



CURRENT TRENDS OF LIBRARY AUTOMATION ACADEMIC LIBRARY IN BANGLADESH: A CASE STUDY ON RAJSHAHI UNIVERSITY CENTRAL LIBRARY

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| Abstract

This research focuses on current trends in library automation at Rajshahi University Central Library. This research tries to find out the status of RUCL's various work sections and services. The work is confined to one university library in Bangladesh. It tries to investigate different aspects and functions. Finally, the work found some problems and suggestions for the Rajshahi University central library automation system. This study provides a bird's-eye view of automation systems. Rajshahi University central library view, but don't give a total idea on library automation system in Bangladesh.

| Keywords

Library Automation, Academic, Computer, Hardware, Software, System Application

| Article Information:

Accepted: 20/03/23

Published: 01/04/23

DOI: <https://doi.org/10.60087/px37mc78>

Introduction

Now we live in information-based society. Library is the storehouse of all information. An institution is complete if this institution use a sound and effective information and communication technology. A library is a main factor to the literate society and impact a central position in higher education. The tradition of libraries concept in Bangladesh is not new. The truth is that, a quality education cannot be run without use ICT in a library. However, the university library should be the center of all activities of a university. The center of all activities of a university. The university of Rajshahi Library started in 1953. It is the ancient and biggest library in Bangladesh. This library is biggest library in South Asia. Library is a treasure house of rare books, manuscripts and period ideals. It also attempts to stock the latest books and periodicals published in Bengali and in English. Most of the university libraries in the country are still providing traditional type of services to their users. But the pleasure fact is that, Rajshahi University Central Library provides automation based library activities and ensures the latest library services to the users.

We are very hopeful that if the authority and the Government be aware, it is possible to highlights that the Rajshahi University Central Library is the model of a modern and up-to date library.

Statement of the problem

In the age of information explosion, libraries and information resource centers have become multimedia centers due to adoption of new technological devices and changing nature of their information storage,

retrieval and services. During the last 25 years, the computers and telecommunication technologies began to build up an information society, which has crossed the geographical limitations and has provided facilities to access into global information systems. As a result, nature of modern librarianship has changed considerably with the advent of new technologies.

Digital library, virtual library, library automation are very common terms in present world. Bangladesh is not far behind regarding these applications. Countries leading academic and special libraries are running now fully or partially automation system. For issuing books, journals, CD-ROMs and other reading materials check out and check in have been introduced. Automatic prescribed request form, SMS library service through cell phone, telephonic library service and response to any queries are no more dreams now.

Though library automation has become an old topic in developed countries, it is still a new and emerging issue in our society. A few libraries have started using computers in their institutions. But the present condition of library automation in Bangladesh is still in its infancy. Many people related to this field do not have a clear concept about the term 'Library Automation'.

Automation is the technology concerned with the design and development of process and system that minimize the necessity of human intervention in operation. Knowledge is growing rapidly; libraries are procuring the large amount of various collections like books, periodicals, e-resources & non-book materials to fulfill the needs of the library users.

Library automation is to prepare a database for library collections to proper organizing, retrieving the information & providing the information to the users within the time.

Objectives

Every research work has some vital objectives. This study reviews the extent of automation application in Rajshahi University Central Library. The main objectives are

- To find out the present situation of automation system as well as overall trends of Rajshahi University Central Library
- To explore the problems hindering library automation faced by the library authority.
- To recommend some solutions of the problems faced by the library. Besides some solutions are given for adoption of new computer technologies as well as to improve the automation system of the library.

Scope & Limitations of the study

The title of this research work is "Current trends of library automation in Bangladesh: A case study on Rajshahi University Central Library . This work is limited into only one university library.

As the researcher is a new one-research fellow of research field, the study has certain mistakes and limitations, like-lack of time, money, prior and experience.

Methodology

The research method is followed for this research case study. Basically the researcher use structured questionnaire including both open and close ended questions to collect information from the Rajshahi University Central Library. Personal interview with library professionals and field visits to library were undertaken for the collection of information . The researcher also use some primary and secondary sources like books, journals, research articles, etc.

