

# The Use of Information and Communication Technology (ICT) in Special Library of Bangladesh: A Study

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**Abstract – Information and Communication Technology aim to fulfill the demand of the modern civilization to provide information from internal and external resources. Though Bangladesh entered into ICT era in the last half of the 20th century but it could not be possible to introduce its services to the satisfactory level till now. The purpose of the study is to examine the kind of ICTs use in the special libraries. The aim of the study is to observe the obstacles that special libraries face to reach its goal. The study also initiates the remedy of the problems. It observes the condition of the library personnel and attempts to explore the software being used for procession and providing information. Besides, the study examines the services and searching systems launched there. The study is based on a short structured questionnaire. Field visit and interview undertake to collect data and tabulation process adopted to analysis them.**

**Keywords: ICT, special library, Bangladesh, information, service, provide, technology, automation, communication.**

## I. INTRODUCTION

We are living in an age when more or less human activities has been pervaded by a small device called a computer. In the human civilization possibly no device has influenced so much in so short a period as this particular device. Even fifty years ago it was possibly beyond the wildest dream of human beings that within less than half a century a gigantic brain called Internet will hold almost the entire knowledge humans have ever generated (Sen and Hiang, 1998).

Information and communication technology (ICT) has made a deep impact on all types of libraries. Today we are

talking about the power of digital and virtual libraries. At the same time we are very much worried about the future of libraries in general and academic libraries in particular. But we would like to emphasize that the future of libraries is dependent both on external and internal changes. The ICT is providing the library and information professionals with both opportunities and challenges. There is a paradigm shift from standalone libraries to library and information networks; from printed publications to digital documents; and from ownership to access. This transition is the result of the impact of ICTs, the Internet and the web on different types of libraries (Sing and Begum, 1998).

At present, Special Libraries “have become multimedia due to adoption of new Information and Communication Technological advances and innovations and changing nature of their information storage, retrieval and services. In fact, information and communication technology is an indispensable part of modern information systems development, management and services” (Munshi, 1998).

## II. OBJECTIVE OF THE STUDY

As a third world country, Bangladesh is facing tremendous problem using ICTs in the special libraries. Bangladesh dreams of using ICTs in every sphere of her works, but because of many problems she cannot successfully use these. The mentality of parents’ organizations, cost of ICTs, money, library personnel, infrastructure etc. are the causes because of why the special libraries cannot provide demanded services to its users. The present study is initiated to see the types of information and communication technologies are using in special libraries in Bangladesh. The study also identified the problems faced the library professionals and remedy of the problems for

library operation.

The main objectives of the study are:

1. Types of ICTs being used in the special libraries in Bangladesh.
2. The problems of using ICTs.
3. The quality, quantity and qualification of the library professionals.
4. The problem being faced by the library professionals and Remedy of the problems.

### III. METHODOLOGY

The area of the study consisted in some selected special libraries in Bangladesh. The study aims to examine a number of issues concerning the types of information and communication technologies, problems and remedies. A short structured questionnaire was devised to look at the information and communication technology used in these selected special libraries. Field visit to these special libraries was undertaken for collecting data in a structured way. Data tabulation process had been adapted to analysis the collected data. In this study, the questionnaire method had also been accepted as it is seemed an appropriate way for providing general information. There were 16 questions had been prepared for collecting data.. The questionnaire contained a sequence of questions which were duly answered by the respondents and those questions were constructed on the basis of the objective of the study. Under each type of questionnaire, there were a number of questions containing a number of alternative answers from 4 to 12. The respondent was asked to choose one or more than one of the set of the alternative answer in the questionnaire whichever he/she thought appropriate. The questionnaire had the continuation of the foregoing questions and was designed to confirm the responses. There are 3 questions in the questionnaire where there was no answer to choose but the respondents answered according to the condition of his/her library.

