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Impact of automation on library services in selected management institutes at Aligarh

A survey

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Abstract

Purpose – The purpose of the study is to investigate the impact of automation on library management services of four selected management institutes at Aligarh.

Design/methodology/approach – The investigators used a fashioned questionnaire and informal interviews. They chose samples on the basis of a stratified sampling method and administered the questionnaire according to a random method for collecting the data.

Findings – The study revealed that 3 of 4 libraries are partially automated, with the exception of Al-Barkaat which is completely automated. Seventy per cent of librarians believe that automation has improved their library's services, while 85 per cent of users believe that an automated library system is better than the traditional manual system. Of the four libraries, three have a shortage of general staff and three also lack qualified specialized staff to deal with automation.

Research limitations – The investigators could only select four management institutes because of time and logistic constraints, despite Aligarh being the educational hub of western Uttar Pradesh.

Originality/value – Although many studies of the same kind have already been conducted on library automation in different areas of world, this paper revealed the current status of automation in libraries of selected management institutes at Aligarh.

Keywords India, Library automation, Aligarh, Management Institute

Paper type Research paper

1. Introduction

In the computer age, information must be accurate and thorough in the pursuit of knowledge, but the growth and complexity of technical information in all facets of

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engineering and technology pose a problem in the accumulation, storage and dissemination of information. With the introduction of computers and information and communication technology tools, libraries are on the threshold of automation which will enhance standard services. It is with this in mind that an increased emphasis has been placed on comprehensive and accurate information to ensure quality services are available.

According to the Webster's online dictionary, *automation* is the method or system of operating or controlling a process by highly automatic means, as by electronic devices, reducing human intervention to a minimum. At Aligarh, the scientific and technical libraries working under research and development institutions, such as the Council for Scientific and Industrial Research, the Indian Council of Medical Research, the Indian Council of Agricultural Research and the Defence Research and Development Organization, have taken the lead in library automation. Notable among the public sector libraries are Bharat Heavy Electricals Limited Research and Development and the Steel Authority of India Limited (Vyas, 1997).

When computer and information technology are used in library operations, such as for acquisition, cataloguing, circulation and serial control, it is considered an automated library (Ahmad and Iqbal, 2009). Library automation is rapidly becoming an essential tool in support of effective customer services, stock management and management of services offered by libraries (Rai and Kumar, 2011).

2. Management institutes in the study

For this study, the investigators have selected four professional management institutes because these management institutes are the only ones to have taken some initiatives regarding automation at Aligarh. Other institutes in that geographical area have not made any initiatives towards automation.

2.1 Al-Barkaat Institute of Management Studies, Aligarh

The Al-Barkaat Educational Society established the Al-Barkaat Institute of Management Studies (ABIMS) in 2004. The ABIMS Library has a collection of approximately 4,900 books on management topics, and the library publishes its own journals related to the field and subscribes to prominent national and international journals. The ABIMS Library uses *Alice for Windows* (AFW) automation software, providing the latest and up-to-date reading, research and reference materials in print, as well as information in CD-ROM format.

2.2 Shivdan Singh Institute of Technology and Management, Aligarh

Established in 1997, the Shivdan Singh Institute of Technology and Management (SSITM) amassed a large collection of information focusing on management, pharmacy and engineering. The library has approximately 8,650 management books, booklets and manuals. The SSITM adopted the *NETLIB* software for library automation. In addition, the institute subscribes to national and international journals and newsletters related to technology, computers and many other significant subjects.

2.3 Vivekananda College of Technology and Management, Aligarh

Vivekananda College of Technology and Management (VCTM) started in 2008-2009 with an emphasis on technical education in an atmosphere conducive to higher education and maintains an open-door policy to highly motivated students. The college

has a spacious, air-conditioned library that accommodates approximately 100 students and offers a comprehensive collection of > 3,170 books on management. The VCTM is using *TechLib7* library software for the smooth functioning of the library.

2.4 Institute of Information Management and Technology, Aligarh
The Institute of Information Management and Technology (IIMT) was opened in 2000, with limited programmes in management and computer application, but now offers a bachelor of education degree. The IIMT has a digital library stocked with a large collection of books, journals and periodicals, newspapers, audiocassettes and compact discs. The library has > 2,450 books, subscribes to at least 30 journals and magazines on management topics and uses the *TechLib* software for library automation.