Literature Review

A literature review is a text written by someone to consider the critical points of current knowledge including substantive findings, as well as theoretical and methodological contributions to a particular topic. According to Bruce- "The review forms an important chapter in a thesis where its purpose is to provide the background to and justification for the research undertaken." It is the most crucial part for conducting any research. It is secondary source and as such do not report any new or original experimental work. According to Cooper- "A literature review uses as its database reports of primary or original scholarship and does not report new primary scholarship itself." A literature review can be interpreted as a review of an abstract accomplishment. Its main goals are to situate the current study within the body of literature and to provide context for the particular reader.

Haravu (2004) wrote a book entitled 'Library Automation: Design, Principles and Practice'. In which he explained the history and development of library automation systems as a background to an extensive analysis of each single methodology behind establishment library automation. He not only illustrated the automation of acquisition, cataloguing, circulation control and serials in depth, but also dedicated a chapter each on file and data structure and how to optimize critical single aspects of these individual key systems. Riaz (1992) made a focus on "Library Automation" where he explained as the computer facilities began to proliferate and became cost effective, the library administrators started thinking in term of utilizing computers to help process unprecedented flood of literature. He also identified the use of computers with different technologies in different areas of library and information centers.

Rao (1996) brought out a book entitled "Library Automation" where he said information technology in general and computer technology in particular has been the indication of library and information systems and services. They have helped in speeding up and precision of information collection, processing and distribution. Also the development of microcomputers coupled with telecommunication technology has helped compressed and portable development of information systems.

Concept of Library

Library is a social institution charged with the function of proper using and disseminating human culture civilization. It is one of the important media for mass communication and an agency which plays an effective role in the society, so that a bright, brave and prosperous would come into being. Once upon a time library was regarded as a store house and books were meant for preservation, the librarian was supposed to be a custodian, who did not encourage the use of books. The readers were expected to use the library on their own. At the most if a reader asked for a book then so called librarian would pass on the book and leave him above. As far as possible a librarian kept out of the way of the readers libraries tended to be passive and archival institutions. Perhaps, there was not enough incentive for them to become of name. Now a day's library with a fem conception is regarded as a science institution. However, the name library comes from the Latin word librarian which in turner comes from liber meaning a book in the literal or general sense a library is a room or a building where a collection of books periodicals manuscripts and other materials are kept for use but not for sale or show. Its main aim is to enable the users to make the most effective use of the resources and services of libraries.

Library Automation

The word "automation" has been derived from Greek word "automose". It means which as power of spontaneous motion or self-movement. The term "automation" was first introduced by D.S. Harder in 1936. Various definitions of automation:

According to Wikipedia, Automation or automatic control is the use of various control systems for operating equipment such as machinery, processes in factories, boilers and heat treating ovens, switching in telephone networks, steering and stabilization of ships, aircraft and other applications with minimal or reduced human intervention.

Data Analysis

Table 1: Automated Sections at Rajshahi University Central Library

SI NO	Module	Year
1	Catalog	2013
2	OPAC	2013
3	Circulation	2015
4	Acquisition	N/A
5	Serials Control	N/A
6	Report	2014
7	Patron Management	2014

Table 1 presents the automated sections at Rajshahi University Central Library. It shows that most modules are automated, except for the Acquisition and Serials Control sections.

Table 2: Acquisition System Features at Rajshahi University Central Library

SI NO	Features	Yes	No
1	Detailed annual budget		Yes
2	Selection process	No	Yes
3	Approval process	No	Yes
4	Order process	No	Yes
5	Standing order	No	Yes
6	Receiving process	No	Yes
7	Invoice process	No	Yes
8	Payment process	No	Yes
9	Reminders to vendor process	No	Yes
10	Accessioning process	No	Yes
11	Routing and Bindery preparation	No	Yes
12	Print of Accession register	No	Yes
13	Data conversion in Standard format (ISO 2709)	No	Yes
14	Communication through Email to the vendors	No	Yes
15	Print of Accession register	No	Yes

Table 2 analyzes the features of the Acquisition System at Rajshahi University Central Library. It indicates that most features are not utilized, and the library collects resources manually from vendors.