### IV. MAJOR INFORMATION AND COMMUNICATION TECHNOLOGIES IN SPECIAL LIBRARIES

During the last 20 years, the computer 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. Thus the objectives and nature of services of modern 'special libraries' have been changed considerably with the emergence of new technologies. There are a number of technologies that have contributed to the revolutionary changes in library's information systems and services. These 'information and communication technologies' are mainly:

1. computer technology and
2. telecommunication technology(Munshi, 1998).

### V. INFORMATION AND COMMUNICATION TECHNOLOGIES IN SPECIAL LIBRARY FOR AUTOMATION

There is no single automated library in Bangladesh in real sense of the term. The libraries working with computers and some related technologies are at initial state of 'Automation Process'. It is observed that about 45 special library and information centers of the country have either created or in the process of creating databases by using the personal computers. Most of the libraries and information centers use computers as stand-alone device. The use of computers in these libraries is basically confined with bibliographic database maintenance and some word processing activities. Few libraries have CD-ROMs facilities, but no initiative has been taken in action to produce any indigenous information products on CDs. Some libraries have online connection and are providing external resource searching facilities to a limited scale. Only a few specialized libraries and information centers have started networking and resource sharing or used telecommunication systems for inter-site data transfer. The role of IT in most of the organization is marginal and has little impact on the manner or quality of services for end users (Alam, 1998).

Special libraries and information centers are the pioneer in computerization of information activities in Bangladesh. There is no formal study on how many special libraries and information centers have brought information and communication technologies in use. But it is said that there are 665 special libraries in Bangladesh covering health, agriculture, science and technology, polytechnic, research, department, ministries, missions etc. There is no accurate statistics on automated special libraries in Bangladesh. According an unofficial statistics it is observed that 45 libraries and information units have brought information and

communication technologies in use. But their application areas are not so much different than that of general libraries (Alam, 1998).

### ***Current Scenario***

There is no recent institutional statistics supporting neither the actual number of libraries and information centers in Bangladesh nor ICT usage in the existing library systems. According to different personal investigation and survey it has been evident that there exists neither digital library nor any integrated automated library system in the country in true sense of the term. Another fact is that present around 60% urban based libraries and information centers have brought computer and other ICT equipment in use. Digitization and automated library systems in Bangladesh are still in the infancy level. In the recent times a very few initiatives have been noticed taken by different institutions as project work. These institutions are BANBEIS, BRAC university library, ICDDR, B publication unit, The National Library of Bangladesh, BIDS library etc. The activities of these projects include the acquisition and subscription of e-book and e-journals, digitization of paper based documents through scanning and Desk Top Publishing (DTP), developing database or online repository for metadata and full-text, providing searching and downloading facilities (online and offline), document and user profiling etc. It is to be mentioned here that some academic and research libraries in Bangladesh having online access to e-journal as member of INASP/PERI consortium. The INASP/PERI- International Network for the Availability of Scientific Publication / Program for Enhancement of Research Information – consortium in an on-line journal network started in 2006 and Bangladesh has been subscribing its services since 2008 (Alam, 2012).

### ***Library Personnel***

In the last few decades the scenario of Special Libraries has changed dramatically and drastically. The librarians have been redefining their roles and responsibilities according to the need of the hours—from merely Book Keeper to Librarian to Documentalist to Information Scientist to Knowledge Manager (Satpathi et al., 2012).

‘Library Personnel’ should be thought of as an integrated system which includes all methods of matching skill available

with the tasks to be performed, through hiring, placement, promotion, transfer, job restructuring and training. Library ‘personnel’ patterns have seen shifting as those in technology and especially automation, financial constraints attempts to stylize staff more effectively and changing forms of govern. The ‘personnel’ of libraries is becoming more differentiated. Enlightened library administrators are recognizing that several kinds of ‘personnel’ are needed and that the tasks each type of personnel performs should be appropriate to the jobs for which they were hired. Library staff may be distributed into three groups:

- i. **Professional:** including librarians and other specialists with a graduate level degree.
- ii. **Supportive:** including library technicians with a two or three years college degree and library assistants with a bachelor’s degree.
- iii. **Clerical:** including office staff with high school education.