3. Library automation software packages

There are many proprietary library management software packages available in the market. Some of the more popular include those described below.

3.1 Alice for Windows
AFW is an integrated library and information management system that brings powerful automatic document and resource control, and assists in the management and control of library functioning. It is an international software package of Softlink International Company. Over the last 25 years it has grown and achieved the status of leading library automation software of the world.

3.2 NETLIB
It is an integrated multi-user library management system that supports all in-house operations of the library. *NETLIB* consists of modules on acquisition, cataloguing, circulation, serials, article indexing and online public access catalogue (OPAC).

3.3 TechLib
It is an ILS software that performs all the operations and activities of a library, supports the OPAC, catalogue maintenance, circulation, serials management, acquisition, processing and MARC cataloguing. It is developed by Information Dimension Inc. (IDI) in Dublin, Ohio, USA.

3.4 LIBSYS
It is an integrated library management system software and is a product of LIBSYS Ltd., New Delhi. It supports acquisition, cataloguing, circulation, serials, article indexing, Web-OPAC and report modules.

3.5 VIRTUA
It is an integrated library system software that has been developed by Virginia Tech Library System Inc., Virginia. The various modules of *VIRTUA* are: acquisitions and fund accounting, cataloguing, circulation, serials control, OPAC, and statistics and reporting.

4. Review of the literature

The review of related studies is essential in any new research topic and the establishment of any research foundation. Kumar (2003) studied the automation processes of four university libraries in Haryana. The study's major objectives were:

- to highlight the history of each library's automation process;
- to know which hardware and software packages are in use;
- to discover which function and services have been or are being automated by each; and
- what has been the impact of automation and what, if any, impediments have been confronted.

The study concluded that all libraries have automated a number of activities and have used different facets of automation. There has been a tremendous improvement in library services and, ultimately, the systems will be completely electronic.

Thapa and Sahoo (2007) surveyed several libraries in Bhopal to understand the problems imposed by automation in contrast to routine activities used in other libraries. Questionnaires were distributed among 16 libraries in Bhopal. Results indicated that 15 libraries encountered pre-automation problems, with the 16th library reporting that, to date, it had encountered no problems. Thirteen libraries surveyed, however, did report post-automation difficulties while four experienced no trouble. Overall, 14 libraries said that automation has been a significant benefit to their operation. In 2005, Suku and Pillai (2005) conducted a comprehensive survey of automation's impact on every library in Kerala. The survey indicated that the libraries' computerization activities in some libraries were progressing slowly. The activities studied included information technology infrastructure, in-house activities, information services and usage, manpower development and budget. The paper briefly describes the role of the INFLIBNET Centre in accelerating the automation activities of university libraries. Ghanaian libraries were studied by Amekuedee (2005) who conducted a study to determine and evaluate library automation in selected Ghanaian university libraries. The author covered the areas of general automation, automation of specific library processes, networking, Internet connectivity, training and major constraints. He discovered that most of the libraries are hampered by lack of funds, lack of support from the university administration and lack of skilled staff to embark on automation of all libraries. It was also revealed that none of the libraries have on OPAC system.

Sani and Tiamiyu (2005) created a questionnaire and interviewed administrators, teaching/non-teaching staff, students and researchers in the universities to evaluate the automated services in selected Nigerian universities. It was found that automated services were far from adequate and that, of the 29 different automated services that one would expect in a modern university, only about 40 per cent were available and utilized. Federal universities that had enjoyed higher levels of funding for automated systems had higher output of automated services than the non-federal universities. Major obstacles militating against the automated services in the universities included inadequate funds, interrupted electricity supply and telecommunications connectivity, as well as inadequate levels of trained manpower to manage and administer the automated systems. Respondents were marginally satisfied with the services of the

computerized accounting system and the management information system-related databases, but were very dissatisfied with the level of automated library services.

Ahmad and Iqbal (2009) presented a case study of the ABIMS, focusing primarily on implementation of library automation of its institute's library. The study also discussed why Al-Barkaat Educational Society established the ABIMS, why they chose *Alice for Windows* library software for its library automation and provided a detailed overview of various modules of AFW library software.