Table 3: Circulation Section Features at Rajshahi University Central Library

SI NO	Features	Yes	No
1	Registration of users	Yes	
2	Collection of Library Fee	Yes	

3	Collection of Library Deposit	No	Yes
4	Print of Member Id Card	No	Yes
5	Print of Bar Code for Member Id Card	No	Yes
6	Calendar for fine calculation and adjusting loan periods for holidays	Yes	
7	Renewal of Memberships (continuation)	Yes	
8	Issue/Return of items	Yes	
9	Issue/Return of Items using Barcode scanner	Yes	
10	Renewal of Items	Yes	
11	Reservation of items	No	Yes
12	Reminders to the users	Yes	
13	Issue of No-due certificate	Yes	
14	Reporting of Missing of items	Yes	
15	Reporting of Lost items	Yes	
16	Inter Library Loan (ILL) service for borrowing	No	Yes
17	Inter Library Loan (ILL) service for Lending	No	Yes
18	Maintenance of withdrawal items	Yes	
19	Sending Notices by Email to the users	Yes	

Table 3 outlines the features of the Circulation Section at Rajshahi University Central Library. It reveals that most features are in use, except for Collection of Library Deposit, Printing Member ID cards, Printing Bar Code for Member ID cards, Reservation of items, Inter Library Loan services for borrowing and lending.

Table 4: Cataloguing Section at Rajshahi University Central Library

SI	Statement	YES	NO	Amount
1	Books	Yes		1 lac 20 thousand +
2	Journals	Yes		50 Thousand +
3	News clippings	Yes		
4	Audio-cassette	No		
5	Video-Cassette	No		
6	Reports	YES		
	(Library of Congress) developed and providing freely to download to create MARC records or edit MARC records. By using Z39.50 it's possible to retrieving the required records data from other library databases. Rajshahi University Central Library download the MARC records from the Library of Congress, WorldCat, etc. by using Z39.50 and cataloging code is AACR-2.			
	Table -4 presents that Rajshahi			

	University Central Library has 1 lac			
	20 thousand + books, 50 Thousand +			
	Journals which cataloging code is			
	AACR-2 with MARC 21 format. News			
	clipping and report cataloging is under			
	processing			

Table 4 details the Cataloguing Section at Rajshahi University Central Library, indicating the types of materials cataloged and the amount of each. It also highlights the use of Library of Congress records and the cataloging code AACR-2.

Table 5: Usage Study in Serials Control Module

SI NO	Features	Yes	No
1	Detailed annual budget		No
2	Selection process		No
3	Approval process	No	
4	Subscription process		No
5	Receiving of Titles process		No
6	New order process		No
7	Renewal Process (continuation of Titles)		No
8	Standing order		No
9	Invoice process		No
10	Payment process		No
11	Check-in process for Title		No
12	Reminder to Publishers/Suppliers		No
13	Print of Accession register		No
14	Print of Invoice register		No
15	Bindery — preparation		No
16	Bindery — order process		No
17	Article Indexing		No
18	Communication through Email to the vendors		No
19	Title History — Change, Split, Merge etc.		No

Table 5 presents an analysis of the features in the Serials Control Module at Rajshahi University Central Library. It indicates that none of the features are currently in use.

Table 6: Patron Management

SI	Features	Yes	NO
1	Users registration with date of joining	Yes	
2	Period of membership expiry and borrowing	Yes	
3	Predefine expiry date for specific users	Yes	
4	Login access with user ID & password	Yes	
	to view account from OPAC page.		

Table 6 illustrates the Patron Management features at Rajshahi University Central Library, showcasing the functionalities related to user registration, membership expiry, and login access.

Table 7: Report Management

SI	Features	Yes	NO
1	Accession list	Yes	
2	Item-wise stock list	Yes	
3	Day-wise check-out items list	No	
4	Overdue list day-wise or for a particular period.	No	
5	Not borrowed users list	No	
6	Total borrowers list	No	
7	Most issued items	No	
8	Most borrowed user	No	
9	Not circulated items list	No	
10	Reserved items list	No	
11	Without subject items list	No	
12	Subject-wise list	Yes	

Table 7 outlines the Report Management features available at Rajshahi University Central Library, specifying which functionalities are in use.

Table 8: OPAC Features

SI	Features	YES	NO
1	Search the catalogue for new arrivals	Yes	
2	Search within the selected item type	Yes	
3	Reserve an item	Yes	
4	Suggest a book for procurement	Yes	
5	Know the status of an item	Yes	
6	Reading history of their account at library	No	
7	Prepare a selected reading list	No	

Table 8 highlights the features available in the OPAC (Online Public Access Catalog) system at Rajshahi University Central Library, indicating which functionalities are not currently available.

