

Full Length Research Paper

Use of information technology in library service: A study of some selected libraries in northern part of Bangladesh

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Bangladesh is one of the least developing countries, which have been facing a lot of obstacles in introducing information technology in all information-related sectors, especially in its libraries and information centers. This current work is centered on the northern part of Bangladesh, perceived to be worse hit in terms of inadequacy of the application of information technology (IT) in library and information centers, when compared with the capital city of Bangladesh. Therefore, this research work, made with a full study plan and procedures seeks to investigate the environment, identify barriers and explore possibilities of improving IT application in libraries. The study took into account the various systems, services, problems and prospects of these selected libraries. Besides this, the study also showed how to improve the entire condition and services of these libraries by adopting modern technology such as information technology (computer, fax, e-mail,) including provision of phone, photocopier, television, microfiche, microfilm etc. This investigation will reveal the entire condition of these libraries including the problems encountered by them in applying information technology and put forward necessary recommendation, which may be helpful in improving their services in information dissemination process.

Key words: Information technology (IT), library service, library and information science, information centers.

INTRODUCTION

Information technology (IT) is the modern buzz word, it has provided facilities for the free flow of information. The world has become a global village with information superhighways created through networks like Internet. This has facilitated electronic librarianship with the diversification of library facilities and services to its user. The concept of virtual libraries OPAC, Hypertext, and teleconferences for the purpose of library and information services have become common (Sujatha, 1999). New technological developments have already profoundly affected libraries; almost every function carried out in a library has been altered to some extent by advances in

electronics, computerization, and telecommunications. The technological evolution in libraries has been called a "quiet revolution" (Abdus-Sattar, 1997). The changes brought about by advances in technology have been so extensive that it is difficult to assess their total effect, but is clear that libraries are in the state of fundamental transformation.

The concept of information technology (IT) as a universal information technology is the new science of information collection, storage, processing and transmission. However, IT connotes an ensemble of technologies which covers computer and storage technologies, to store and processing information known as information processing, connected together with telecommunication technologies, which are capable of transmitting information to distances. Information technology covers all aspects of arts, or science of

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processing data to produce information. This information processing, storing and dissemination with the assistance of computer is called the information technology (IT) (Brown, 1983).

Information Technology is a generic term used to denote all activities connected with computer based processing, storage and transfer of information. Information Technology means not only a single unit of technology, but the integration and convergence of a large number of technologies which have come together to serve and meet the user's needs in the age of information revolution (Chowdhury and Quiyum, 1989). It involves computers, electronic media, satellites, telecommunications and storage devices.

Zabed (1998) carried out a study on 224 different libraries in Bangladesh and found out that only 58 libraries were using computers for their operations and services. Mannan (1998) also conducted a comprehensive study on 25 libraries found out that there was poor technological status in the country, Alam (1998) had made a thorough investigation on 13 large special libraries and expressed that there was an acute shortage of IT resources. IT trained manpower, and favorable IT related infrastructural facilities in the libraries of Bangladesh. Nasiruddin (1999) conducted a research project on 44 libraries in northern part of Bangladesh where he observed a very unsatisfactory technological status prevailed at district level. Most of the observation and study was made primarily on the libraries of the capital city than on the libraries in divisional areas. This study is carried out mainly to identify the present condition and technological position as well as the willingness and complexities toward the IT application.

Objectives of the study

The main objective of this study was to examine the existing conditions of the libraries and information services in northern part of Bangladesh. The specific objectives of the study are to: -

- i) Find out the level of IT application and their extent of use in the library.
- ii) Investigate the benefit of IT to the librarian and library users.
- iii) Examine the available technologies in the selected libraries.
- iv) Identify the specific problems that are being faced by the library professionals in the application of IT for information service.

Statement of the problem

This study is based on the fact that information service is key resource to all developmental activities and nowadays, it is widely recognized that IT facilitates

information collection and its dissemination is a dire necessity. As a repository of knowledge, which makes information storage, retrieval and dissemination to be possible, there is no doubt that libraries play a fundamental role in meeting information needs of all types of users. Thus, it is very urgent to take a study on the uses and application of information technology in libraries to determine the strength and weakness of information sector of a country.

However, it is important to say several studies have been carried out in Bangladesh, but the efforts were isolated, institution based and on the libraries of capital city than to concentrate on the libraries of divisional area. While the application and use of technologies in library and information centers are developing very quickly in other countries, the progress in Bangladesh is not satisfactory. This study by the authors is based on eleven selected libraries in northern part of Bangladesh. It has been carried out mainly to identify the present condition and technological position as well as the willingness and complexities toward the adoption of IT application in their libraries. The topic has been chosen for the greater interest of the northern part of Bangladesh and hope to provide a fruitful recommendation for the development of the proposed sector. Beside this, the fundamental obstacle during the research study was to find out the appropriate source of related literature that was really very scarce. Very few investigations have been made on the library service of Bangladesh let alone the technological situation of the libraries in our country. Hence there is an acute shortage of literature.