Ossai-Ugbah (2010) administered a questionnaire to students, and found that the majority of the users agreed that there is a significant relationship between educational academic exposure to the use of automated library services and that they were satisfied with these automated electronic library services. However, the major constraints identified by the respondents were slow Internet speed, and that access to automated library facilities were not up and running at all times to meet the varied time students prefer to browse the Internet. The research recommended institutions enlarge their Internet bandwidth and make it available any time of day or night so students are free to make use of it.

Jayaprakash and Balasubramania (2011) created and administered a questionnaire designed to investigate automation in university libraries in Tamil Nadu, India. The authors concluded that automation is essential for efficient library operations and to help save library users' time. The questionnaire results also explained the problems imposed by authorities and staff during and after the automation process.

5. Objectives of the study

The primary objective of the study is to investigate the impact of automation on library management services at Aligarh. The other objectives of the study included:

- To know the starting year and present status of automation in management institute libraries.
- To discover automation's impact on the housekeeping area as well as overall services of management libraries.
- To determine the various software packages needed by management institute libraries for automation.
- To recognize the barriers to automation confronting library managers.
- To identify library functions and services being automated in management institute libraries.
- To realize the users' opinions, awareness and satisfaction regarding automated systems in management institute libraries in Aligarh.

6. Hypothesis

Most of the management institute libraries in Aligarh are automated and most users are satisfied with the services and facilities provided by the management institute libraries in Aligarh.

7. Methodology

The present study is being conducted on a sample of 100 users of four selected management institute libraries in Aligarh. The methods used included questionnaires and informal interviews of librarians. The investigators choose the sample on the basis

of a stratified sampling method and administered the questionnaire according to a random method.

8. Scope and limitation of the study

Aligarh, one of the educational hubs of western Uttar Pradesh and the north-central zone of India, caters to the needs of the students of various strata in numerous fields of education. Despite the rich educational services in the region, the investigators could select only four management institutes because of time and logistic constraints.

9. Analysis and interpretation

One hundred questionnaires were administrated among management students attending the four institutions because the numbers of seats for business management students are the same in each institution.

9.1 Year of starting automation

Table I indicates that SSITM was clearly the first to initiate library automation in the area and VCTM was the last of the four.

9.2 Present status of automation

Table II indicates that of the four libraries surveyed, three indicated that automation implementation is underway but incomplete. The ABIMS Library claims that their automation work is complete.

9.3 Impact of automation on library services

Table III indicates that three librarians believe automation has helped enhance the efficiency of library services. The fourth librarian said that automation has had only a slight impact on the efficiency of library services.

9.4 Type of library automation software

Table IV reveals that none of the libraries surveyed are using open or free software or in-house software for library automation. All four, however, are using various licensed or purchased software for automation work. ABIMS is using *Alice for Windows*, SSITM is using *NETLIB*, VCTM is using *TechLib7* and IIMT is using *TechLib* library software.

Serial number	Name of institute	Year
1	ABIMS	2006
2	SSIMT	2004
3	VCMT	2008
4	IIMT	2007

Table I.
Year of starting automation

	Number of respondents				
Category	ABIMS	SSIMT	VCTM	IIMT	Total (per cent)
Completed	Yes				1 (25)
Partially completed		Yes	Yes	Yes	3 (75)
At initial stage					0

Table II.
Present status of automation

9.5 Barriers to automation

Table V reveals that the four libraries are facing the problem of space, whereas two face funding problems. There are shortages of staff in two libraries, and three report that users lack the necessary knowledge to use the automation. Lack of coordination and skills was reported in one, but all four have experienced no interference and no library faced problems from higher authority.

9.6 Status of automation of various sections of the library

Table VI indicates that three of the four libraries' acquisition sections are fully automated and one is partially automated. Technical sections in two libraries are fully automated and two are partially automated. Circulation sections of two libraries are fully automated, one is partially automated and the remaining library was in the initial stage of automation. The periodical section of one library is fully automated, two are partially complete and the other is in the initial stage of implementation. In the ABIMS, all sections of the library are automated.

9.7 User opinion about the library system

Table VII reveals that among 80 respondents, 68 said they believe that the automated library system is better than the manual system and 12 favoured the manual system.