Table 9: Automated Services

SI no	Services	Yes	No
1	Do you print added subject headings?	Yes	
2	Does your library print automated catalog card?	Yes	
3	Does your library print shelf list?	Yes	
4	Does your library print spine label?	Yes	
5	Does your library print Bar Code label for items?	Yes	
6	Do you use standard data conversion format (ISO 2709)?	Yes	

7	Do you use Z39.50 Protocol?	Yes	
8	Do you use metadata to catalog electronic resources?	Yes	

Table 9 outlines the automated services provided at Rajshahi University Central Library, indicating whether each service is in use or not.

Findings

Rajshahi University Central Library has used the Catalogue module since 2013, OPAC module since 2013, Circulation module since 2015, Report management since 2014, and Patron management since 2014, but Serial Control and Acquisition modules are not used in Rajshahi University Central Library. Rajshahi University Central Library uses Koha software that has an acquisition module, but Rajshahi University Central Library is not using this module for their acquisition. Their acquisition system manually collects resources from the vendors. Most of the features of the circulation system are provided by Rajshahi University Central Library, like Rajshahi University Central Library has used the Catalogue module since 2013, OPAC module since 2013, Circulation module since 2015, Report management since 2014, and Patron management since 2014, but Serial Control and Acquisition modules are not used in Rajshahi University Central Library. Rajshahi University Central Library uses Koha software that has an acquisition module, but Rajshahi University Central Library is not using this module for their acquisition. Their acquisition system manually collects resources from the vendors. Most of the features of the circulation system are provided by Rajshahi University Central Library, like

Registration of users

Collection of Library Fee

Calendar for fine calculation and adjusting loan periods for holidays

Renewal of Memberships (continuation)

Issue/Return of items

Issue/Return of Items using Barcode scanner

Renewal of Items

Reminders to the users

Sending Notices by Email to the users

Maintenance of withdrawal items

Reporting of Lost items

Reporting of Missing of items

But following feature are not used in Rajshahi University Central Library

Collection of Library Deposit

Print of Member ID card

Print of Bar Code for Member ID card

Issue of No-due certificate

Inter Library Loan (ILL) service for Lending

Inter Library Loan (ILL) service for borrowing

Rajshahi University Central Library downloads the MARC records from the Library of Congress, WorldCat, etc. by using Z39.50, and the cataloging code is AACR-2. Rajshahi University Central Library uses an automated cataloging system for books, journals, theses, and newsclipping. Audio cassettes and video cassettes are out of this system. All the features of the serial control system are not used in the Rajshahi

University Central Library. Rajshahi University Central Library uses a patron management system. This system has the following features: Users registration with their date of joining and period of membership expiry and providing restricting the borrowing limit to the user groups Predefine the expiry date for a particular user or user groups, and provide login access with a user ID and password to know their account from the OPAC page. Rajshahi University Central Library uses the report-generating system. This system provides only accession lists, item-wise stock lists, and subject-wise list services. But the following functions are not used in Rajshahi University Central Library: Rajshahi University Central Library users can access most of the options of the OPAC but cannot access only two options, namely reading the history of their account at the library and preparing a selected reading list.

Problems And Suggestions

Bangladesh is one of the few countries in the world that started automation in 1964, but today we are still infancy as far as the automation of libraries is concerned. A number of problems contribute to the low degree of computer use in the libraries in Bangladesh. Though some university libraries have performed a greater role in utilizing IT in libraries, they are also facing some problems that are affecting the effective communication of information. Now some of these problems are mentioned below:

Lack of adequate Skilled Manpower:

The posts of librarians are still vacant at Rajshahi University Central Library. As a result, the library administrator is performing the job of chief librarian. Thus, it may create a hindrance to taking greater initiative in the development of the automation process in the library.

Lack of Proper Financial Support:

Financial limitations are a great problem that hinders the development of automation in libraries. The Rajshahi University Central Library is handicapped by a shortage of funds. As a result, measures are not fully taken to finance the automation process. Sometimes it may also create a problem when parent organizations allocate funds for the purchase of computers and related technology but not their maintenance.