The ALA policy statement, “Library Education and Personnel Utilization” recommends categories of library personnel and level of training and education appropriate to preparing personnel for these categories:

“To meet the goals of library service both professional and supportive staffs are needed in libraries. Thus the library occupation is much broader than that segment of it which is the library profession has responsibility for defining the training and education required for the preparation of personnel who work in libraries at any level, supportive or professional.

Skill other than those of librarianship may also have an important contribution to make to the achievement of superior library service. There should be equal recognition in both the professional and supportive ranks for those individuals whose expertise contributes to the effective performance of the library” (Khatri and Nangia, 2010).

Mannan (1997) in a recent study observed that “Regarding the computer manpower 72 per cent of the libraries have professional computer manpower and 28 per cent libraries do not have any computer manpower. About 94 per cent of the computer manpower do not have any degree in the particular field but have training to run the routine functions.”

Library personnel “is defined as facilitator groups including librarians, library technicians, library assistants even the system developer involved in designing system and providing services (Alam and Kamal, 2009).

Library and Informational Professional (LIPs) are not sitting silently with their fingers crossed. With the ascent of digital documents and digital libraries, library and information professional’ role has expanded and challenges have increased many fold. These challenges relate to collection management, knowledge organization, digital reservation, online searching, content management, knowledge management, and promoting the use of libraries and networks. LIPs are required to work as leaders, managers, and facilitators. We can get access to world’s knowledge and information through the Internet. These opportunities and challenges can be handled effectively by competent library personnel. Sound knowledge base, pertinent skills and pro-active positive mind set are the essential components of a competent library and information professional (Sing and Begum, 2012).

**VI. DATA ANALYSIS**

The study is confined into the following special libraries only. The libraries are

1. National Health Library and Documentation Center (NHLDC).

2. Library and Information Services Unit (LISU), ICDDR, B Library.
3. Bangladesh Election Commission Secretariat (BECS) Library
4. Bangladesh Council of Scientific and Industrial Research (BCSIR) Library.
5. Bangladesh Institute of Development Studies (BIDS) Library.
6. BIRDEM Library.
7. National Institute of Local Government (NILG) Library.
8. Planning Division (PD) Library.
9. Economic Relation Division (ERD) Library.
10. Implementation Monitoring and Evaluation Division (IMED) Library.

These libraries are considered representative special libraries in Bangladesh. The library activities in these special libraries are greater than any other special libraries in Bangladesh. These special libraries are providing information to their respective users in effective ways. Their collections and services are richer and higher than other special libraries working in Bangladesh. The study includes some national and international organizations’ special libraries working in Dhaka as to study real scenarios of special library activities in Bangladesh.

TABLE I LIBRARY PERSONNEL

NAME OF LIBRARY	PROFESSIONAL PERSONNEL	SEMI PROFESSIONAL PERSONNEL	NON-PROFESSIONAL PERSONNEL	TOTAL NUMBER OF PERSONNEL
NHLDC	6	2	15	23
ICDDR,B	6	0	2	8
BECS	1	0	0	1
BCSIR	2	0	13	15
BIDS	5	3	9	17
BIRDEM	5	1	6	12
NILG	1	2	3	6
PD	1	1	2	4
ERD	2	0	2	4
IMED	1	0	1	2

N.B.: Professional, semi-professional and non-professional means the person obtaining Graduation or Master’s Degree, Certificate or Diploma and no degree respectively in Information Science and Library Management.

The Table I shows that 92 personnel work in these special libraries. Among them 30 i.e. 32.61% are professionals and 9 i.e. 9.78% are semi-professional. And the table also shows that 53 i.e. 57.61% are non-professional. The Table - 1 indicates that more non-professional person work in these libraries than that of professional and semi-professional.

The study finds out that 10% Special Library run by one person i.e. the librarian himself.

It is also found that only at ICDDR, B the number of professional person is more than that of non-professional person.