METHODOLOGY

Eleven libraries were selected for this study on the basis of having minimum library equipment and facilities that are needed to provide basic library service. All of the surveyed libraries were located at the northern part of Bangladesh. A structured questionnaire was designed to interview the head of the library or the librarian or the person responsible for library sector. Besides personal observation, informal discussion and thorough visit of the site have helped the research to co-relate the necessary data needed for the study.

Study area

The collection of data was made from all types of library including academic, special and public that are selected for the survey as follow:

1. Rajshahi University Library (RUL),
2. Rajshahi University of Engineering and Technology Library (RUETL),
3. Rajshahi Medical College Library (RMCL),
4. Rajshahi College Library (RCL),
5. Institute of Bangladesh Studies Library (IBSL),
6. Bangladesh Council of Scientific and Industrial Research Library (BCSIRL),
7. Bangladesh Rice Research Institute Library (BRRIL),
8. Rural Development Academy Library (RDAL),
9. Bangladesh Rural Advancement Committee Library (BRACL)
10. CARITAS Library,

11. Divisional Public Library (DPL).

Impact of information technologies in library and information centers

Information technology (IT) is for better management and exchange of information, for more efficient communication and ultimately for the benefit of the people using IT (Bryson, 1990). Information is a dynamic and unending resource that affects all disciplines and all walks of life as it supports education, research and development. As libraries and information centers deal mainly with information, majority of their technical applications will be in the collection, handling, storage, and dissemination of information or information technology. Technologies, especially computer and telecommunication technology have highly revolutionized the field of library and information services. They facilitate collection, storage, organization, processing, analysis, presentation, communication and dissemination of information. With the introduction of new technology, libraries are expected to use various types of technology to provide information, more quickly and in greater volume than before.

The advantage of IT applied to information retrieval is the immediate and local access to a much wider range of library resources. Information technology has also made an impact on the alerting services, mainly by providing speedy access to information that appears initially, and the news and business services of one kind or another in electronic form. Electronic delivery of materials has also made a major impact on information service operations providing increased flexibility, customization of services and opportunities for entirely new types of services in the widespread information transfer (Varalaksmi, 1992). The advancement in technology will continue to improve the effectiveness of the libraries and become indispensable for handling information between libraries and library patrons to librarian and vice versa (Kumbar, 1996). This is already happening the success of information technology will depend on library automation and skilled manpower, but the most important factor is considered, as the motivation and attitudes of librarians to get into information technology for their various work activities (Munshi, 1998).

Findings from the study

Information, whether economic, social, scientific or technological covering all facets of human life and activities is a key resource to the achievement of national development and its importance is universally recognized (Gelfand, 1971). It is indisputable that no research and advance studies can successfully be carried out without using appropriate information resources/materials. Most libraries and information centers provide such service with varying degrees of effectiveness and efficiency. An integrated information infrastructure links library systems, computer based data centers with academic, special and public libraries.

Some of the important libraries and information centers of Rajshahi, Bangladesh have been using new technologies (which are in embryonic stage) for their services. Users are not fully satisfied with their use and services they provided. The necessity of the application of new technologies in these libraries is strongly required for satisfying the demands of their clientele. It can be deduced that all the participated libraries in the survey desire to introduce new technologies in their services. But in the context of Bangladesh, it is not a very easy job. Bangladesh has been suffering from many acute problems such as political instability, poor economic condition and others. Inadequacy of trained and skilled personnel with mastery of application of new technology in these libraries is also a great problem. All said and done, some of

the respondent mentioned the futility of efforts in venturing to introduce new technologies in the libraries and information centers, in the northern part of Bangladesh without considering their associated problems.

This basic survey was initiated to study the extent of usage of IT in some selected libraries and information centers in the northern part of Bangladesh. The main objectives of the present study were to look at the extent of application and use of new technologies in library functions and services, problems and prospects with solutions. Among the surveyed libraries, four are academic, six are special and one is public library. Table 1 reveals that among the four academic libraries surveyed, RU Library is rather the richest, both in library space and staff on roll. The library occupies 54,000 square feet and with a total of 99 staff. The library certainly enjoys the highest facilities than all the other surveyed libraries. The other three academic libraries - BIT, RMC and RC, have reasonably serviceable number of staff and library space. A look at the table reveals that the special libraries in Rajshahi division are not so rich in infrastructural facilities. The manpower and library area of IBS, BCSIR and RDA are just satisfactory in comparative terms.