Table III.
Impact of automation on library services

	Number of respondents				
Category	ABIMS	SSIMT	VCTM	IIMT	Total (per cent)
Slightly improved		Yes			1 (25)
Improved	Yes		Yes	Yes	3 (75)
Deteriorated					0
Remain same					0

Table IV.
Type of library automation software

	Number of respondents				
Category	ABIMS	SSIMT	VCTM	IIMT	Total (per cent)
Open/free					0
In-house					0
Purchased/licensed	*Alice for Windows*	*NETLIB*	*TechLib7*	*TechLib*	4 (100)

Table V.
Barriers to automation

	Number of respondents				
Category	ABIMS	SSIMT	VCTM	IIMT	Total (per cent)
Insufficient funds		Yes	Yes		2 (50)
Inadequate staff	Yes		Yes		2 (50)
Lack of staff coordination and skills				Yes	1 (25)
Lacks of used information technology knowledge	Yes	Yes	Yes		3 (75)
Problem from authority					0 (0)
Lack of space	Yes	Yes	Yes	Yes	4 (100)

9.8 Awareness of library services

Table VIII indicates that 71 users were aware of a circulation service and 34 reportedly indicated an awareness of periodical service. There were 26 users who said they were aware of reference service, 33 were aware of OPAC service and 16 users revealed awareness of online journals.

9.9 Satisfaction with the overall function of management libraries

Table IX revealed that 32 users were partially satisfied with the overall functions of management libraries, whereas 28 were completely satisfied with the overall functions of management libraries. Twenty users were not satisfied with the overall functioning of management libraries. The satisfaction level was highest in the ABIMS and lowest in IIMT.

9.10 Staff availability

Table X depicts that out of all four libraries, three were facing a shortage of general staff and one had sufficient general staff. Three libraries reported the need for specialized staff for automation work and only one had sufficient specialized staff for automation.

Table VI. Status of automation of various sections of the library

Category	ABIMS F	ABIMS P	ABIMS I	SSITM F	SSITM P	SSITM I	VCTM F	VCTM P	VCTM I	IIMT F	IIMT P	IIMT I	Fully (per cent)	Total Partial (per cent)	Initial (per cent)
Acquisition	√			√			√				√		3 (75)	1 (25)	
Technical	√			√				√			√		2 (50)	2 (50)	
Circulation	√				√				√	√			2 (50)	1 (25)	1 (25)
Periodical	√					√			√		√		1 (25)	2 (50)	1 (25)

Table VII. User opinion about the library system

Category	Number of respondents ABIMS (per cent)	SSITM (per cent)	VCTM (per cent)	IIMT (per cent)	Total (per cent)
Automated	18 (90)	17 (85)	16 (80)	17 (85)	68 (85)
Manual	2 (10)	3 (15)	4 (20)	3 (15)	12 (15)
Total	20 (100)	20 (100)	20 (100)	20 (100)	80 (100)

Table VIII. Awareness of library services

Category	Number of respondents ABIMS (per cent)	SSITM (per cent)	VCTM (per cent)	IIMT (per cent)	Total (per cent)
Circulation	19 (95)	17 (85)	18 (90)	17 (85)	71 (88.75)
Reference	8 (40)	6 (30)	5 (25)	7 (35)	26 (32.5)
Periodical	10 (50)	8 (40)	7 (35)	9 (45)	34 (42.5)
Online journal	6 (30)	8 (40)	0 (0.00)	2 (10)	16 (20)
OPAC	16 (80)	10 (50)	6 (30)	1 (5)	33 (41.25)

9.11 Satisfaction with Internet speed and connectivity

Table XI reveals that two librarians were satisfied with the speed and connectivity of Internet services available in their library, while two librarians were not satisfied.

10. Findings

Based on the analysis of the results of the survey, one can conclude that:

- All the management institutes began their automation work in or after 2003 (Table I). In the selected geographical area, automation work was initiated by the central library of Aligarh Muslim University in the beginning of the twenty-first century. Taking into account the improvement in quality of library services, some private institutions have taken the initiative to automate their libraries.
- The study revealed that 75 per cent of libraries are partially automated, with the exception of the ABIMS which is completely automated (Table II). In spite of having automation software, the majority of libraries are only partially automated. The main reason behind this seems to be lack of trained staff and sufficient funds.
- Of the librarians, 75 per cent believe that automation has improved their library's services (Table III). Automation saved a lot of time per user as well as staff for providing the information. The librarians in the informal interview expressed their views that automation has reduced their work load, saving them time and labour. Users also accepted that automation has improved the quality of library services and saved them time.