TABLE 2.1 EXISTING SYSTEM OF SEARCHING

NAME OF LIBRARY	ONLINE	OFFLINE	BOTH
NHLDC	YES	NO	NO
ICDDR,B	YES	NO	NO
BECS,L	NO	NO	NO
BCSIR	NO	NO	NO
BIDS	NO	YES	NO
BIRDEM	NO	YES	NO
NILG	NO	NO	NO
PD,L	NO	NO	NO
ERD	NO	NO	NO
IMED	NO	NO	NO

N.B. YES, NO and BOTH in the table 2.2 indicate 10%.

TABLE 2.2 EXISTING SYSTEM OF SEARCHING

NAME OF LIBRARY	ONLINE	OFFLINE	BOTH
NHLDC	YES	NO	NO
ICDDR,B	YES	NO	NO
BECS,L	NO	NO	NO
BCSIR	NO	NO	NO
BIDS	NO	YES	NO
BIRDEM	NO	YES	NO
NILG	NO	NO	NO
PD,L	NO	NO	NO
ERD	NO	NO	NO
IMED	NO	NO	NO

N.B. YES, NO and BOTH in the table 2.2 indicate 10%.

The survey finds only 10% Special Libraries provide both manual and technological searching. The survey also finds that 70% and 40% Special Libraries provide manual and technological searching respectively.

Table 2.2 Shows that 20% Special Libraries provide online and offline service. This table also indicates that no Special Library provides both online and offline searching together.

TABLE 3 INFORMATION AND COMMUNICATION TECHNOLOGIES BEING USED.

NAME OF LIBRARY	COMPUTER	INTERNET & E-MAIL	VIDEO TEXT	FACSIMILE	TELEPHONE	MICROFILMING	PHOTOCOPIER	TELEX
NHLDC	YES	YES	NO	NO	YES	YES	YES	NO
ICDDR,B	YES	YES	NO	NO	YES	NO	YES	NO
BECS,L	YES	NO	NO	NO	NO	NO	NO	NO
BCSIR	YES	YES	NO	NO	YES	NO	YES	NO
BIDS	YES	YES	NO	NO	YES	YES	NO	YES
BIRDEM	YES	YES	YES	YES	YES	YES	YES	NO
NILG	YES	NO	NO	NO	YES	NO	YES	NO
PD,L	YES	YES	NO	NO	YES	NO	NO	NO
ERD	YES	YES	NO	NO	YES	NO	NO	NO
IMED	YES	YES	NO	NO	NO	NO	NO	NO

N.B.: YES and NO in the above Table 3 convey 10%.

Table III shows that 100% Special Libraries are being used computer whereas 80% use internet, e-mail and telephone. 10% uses video text, facsimile and telex. On the

other hand, 30% and 50% Special Libraries use microfilming and photocopier respectively.

The author also finds that few Special Libraries are using serial binding machine.

TABLE 4 PACKAGES ARE USING FOR PROCESSING INFORMATION RESOURCES.

NAME OF LIBRARY	DATABASE	MS-WORD	CD-ROM	CDS/ISIS	MS-EXCEL	NEW SOFTWARE
NHLDC	√	√	√	√	√	X
ICDDR,B	X	X	X	X	X	X
BECS,L	√	√	X	X	X	X
BCSIR	√	√	X	X	X	X
BIDS	√	√	√	√	√	X
BIRDEM	√	√	√	√	√	X
NILG	√	√	√	√	√	X
PD,L	X	√	√	X	X	√
ERD	X	√	√	X	√	√
IMED	X	√	√	X	√	√

N.B.: '√' and 'x' mean the particular software being used and do not use respectively in the particular Special Library and each '√' and 'x' mean 10%.

Table IV is showing that 60% Special Libraries have database; 90% and 70% Special Libraries use MS-WORD and CD-ROM respectively. It is also found in the Table - 4 that 40% Special Libraries have CDS/ISIS and 60% of them use Micro Soft -Excel. It is identified in the survey that 30%

Special Libraries are going to be introduced new software for library automation.