Besides, BCSIR, BRR, BRAC and CARITAS are working as a small branch in Rajshahi when the main center is located at Dhaka. DPL is the one public library in Rajshahi that have minimum facilities and are working as divisional branch of Dhaka Central Public Library. The library was established in 1983 with the total area of 16,720 square feet and a total number of 12 staff (made up of professionals, semi-professionals and non-professionals). The survey also reveals that 37 staff (out of 150) possesses a diploma and master's degree in Library and Information Science, while 25 semi-professionals (out of 150) with exposure to a certificate course in Library and Information Science, and the rest of 98 (out of 150) are non-professional staff.

IT use for information processing is still in its early stage in the country. Table 2 shows the application of IT cataloguing and classification, circulation, and information searching. The results revealed that eight libraries were carrying out these services and three libraries (RU, RDA, and BRAC) were using both manual and technological systems for only cataloguing and classification. None of the libraries were using IT solely for provision of library service in the three areas (Table 2). To know the effectiveness of services it is essential to know what types and how many readers have been using these surveyed libraries. Table 3 shows the average number of reader types, such as teachers/trainers/scientists, students/learners, researchers and others. RU and RC have been used by departmental graduate and undergraduate students. In RU, there are 43 departments, providing Honor's and Master's degrees in numerous subjects. There are also 800 faculty members who are using the libraries for research activities. BIT library is used by the 960 engineering students. RMC is for the medical students and teachers only. IBS library is for researchers who are doing M. Phil. and Ph. D. on various aspects of higher studies. BCSIR, RDA, BRR and BRAC libraries are for their specialized users and research workers who are primarily devoted to meet their information needs or research-oriented activities. Public libraries are for general use of all types of users, Teachers, students and other officials who are coming to use these academic libraries are not quite satisfied with the services given by these libraries. Majority of teachers and students who come to use these libraries are not satisfied. The interviewed special libraries have also not been efficient in meeting the information needs of their users. The daily user patronage to the special libraries is not a healthy one. So, it is necessary to enhance the average number of users in the special libraries by giving better services to users. The number of users in the surveyed public library is also not satisfactory. The library should have and maintained a balanced collection of all types of reading materials.

The selected libraries have different organizational units (Table 4). Only RU and RDA libraries have seven organizational units:

Table 1. Description of selected libraries.

| Name of the library/institution | Status | Year of establishment | Total library area (ft ² .) | Total number of library staff |
|--|----------|-----------------------|--|-------------------------------|
| Rajshahi University (RU) | Academic | 1955 | 54000 | P. 21 SP. 22 NP. 56 |
| Bangladesh institute of technology (BIT) | Academic | 1965 | 5000 | P. 01 SP. 01 NP. 07 |
| Rajshahi Medical College (RMC) | Academic | 1958 | 2045 | P. 02 SP. - NP. 02 |
| Rajshahi College (RC) | Academic | 1873 | 5610 | P. 02 SP. - NP. 02 |
| Institute of Bangladesh studies (IBS) | Special | 1974 | 1600 | P. 03 SP. - NP. 06 |
| Bangladesh council of scientific and industrial research (BCSIR) | Special | 1967 | 5000 | P. - SP. - NP. 01 |
| Bangladesh rice research institute (BRRI) | Special | 1979 | 100 | P. - SP. - NP. 01 |
| Rural development academy (RDA) | Special | 1974 | 1830 | P. 05 SP. - NP. 07 |
| Bangladesh rural advancement committee (BRAC) | Special | 1993 | 200 | P. - SP. - NP. 02 |
| CARITAS | Special | 1984 | 185 | P. - SP. - NP. 03 |
| Divisional public library (DPL) | Public | 1983 | 16720 | P. 01 SP. 02 NP. 09 |

P = Professional, SLP = Semi Professional, NP = Non-Professional.

acquisition, processing, audio-visual, administrative, reference, periodical and circulation. The seven which seven, list them of these respondent libraries have few organizational units though they claim that they perform all the organizational activities. The rest of the two list them surveyed libraries have not any separate

organizational units.