Table IX.
Satisfaction with the overall function of management libraries

Category	Number of respondents ABIMS (per cent)	SSITM (per cent)	VCTM (per cent)	IIMT (per cent)	Total (per cent)
Satisfied	10 (50)	6 (30)	7 (35)	5 (25)	28 (35)
Partially satisfied	6 (30)	8 (40)	8 (40)	10 (50)	32 (40)
Not satisfied	4 (20)	6 (30)	5 (25)	5 (25)	20 (25)

Table X.
Staff availability

Category	ABIMS Yes	ABIMS No	SSIMT Yes	SSIMT No	VCMT Yes	VCMT No	IIMT Yes	IIMT No	Total Yes (per cent)	Total No (per cent)
General staff		√	√			√		√	1 (25)	3 (75)
Specialized staff	√			√		√		√	1 (25)	3 (75)

Table XI.
Satisfaction with Internet speed and connectivity

Category	ABIMS	SSIMT	VCTM	IIMT	Total (per cent)
Satisfied	Yes		Yes		2 (50)
Not satisfied		No		No	2 (50)

- All libraries are using various purchased licensed software for library automation, including services such as *Alice for Windows*, *NETLIB*, *TechLib7* and *TechLib* (Table IV). Although there are many open-source software available on web, they are using proprietary software for library automation mainly because of the availability of technical support and user friendliness of the software.
- All four librarians surveyed expressed a need of greater space, while 50 per cent said they lack adequate funding and need additional staff (Table V). As these private institutions have not received any financial assistance from the government, they do not pay much attention towards the development of libraries.
- Of the surveyed libraries, 75 per cent have fully automated acquisition section, and only 50 per cent have fully automated technical and circulation section (Table VI). This indicates that there may be a lack of skilled staff. Most of the library staff members are older and not technically astute in automation processes. Therefore, they are not willing to agonize over library automation to speed up library services.
- Of the surveyed library users, 85 per cent realized that an automated library system is better than the traditional manual system (Table VII). So we can say that automation has helped library users to get the right information at the right time.
- Seventy-five per cent of the users are satisfied with the overall function of management libraries (Table VIII). Thus, these automated libraries are able to serve users educational needs satisfactorily, and also provide good reference and referral services through cooperative staff members.
- Of the four libraries, three have a shortage of general staff and three also lack qualified specialized staff to deal with automation (Table IX). These institutions are avoiding hiring qualified staff to save money.
- Two of the librarians are satisfied with the speed and connectivity of Internet services available in their libraries, while two of them are not satisfied (Table X). Internet connectivity can play a major role in providing the right information to the right user. Because Internet connectivity in the selected geographical area is still in the developing stages, the speed of acquiring information suffers because of the slow Internet connectivity.

10.1 Tenability of hypotheses

The tenability of hypotheses can be checked in the light of the above findings.

H1. Most of the management institute libraries in Aligarh have automated their services.

The study reveals that (Tables I and II) almost all the libraries in the management institutes in Aligarh are fully automated or under the process of automation. Most of the sections of these libraries are automated. Thus, the hypothesis proved to be true.

H2. Most of the users are satisfied with the services and facilities provided by the management institute libraries in Aligarh.

The study shows (Table IX) that the majority of respondents are satisfied with the overall functioning of management libraries, with only 25 per cent expressing dissatisfaction. The hypothesis, therefore, is true.

11. Suggestions

Some suggestions for libraries, based on the study's results, include:

- SSITM, VCTM and IIMT should complete the automation process of their libraries as soon as possible to provide users with a higher quality of service.
- User education/orientation programmes should be conducted regularly to familiarize users on the various types of modern information services and how to put the library resources to optimum use.
- Users should be made more aware of the new facilities available in the management libraries.
- A sufficient number of qualified library staff should be available to ensure that the new system functions effectively and to provide efficient guidance to users.
- Libraries should offer Internet services so that users can access information around the clock.

12. Conclusion

The study sought to examine the impact of automation on library services of selected management institute libraries in Aligarh by taking samples from management students who are pursuing MBA courses and by chief librarians of four management institutes.

The study demonstrated how automation of libraries of new professional institutes are functioning in an effort to meet at least the minimum requirements necessary to facilitate the users' extensive and complex informational needs and demands. Overall, it is a well-established fact that the library and information system is the essence of any institute and needs to be strengthened through automated libraries – assuring that in this dynamic era of vast informational needs, the right information is given to the right person at the right time.

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