Administrative Problems:

Sometimes higher authorities at universities are not fully aware of the importance of automation systems in libraries. Thus, the unconsciousness of higher authorities regarding the technological development of libraries may seriously cause harm.

Lack of proper Technological Facilities:

Another major problem is the lack of proper technological facilities in libraries. DHL has recently developed a homemade software package for libraries, but inefficient technical infrastructure often hampered the services. Technological equipment, i.e., computers and other AVMs, for providing better services are not sufficient. Moreover, there is also a lack of sufficient technology to convert paper copies into digital ones. In modern automated libraries, every book contains a computer chip, which includes valuable bibliographic information about the book itself and the borrower who lends it over different periods of time. But in these libraries, the books do not contain any computer chips that play a very important role in ensuring proper utilization of a particular book.

Lack of software packages:

Lack of software packages especially designed to serve Bangladeshi libraries needs. There are readily available packages which do not adapt themselves to the local situation and to the Bangladeshi library environment, or to the libraries particular needs.

Lack of Standard Automated Library Model:

Another serious problem is that the automation system of different university libraries appears individualized. Every library performs the works in its own way. In Bangladesh there is no national model or standard for the libraries to participate.

Lack of sufficient collection: Most of the libraries of Bangladesh bear a very few amount of collections.

Others problems:

Now some other problems regarding the installation of automation of Rajshahi University Central Library are given below:

In absence of separate suitable and comfortable research branch

- Lack of modern electronic and telecommunication media.
- Lack of online networking system facilities.
- Lack of security system to control loss of books.
- Lack of proper bibliographic control of national literature
- Insufficient infrastructure facilities
- Lack of efficient professional knowledge of staff regarding library automation.
- Lack of proper system analysis.

Suggestions

Skilled manpower should be needed in the library for standard library services. The university library authorities should allocate sufficient funds to support the purchase of new technological materials in libraries. Higher authorities at universities should be aware of the importance of automation libraries. More technological equipment, i.e., computers and other audio-visual materials, should be added for better-automated library services. Libraries, with the help of software development firms, should develop indigenous software packages for the use of computers in libraries in Bangladesh. Network flow should be developed. Libraries should also develop a centralized database to include all documents and sources of information. The library associations of Bangladesh should organize seminars, workshops, etc. on computer application facilities to create awareness about computerized library systems. The library must have a professional librarian with a TT background. It should be introduced at all levels of library activities. A CD-ROM service should be developed. The mostly used CES/ISTS service should be introduced in DUL. A detailed system analysis and design project should be undertaken before implementing fully automated library systems. The preparation of an automated union catalog of books and other documents is yet another useful computerized library activity. A network system among the university libraries should quickly be established. Because networking is one of the most effective ways of serving the user's needs comprehensively, To increase their service standard, the following attempts should be made: to implement a book renewal system online. to introduce an electronic display board system regarding the arrival of new books in libraries or announce other important notices to students. Provide automatic CAS and SDI services. The news clipping service should be automated. Book acquisition procedures are necessary to be fully automated. Automated reference services should be provided. E-journals or e-books are provided only to

authorized students. This discrimination should be avoided. It is necessary to make all required materials equally accessible to all students in the country.

Conclusion

The university library is an integral part of an institution of higher education. The university library performs certain activities. In other words, the university library is the focal point for those who seek information on diverse subjects for those who want to improve and up-to-date their knowledge and education for the purpose of teaching and research. Rajshahi University library has to meet the diverse and growing needs of educational programs at the graduate, postgraduate, and research levels from the begging stage of the library. For this, the university can be called the world of higher education. This small study provides a good indication as to the fact that subscribing computers It is a recognized fact that the coming era is going to rely heavily on information. In order to meet the demand for information, a computer is needed. However, considering the demand of the age, the status of computerization in Rajshahi University Central Library is not satisfactory. It is not possible for us to reach the minimum satisfactory level. Modern information technologies like e-mail and Internet retrieval systems have already been introduced for better library services. It is of utmost importance that the Rajshahi University Central Library improve its overall reading environment. I would like to conclude my study with the view that library automation is necessary to support end users and provide efficient services. It is of utmost importance that the Rajshahi University Central Library improve its overall reading environment. I would like to conclude my study with the view that library automation is necessary to support end users and provide efficient services.

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