The collections of libraries are expected to be built in relation to their purpose and nature of their users. Therefore, effective library services mostly depend on balanced collections for meeting users' needs efficiently. Table 5 shows the individual collections (including

Table 2. IT application for three library services.

| Name of the library/institute | Name of the services | | |
|-------------------------------|--------------------------------|-------------|-----------------------|
| | Cataloguing and classification | Circulation | Information searching |
| RU | B | M | M |
| BIT | M | M | M |
| RMC | M | M | M |
| RC | M | M | M |
| IBS | M | M | M |
| BCSIR | M | M | M |
| BRRRI | M | M | M |
| RDA | B | M | M |
| BRAC | B | M | M |
| CARITAS | M | M | M |
| DPL | M | M | M |

T = technological, M = manual, B = both (technological and manual)

Table 3. Daily average patronage of users to the library.

| Name of the library/institute | Teachers | Students | Researchers | Others | Total |
|-------------------------------|----------|----------|-------------|--------|-------|
| RU | 45 | 830 | 22 | 13 | 930 |
| BIT | 10 | 50 | 02 | - | 62 |
| RMC | 30 | 150 | - | 10 | 190 |
| RC | 15 | 200 | 05 | - | 220 |
| IBS | 05 | 03 | 30 | - | 38 |
| BCSIR | 03 | 02 | 54 | - | 59 |
| BRRRI | 02 | 02 | 03 | 03 | 10 |
| RDA | 30 | 50 | 40 | - | 120 |
| BRAC | 12 | 05 | 01 | 02 | 20 |
| CARITAS | 10 | 03 | 01 | 07 | 21 |
| DPL | 02 | 240 | 01 | 07 | 250 |

Table 4. Availability of organizational units in the selected libraries.

| Organizational unit/section | Name of the library/Institute | | | | | | | | | | |
|-----------------------------|-------------------------------|-----|-----|----|-----|-------|-------|-----|------|---------|-----|
| | RU | BIT | RMC | RC | IBS | BCSIR | BRRRI | RDA | BRAC | CARITAS | DPL |
| Acquisition | Y | Y | Y | Y | N | N | N | Y | Y | Y | Y |
| Processing | Y | Y | Y | Y | N | N | N | Y | Y | Y | Y |
| Audio-visual | Y | Y | N | N | N | N | N | Y | Y | Y | Y |
| Administrative | Y | Y | N | Y | N | N | N | Y | Y | Y | N |
| Reference | Y | Y | N | Y | N | N | N | Y | Y | Y | Y |
| Periodical | Y | Y | Y | Y | N | Y | N | Y | Y | Y | Y |
| Circulation | Y | Y | N | Y | N | Y | N | Y | Y | Y | N |
| None of them | - | - | - | - | Y | - | Y | - | - | - | - |

Y = Existing, N = Not existing

books, journals, bound journals, slides, News clippings, audio cassettes, video cassettes, microfilm, microfiche, report, monograph and others) in the studied libraries. The picture of overall collections of the four respondent academic libraries is not so much encouraging. About half of these libraries have scanty

audio-visual materials like audio cassettes, video cassettes, microfilm, microfiche etc; the rest of them has no audio-visual materials. The average collections of six respondent special libraries are poor and this is really bad news for the scientists and other researchers engaging in development activities in

Table 5. Collection of library.

| Types of collection | Amount of collection | | | | | | | | | | |
|---------------------|----------------------|-------------|-------|-------|-------|-------|-------|----------------|------|---------|-------|
| | RU | BIT | RMC | RC | IBS | BCSIR | BRRRI | RDA | BRAC | CARITAS | DPL |
| Books | 300000 (above) | 21151 | 17000 | 70100 | 15692 | 2357 | 735 | 20593 | 900+ | 3000 | 40225 |
| Journals | 40000 | 500 | 60 | 500 | 30 | 2230 | 400 | 1000 | 50 | 550 | 12 |
| Bound journals | 40000 | - | 1850 | - | 6 | - | - | 851 | - | - | 95 |
| Slides | - | 50 | - | - | - | - | - | 7 | 4 | - | - |
| News clippings | - | - | - | - | - | - | - | 150 (per year) | 150 | - | - |
| Audio cassette | 03 | 26 | - | - | - | - | - | 11 | 10 | - | - |
| Video cassettes | 04 | 10 | - | - | - | - | 2 | 13 | 15 | 10 | - |
| Microfilms | 02 | - | - | - | 2 | - | - | 3 | - | - | - |
| Microfiche | 03 | - | - | - | 45 | - | - | 5 | - | - | - |
| Reports | - | - | - | - | 200 | - | - | 213 | 100 | 130 | - |
| Monograph | 280 | - | - | - | - | - | 2 | - | 25 | - | - |
| Others | 328 (Thesis) | 20 (Thesis) | - | - | - | - | - | 61(Bulletin) | - | - | - |