The author also found that few Special Libraries use PSP My Library, Bijoy, and Alice Software.

TABLE V TECHNOLOGY BASED SERVICES PROVIDED BY THE LIBRARIES.

NAME OF LIBRARY	CAS	SDI	RS	CIRCULATION
NHLDC	YES	YES	YES	YES
ICDDR,B	YES	YES	YES	YES
BECS,L	NO	NO	NO	NO
BCSIR	NO	NO	YES	YES
BIDS	YES	YES	YES	YES
BIRDEM	YES	YES	YES	YES
NILG	YES	YES	YES	YES
PD,L	NO	NO	YES	YES
ERD	YES	YES	YES	YES
IMED	YES	YES	YES	YES

N.B.: YES and NO mean 10%.

The Table V indicates that Special Libraries provide 70% Current Awareness Services (CAS) and Selective Dissemination of Information (SDI) and 90% Reference Service (RS) and Circulation respectively.

**VII. SUMMARY OF THE FINDINGS**

Analysis of the data collected shows that

- 32.61% professional, 9.78% semi-professional, 57.61% are non-professional work in the Special Libraries and 10% Special Library is run by one person i.e. the librarian himself.
- 70% and 40% Special Libraries provide manual and technological searching respectively.

- 100% Special Library uses computer for daily works for data processing.
- 80% Special Libraries use internet, e-mail and telephone.
- 60% Special Library has database and 40% Special Library is using CDS/ISIS.
- CAS and SDI service provide 70% Special Libraries whereas RS and Circulation service arrange 90% Special Libraries.

### **Problems**

The problems found in the study are mentioned below, but these problems are not faced by all the librarians or respondents in their respective libraries. All the problems informed by the respondents are included but their personal name or the name of the institutes is not identified for the purpose of secrecy.

#### **a) Lack of technical library staff**

It is regret to say that most of the personnel works in libraries have no professional degree. They have come from general discipline. The personnel who are working in these special libraries have no adequate knowledge regarding ICT. As a result they cannot organize library or to operate ICTs. And this is why these special libraries hindered the automation process. It is great regret to say that one library in the study area is organizing by the librarian himself and there is no other technical or non-technical staff is working there. The position of the librarian and other staffs is not same compared to the other staffs working in the same organization. So every spheres they face humiliation.

#### **b) Physical facilities**

Some respondents mentioned that they faced physical problem to introduced ICT as they have no sufficient space. It is found in the survey that one library is regulating its activities confined in one particular room only.

#### **c) Lack of funds**

These special libraries have on sufficient fund at all. They are totally depended on the parents' organization for funding to purchase books, ICTs and others. The parents' organization does not allocate any funds for its maintenance. Few special libraries are trying to introduce automation in their libraries introducing new automation software. But they are thinking whether they can successfully do that or not, because of shortage of funds.

#### **d) Negligence of the authority**

These libraries are the sister concern of the parents organization. The personnel working there cannot take decision themselves. These special libraries failed to attract

attention to the higher authority. As a result, they cannot provide desired information to its users through ICTs.

#### **e) Communication and co-operation**

Special Libraries in Bangladesh have no communication and co-operation among themselves. As a result, they cannot share their experiences using ICTs and the problems that they face and solving those problems in their respective libraries.

#### **e) Administrative Problem**

Administrators, policy-makers and government executives are not fully aware of the importance of the use of information and communication technologies in Special Libraries. Lack of awareness of the role, capacity and capabilities of ICTs impedes their use in Special Libraries. At the same time, the authority of the parents' organization neglects the importance of library activities and impact of ICTs in helping the library professional in their daily activities to provide required information to the information seekers. They expect an effective library activities and want enrich library, but in point of actions they only go back.

#### **f) Software Packages**

Software packages may serve Bangladeshi Special Libraries, are crying need in automation. The software packages which are available cannot suit themselves to the local situation and Bangladeshi library environment or the library's particular need. As a result, they are trying to develop software packages themselves for library automation.

