
Table –8 reflect the advantages of automation after computerization of libraries under study.

Table-8
Prospects of Automation

Problems	LICs in Govt. Sector					LICs in Private Sector	
	MITS	IITTM	DRDE	LNIPE	IIITM	MPCT	ITM
Economy in expenditure	L	H	AV	VL	VL	VL	H
Increased use of collection	VH	H	H	VH	VH	H	H
Increased productivity in terms of work output and information retrieval	H	H	AV	H	VH	VH	VH
Helped in extending library services	H	H	L	AV	H	H	AV
Enhanced the prestige of the library	VH	L	H	VH	VH	H	H
Increased user satisfaction	H	H	L	VH	VH	H	H

Table-8 show that, computerization has brought increased use of library collection in all the above mentioned libraries. It is found that all libraries feel that computerization has increased productivity in terms of work output and information retrieval and helped in extending library services. The libraries have, however, divided opinions about the other prospects of computerization like economy in expenditure, enhanced the prestige of the library and increased user satisfaction

Findings and Suggestions
Mostly all the libraries faced pre-automation and post automation problems. Lack of trained staff, Lack of administrative support and technical problems were the faced in the initial stage of automation. To overcome these problems,
- Computer training should be provided and made mandatory for all the library staff. This mode of training programme will help the staff to practice and assimilate more. At the same time, it will allow them to look after day-to-day work as well.
- In-service training, at regular intervals, should be provided to keep the staff abreast with the latest technology
- Vacant posts need to be filled up and new posts should be created as per requirement.
- Other than the library staff, one computer trained staff i.e. B.E. or M.C.A. should be appointed as information Scientist/Computer In-charge, to look after automation work and trouble shoot day-to-day problems of computerization. Also, at least one computer operator should be provided for data entry purpose.
- IT based LIS education at B.L.I.Sc. and M.L.I.Sc. level is a must. Two major problems faced by the libraries were *Serious Technical Problems*, related to software and hardware encountered during installation and working requiring outside technical help, and Lack of Staff leading to hindrance in computer training of staff. To overcome these problems.
- Emphasis should be on buying standard Library Management Software like LIBSYS, ALICE, and SOUL etc. as they are found to be more satisfactory. Also these softwares allow data entry in standard forms like CCF, MARC etc. Hence there will be no incompatibility problems at the time of networking and resource sharing.
- User education should be provided to make the user aware of the library collection as well as the services. User should also be given training so that he can handle the computerized system independently.

Automation increased the use of collection through improved information retrieval and thus increased user satisfaction. It has help in extending library services and enhanced the prestige of the library. It has also helped in resource sharing through networking.

Conclusion

The special libraries and information centers of Gwalior are still in the state of infancy with regard to automation. However, 50 per cent of special libraries opting for automation show that the libraries have a mind to adapt to the new changes and the other libraries will follow the suit. Libraries and information centers have embraced the new information technology more profoundly than other fields and most of them are currently using electronic products and services. The impact of automation on library is quite obvious as it has created new type of work, prompted redefinition of certain functions, influenced interpersonal relations, and transformed traditional organizational structure into new institutional entities.

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Annexture-I

In survey, 20 special libraries and information centers were identified, out of which 7 libraries have able to computerize their house-keeping activities and other services. The names of these libraries are listed below:

1. Madhav Institute of Technology and Science (MITS)
2. Indian Institute of Information Technology and Management (IIITM)
3. Laxmi Bai National Institute of Physical Education (LNIPE)
4. Defence Research Development Establishment (DRDE)
5. Indian Institute of Tourism and Travel Management (IITTM)
6. Maharana Pratap College of Technology (MPCT)
7. Institute of Technology and Management (ITM)
   The names of the rest 13 special libraries those yet to start automation are listed below:
1. Gwalior Engineering College (GEC)
2. Central Potato Research Institution (CPRI)
3. NRI Institute of Technology and Management (NRIITM)
4. Boston College Gwalior (BCG)
5. Birla Institute of Medical Research (BIMR)
6. Institute of Advance Technology and Science (IATS)
7. Govt. Women Polytechnic College (GWPC)
8. Institute of Hotel Management Catering Technology and Applied Nutrition (IHMCTAN)
9. Shri Ram College of Technology and Management (SRCTM)
10. Prestige College of Management (PCM)
11. Agriculture College of Gwalior (ACG)
12. Gajraraja Medical College (GMC)
13. Nagaji Institute of Technology and Management

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