Table 6. Computer systems and software used in the libraries.

| Name of the library/institution | Package(s) | Total number of computer |
|---------------------------------|---------------------------------|--------------------------|
| RU | Windows 3.1 | 03 |
| BIT | - | - |
| RMC | Windows 95/98 | 02 |
| RC | - | - |
| IBS | Windows 95/98 | 01 |
| BCSIR | Windows 95/98 | 02 |
| BRRRI | - | - |
| RDA | Windows 3.1, CDS/ISIS, dBase IV | 04 |
| BRAC | Windows 95/98, dBase IV, FoxPro | 02 |
| CARITAS | Windows 95/98 | 04 |
| DPL | Windows 95/98 | 01 |

Bangladesh. Hence, some special NGOs have been trying to develop their library collections. In spite, of this, all of the evolving special libraries have no audio-visual materials that meet the target population of intended users. It should be mentioned here that for RDA collection of 150, news

clippings constitute the bulk individually in the current year. The entire situation of DPL in Rajshahi is not satisfactory as audio-visual materials are completely absent.

The computer is now an essential equipment of the libraries for information acquisition, processing,

management and dissemination. To maintain a computerized library system some computer programs are needed. Table 6 shows that among eleven libraries, one public, two academic and five special libraries have installed some software packages. They have Windows

Table 7. Status of services offered by the libraries.

| Types of service | Name of the library/institution | | | | | | | | | | |
|----------------------------------|---------------------------------|-----|-----|----|-----|-------|-------|-----|------|---------|-----|
| | RU | BIT | RMC | RC | IBS | BCSIR | BRRRI | RDA | BRAC | CARITAS | DPL |
| Reading text books | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| Reading reference books | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| CD-ROM searching | - | - | - | - | - | - | - | - | - | - | - |
| On-line searching | - | - | - | - | - | - | - | √ | - | - | - |
| CAS | √ | √ | - | - | √ | - | - | √ | √ | √ | - |
| Indexing | √ | - | - | - | √ | - | - | - | - | - | - |
| Bibliography | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| Reading journals | - | - | - | - | √ | - | - | - | - | - | - |
| SDI | - | - | - | - | √ | - | - | - | - | - | - |
| Abstracting | - | - | - | - | √ | - | - | - | - | - | - |
| Photocopy | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| E-mail | - | - | - | - | - | - | - | - | - | - | - |
| Internet | - | - | - | - | - | - | - | - | - | - | - |
| Computerized catalogue/ database | √ | - | - | - | - | - | - | - | √ | - | - |
| Retrospective search | - | - | - | - | - | - | - | - | √ | - | - |
| Reference and referral | √ | √ | - | √ | √ | √ | - | - | √ | - | - |
| Others | - | - | - | - | - | - | - | - | - | - | - |

3.1, Windows 95/98, CDS/ISIS, dBase, and FoxPro. Whereas, for a well automated library system, some other updated library software are essentially to be adopted. This study also reveals that Six (54.55%) of the investigated libraries and information centers in northern part of Bangladesh are using computers for their library operations. Two (18.18%) libraries do not use computer although they have computers. Three (27.27%) libraries do not have any computer at all. From these results, the status of computerization in libraries and information centers in the northern part of Bangladesh seems unsatisfactory.

Library is trinity of reading materials of various kinds of user of various denomination and number of library personnel. The different library types offer different services to its users. Table 7 reveals the entire picture of services offered by the surveyed libraries. The services as shown in the Table 7 are Reading textbooks, Reading reference books, CD-ROM searching, On-line searching,

CAS, Indexing, Bibliography, Reading journals, SDI, Indexing, Abstracting, Photocopy, E-mail, Internet, Computerized catalogue/database, Retrospective search, Reference and Referral service and others. All of these services are not all together given by any individual respondent library. Reading textbooks, reference books and journals, and photocopying services are usually offered by all the libraries. On-line searching services are offered only by RDA library. Abstract services are provided by IBS library and computerized catalogue/database is offered by the BRAC and RU library. Retrospective searching is available in the IBS and BRAC and RU library. Retrospective searching is available in the IBS and BRAC library. All of these sample libraries that is, 54.55% have been offered CAS and reference and referral, and 27.27% offered indexing, bibliography and SDI service. There are no E-mail, CD-ROM and Internet service offered for the user in these interviewee libraries.

The document delivery and communication pattern are

listed in Table 8. All of these patterns are not used by any individual surveyed libraries, 45.45% accept and provide necessary information to its user using postal communication, 36.36% have airmail and 18.18% have a fax system for this purpose. Maximum number of interviewee libraries that is, 90.91% provide photocopying services for this purpose (some of them haven't any photocopier machine but they contact with other photocopying service to its user on payment basis). 72.73% of interviewee libraries have telecommunication system. But no single respondent library has E-mail and on-line communication system for document and information delivering and acquisitioning process.