#### **g) Inadequate Infrastructure**

Generally special libraries in Bangladesh have no adequately established well furnished infrastructure facilities because the administration does not feel any need to provide such facilities, communication equipment and necessary components and infrastructures which are required for ICT for effective library service.

#### **h) Lack of supporting policy**

A well library policy is necessary for effective library service but the government still ignores this sector.

g) *Others*

Lack of confidence in Information and Communication Technologies and preference of manual operation are also responsible not for using ICTs in Special Libraries in Bangladesh. Lack of adequate and interrupted power supply and drags in power voltage etc. are also problem in adopted ICTs in the Special Libraries in Bangladesh.

### VIII. RECOMMENDATIONS

It is not possible to provide necessary service or information to the information seekers, if the above mentioned problems – one or more will find in them. Some measures may adopt fixing the problems which are as follow:

- a) More professional personnel should be employed in the Special Libraries of Bangladesh. The technical and non-technical personnel should be well trained up. The parents' organization will be conscious about the professional and non-professional personnel who are going to be appointed in the future about their knowledge regarding ICT.
- b) Government should introduce Library Cadre service to the library. And Library Cadre must be employed from the candidate who studied in this field. The position of technical and non-technical personnel in the library should be same compare to the other personnel work in the parents' organization according to their working level and qualification.
- c) The physical facility of the library will develop. The authority should allot enough space for library to introduce and operate ICT there.
- d) The Government should allot enough fund separately for the library as they need not depend on the parents' organization to purchase books, ICT and its maintenance.
- e) Separate and effective rules and regulations should introduce as they can take decision themselves and need not depend on the well wish of the parents' organization.

- f) The authority of the parents' organization should change their mentality. They should give importance to the library and never show negligence to the personnel working there.
- g) Special libraries should communicate and co-operate in themselves. They should share their resources, technique, knowledge and experience.
- h) Administrators, policy makers, government executives should become aware of the importance of ICT in the Special Library to provide their required information timely.
- i) Special libraries should be automated. They should introduce software which is free and easy to use like CDS/ISIS.
- j) Special libraries should be well furnished using modern equipments.
- k) Government should not neglect and give importance to this sector by introducing effective library policy.
- l) Authority, users and personnel should be confident on ICT and do not give preference on manual operation rather than technical.
- m) Power supply to the library should not interrupt.

### IX. FUTURE LONG TERM PLANNING

These special libraries have plans to introduce automation except few one. Some of the special libraries which have already automated are trying to provide effective service introducing more information and communication technologies in their respective libraries. These special libraries hope for introducing the latest information and communicating technology. On the other hand, other Special Libraries which have no automation in their libraries are planning to introduce automation in their libraries in future.

Considering the socio-economic condition of Bangladesh it is difficult and impossible for the Special Libraries in Bangladesh to design a well equipped and automated information centre within a few days applying Information and Communication Technologies. It is impossible for most of the Special Libraries to get the required financial,

technological, infrastructural and technical support to develop them. In this case, a long term planning is required to enrich these Special Libraries in Bangladesh with Information and Communication Technologies.

#### X. WEAKNESS OF THE STUDY

The study confined in some selected Special Libraries in Bangladesh. These Special Libraries are located in Dhaka and considered to be the represented Special Libraries in Bangladesh. It is seemed to find out the real scenarios of the Special Libraries in Bangladesh only analysis the condition of these Special Libraries.

#### XI. CONCLUSION

Information and Communication Technologies change the definition of library and its services. These special libraries need Information and Communication Technologies to provide effective service. Special Libraries work for special kinds of people. The users of these special libraries are increasing day by day. It becomes quite impossible for a particular special library to provide all kinds of published information. But it is very easy for a skilled library professional to retrieve all the necessary information available on the Internet. A special library can store more digitalized information. The librarian, parents' organization, information seeker, the policy maker and above all the government have to come forward to develop all the necessary requirements to introduce Information and Communication Technology in the Special Libraries of Bangladesh.

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