All the surveyed libraries for this study desire to introduce information technologies in their services. This basic survey was initiated to study the extent of application of information technologies in some specific libraries and information centers. The main objectives of the present study were to look at the extent application and use of

Table 8. Method of document delivery.

| Document delivery | Name of the library/institution | | | | | | | | | | |
|-------------------|---------------------------------|-----|-----|----|-----|-------|-------|-----|------|---------|-----|
| | RU | BIT | RMC | RC | IBS | BCSIR | BRRRI | RDA | BRAC | CARITAS | DPL |
| Postal | √ | - | - | √ | √ | - | - | √ | - | √ | - |
| Air mail | - | √ | - | - | √ | - | - | √ | - | √ | - |
| Fax | - | - | - | - | - | - | - | √ | √ | - | - |
| Photocopy | √ | √ | √ | - | √ | √ | √ | √ | √ | √ | √ |
| On-line | - | - | - | - | - | - | - | - | - | - | - |
| Telephone | √ | - | √ | √ | - | - | √ | √ | √ | √ | √ |
| E-mail | - | - | - | - | - | - | - | - | - | - | - |
| Others | - | - | - | - | - | - | - | - | - | - | - |

Table 9. IT equipment used in the selected libraries.

| Equipments | Name of the library/Institution | | | | | | | | | | |
|------------------------|---------------------------------|-----|-----|----|-----|-------|-------|-----|------|---------|-----|
| | RU | BIT | RMC | RC | IBS | BCSIR | BRRRI | RDA | BRAC | CARITAS | DPL |
| Manual type writer | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Electronic type writer | N | N | N | N | N | N | N | N | N | N | N |
| Telephone | Y | N | Y | Y | N | Y | Y | Y | Y | Y | Y |
| Television | N | N | N | N | N | N | N | Y | Y | Y | Y |
| Duplicating machine | Y | Y | N | | N | N | N | Y | Y | Y | Y |
| Photocopier | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Telex | N | N | N | Y | N | N | N | N | N | N | N |
| Micro-film | N | N | N | N | Y | N | N | Y | N | N | N |
| Micro-fiche | N | N | N | N | Y | N | N | Y | N | N | N |
| Fax | N | N | N | N | N | N | N | Y | Y | N | N |
| Computer | Y | N | Y | N | Y | N | N | Y | Y | Y | N |
| Internet | N | N | N | N | N | N | N | N | N | N | N |

Y = Existing, N = Not existing.

information technologies in library functions and services, problems and prospects with solutions and future plan of action. Table 9 shows the number of libraries by type as well as the number and the percentages of libraries using IT.

Information technologies as included in Table 9 included type-writer, electronic type writer, telephone, television, duplicating machine, photocopier, telex, microfilm, microfiche, fax, computer. The responses to the questionnaire along with data gathered from field visits to sampled libraries are worthy of analyzing. It is revealed that the new technologies are being used in library operations, as collectively mentioned in Table 9. All the interviewed libraries use type-writer and photocopier. Most of them (that is 82.82%) use telephone. No single respondent library has installed the facilities and offered services from internet and telex. Duplicating machine has been used by 63.64% surveyed libraries. Computer applications have existed in 54.55% libraries. 36.36% respondent libraries have television and 18.18% have been used to microfilm, microfiche and fax. Computer should be used in all library operations like data processing, communication, books/periodicals acquisition, circulation, cataloguing, bibliography and others. Only one surveyed library has used computer for these purposes. Computer system has been used by RU library for subscription to periodicals, cataloguing and for bibliography. BRAC library has been using computer systems only for cataloguing. Rests of the interviewee libraries do not use computer systems for any library activities.

Finance is the motivational power and important factor for the success of any organization and also for libraries to acquire books and other materials to provide proper service and facilities to the development of any library. The progress and prospect of the library entirely depends on the adequacy of available fund. Table 10 indicates the average budget of the surveyed libraries in various financial years. The average has been made on the basis of funds that were allocated to libraries from 2006 to 2010. It is evident from the table that the budgetary allocation of most of the interviewee libraries is not satisfactory. Even some of them haven't any financial allocation for library individually. This insufficient of budgetary allocation are greatly hindered in implementing library's activities and goals.

Problems

There are a lot of impediments to the application and the use of IT in the library and information centers at the northern part of Bangladesh. They include:

Absence of proper planning

This indicates a need to educate planners and decision makers as to the role that libraries can and should play in the effective

Table 10. Allocation of library budget.

| Name of the library/institution | Average financial allocation (2006 to 2010) |
|--|--|
| RU | 67,53600 |
| BIT | 1,79000 |
| RMC | 1,79600 |
| RC | 27,600 |
| IBS | 41,600 |
| BCSIR | 13,600 |
| BRR1 | 7,900 |
| RDA | 1,12000 |
| BRAC | 43,400 |
| CARITAS | 72,000 |
| DPL | 9,87942 |

development of any organization in the present “Information age.” It also implies a failing on the part of librarians in libraries fully to integrate the library within the parent organization and effectively to promote it, is an important structural element for the provision of essential information to both managerial and technical staff. Also implied is the lack of knowledge of some libraries in information technology which can prevent them from presenting convincing arguments or proposals for automating a library as part of an integrated information system for an organization. Further education in this area for practicing librarians is a problem that needs to be addressed.

Lack of appropriate initiative

Libraries have a low priority within the organizational system receiving little funding as has been mentioned above. The librarian, as a whole the library professional is not regarded with high esteem by the state. There is tremendous lack of interest in libraries by authorities which results in little or no effort to develop them. There is a felt need to rejuvenate this interest. Also, there is lack of interest from the part of the organization’s higher administrators. The higher authorities should be aware of the value of libraries if there is to be an investment in the application and use of information technologies for automating of services.

Political instability

It is a common problem of the developing country that is suffering from anarchy in the different sectors of the Government, and Bangladesh is no exception of it. It’s because of lack of proper understanding among the major political parties. One doesn’t have any attitude to pick the positive issue from another’s scheme. This type of attitude greatly hinders the smooth implementation of any activities of the Government. The library sector is also not out of its scope.

Indifference of administrative body

Administrators, Policymakers and Government executives are not fully aware of the importance of the usage of IT in libraries. Lack of awareness by these key individuals of the role, capacity, and capabilities of computers impedes their use in libraries which could benefit from using computer technology.

Lack of trained and skill personnel

Library personnel in Bangladesh, in general, have inadequate knowledge about computers and their usages in libraries. They are not able to make themselves compatible with using such type of devices which results in the low progress of getting benefits from IT usage in the libraries of Bangladesh.

Scary approach to IT environment

The attitude of professionals toward information technology is not so encouraging. We have an acute lack of computer staff was a common dialogue of most the librarian when we wanted to know the progress of computerization. But little initiatives have been taken or shown their willingness to turn existing library staff to computer expert. In some cases administration and management of the library are vested upon such non-professions who have no professional qualifications, experience or idea. Generally, these people are not aware of potential of use of IT in the libraries. Their resistance to change and their fear and inability to face a new reality in the form of information technologies are the important psychological problems in implementing IT’s in those libraries.

Insufficient fund support

It is one of the major problems in IT applications. As a result, it is not possible to take measure in a balanced way regarding IT applications in the different sectors of libraries. Sometimes the parent organizations have been allocated funds for the purchase of a computer, but not for its maintenance.

Insufficient initiative for creating public awareness

Besides the development initiatives proper steps needs to be taken to aware of the services and facilities for the user by the library orientation program may be an effective tool for the purpose. Video shows, reading sessions, seminar etc. may create public awareness.

Attitude of user groups toward information and IT

Public attitude toward information in Bangladesh is that a few literary and research communities are dependent on information.

The concept of library and information services is not clear to the general public even to many literary persons let alone technology based systems. Frequently the library staff operates these facilities on behalf of the user. From the statistics it is evident that the user groups are not so much aware of the advanced level information services.

Lack of professional and social awareness

For bringing Information Technologies in use for the development of information services professional awareness about the facilities of information technologies and their importance must be recognized by the professionals. Library education institutions and professional organization can play an active role in creating awareness among professionals by eradicating all sorts of misconceptions. Besides proper initiatives need to be taken to turn the existing traditional staff into experts in application of technology.

RECOMMENDATIONS

Information Technology has important implications for rural, industrial, cultural and research development. It is virtually impossible to carry out any meaningful educational activities without the help of libraries and information services. It is now encouraging to note that the present Government in Bangladesh has started to increasingly realize the role of libraries and information services in the various sectors of the country's research development, education and planning process. Considering that efforts involved in developing the application and use of modern technologies for the library and information center calls for substantial supports in terms of time, equipment, money and expertise, it is suggested that authorities may consider the following solutions for a better environment for the use of information technologies in Bangladesh:

- a) The Government of Bangladesh should take initiatives, efforts and plans on the part of the national developments, which help in the modernization of library and information services. In fact, the present scenario of library automation in our country especially in northern part is still in a primary and experimental stage. In this regard, first of all the Government has to set a work plan to proceed with the various components of the planned activities and programs.
- b) Professional library associations in Bangladesh like LAB (Library Association of Bangladesh), BALID (Bangladesh Association of Librarians, Information Scientists and Document lists) should organize short-term training program for library professionals in the field of IT application to library and information services. To regenerate the issues regarding IT applications in the libraries of the northern part of Bangladesh, it is also essential to establish the branch of those professional bodies in that part.
- c) The library personnel should have learned how to use the new technological devices effectively. They should

- acquire the skill of exploiting modern technologies to the best of their advantage for increased productivity.
- d) Libraries with the help of software development firms should develop indigenous software packages for the use of computers in libraries in Bangladesh. Currently the University Grants Commission(UGC) of Bangladesh have imposed for using some open source software like KOHA and Greenstone in the academic libraries of Bangladesh, but it is essential to fix up a body for executing such responsibilities in the northern part.
- e) The policy makers should give an emphasis to allocate sufficient funds to support the purchasing of information technologies by libraries.
- f) The various political parties should have an approach to reach consensus regarding the development issues of library and information sector and push the movement for automation in a more dynamic stage.
- g) It is one of the important tasks of higher authority to remove the scary situation among the old professionals, who have no familiarity with IT application, by ensuring their job security. In this regard, the authority should rather take initiative to organize some effective program to familiar those professionals with IT application in libraries.

Conclusion

In most of the developing countries the modes of information generation, collection and organization differ. In this study, an attempt has been made to determine the extent of the use of information technologies in library service. It is necessary to mention that the IT has been tremendously influencing all spheres of our life. The use of such new technologies in Bangladesh has also been profoundly affecting the information use patterns and behaviors of library users, dramatically changing the mode of library information and services and especially with major impacts in audio visual markets, education and training field, research literature, publishing and so on. Unprecedented changes in the use of information are reshaping our personal activities, our community and organizational practices as ITs bring the global information to our finger end in the 21st century.

REFERENCES

- Abdus S (1997). Problems and Prospects of New Technologies in Libraries and Information Services of Bangladesh, a PhD thesis. Dept. Lib. Inform. Sci. Dhaka: University of Dhaka, 2(9): 97-110.
- Bangladesh Council of Scientific and Industrial Research. (2009-10). Annual Report. Rajshahi: BCSIR.
- Bajpai SK (1999). Library and Information Technology Management: libraries manual. New Delhi: Ess Ess.
- Brown KR (1983). The Challenge of Information Technology. New York: North Holland Publishing.
- Bryson Jo (1990). Effective Library and Information Center Management, England: Gower.
- Chowdhury JR, Quiyum ASM (1989). Computerization in Bangladesh:

- problem and prospects. Bangladesh Comput. Soc. J., 4(16): 10-16.
- Gelfand MA (1971). University Libraries for Developing Countries. (2nd ed.). Paris: UNESCO.
- Kumbar M (1996). Use of Information Technology in Library Services. Herald of Library Science, 1-2(35): 17-22.
- Mannan SM (1998). The availability of Automation Facilities for Networking and Resource sharing in Bangladesh: a study on some selected libraries. Bangladesh J. Lib. Inf. Sci. Dhaka: University of Dhaka, 1(1): 101-118.
- Munshi N (1998). Assessing of Information Technology and its impact on libraries and information centers in Bangladesh. Bangladesh J. Lib. Inf. Sci. Dhaka: University of Dhaka, 1(1): 77-78.
- Nasiruddin Md (2000). Users Opinion on library and Information Services: a study of the Rajshahi University library. J. Institute of Bangladesh stud. Rajshahi: Rajshahi University Press, 23: 123-39.
- Rahman A (1990). Application of Information Technology in Library Management. Proceedings of the National Seminar on Effective Use of Information Technology Innovation and Industrial Development. Dhaka: BANSDOC.
- Rural Development Academy (2009-2010). Annual Report. Bogra: RDA.
- Sujatha G (1999). Resource Sharing and Networking of University Libraries. New Delhi: Ess Ess Publications, pp. 3-6.
- Varalaksmi KSR (1992). Emerging Trends in Information and its Impact of Library Environment: international information, communication and education. New Delhi: Ess Ess.
- Zabed ASM (1998). Library Automation in Bangladesh: problems and prospects. Bangladesh J. Lib. Inf. Sci. Dhaka: University of Dhaka, 1(1): 39-46.