

# ASSESSING THE USE OF INFORMATION TECHNOLOGY AND ITS IMPACT ON LIBRARIES AND INFORMATION CENTRES IN BANGLADESH

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## Introduction

In the present day, libraries and information centres have become multimedia due to adoption of new technological advances and innovations, and changing nature of their information storage, retrieval and services. In fact, information technology (IT) is an indispensable part of modern information systems development, management and services.

In this study, an attempt has been made to determine the extent of use of IT and its impact on libraries and information centres in Bangladesh. In addition, it has emphasized the new roles of our library professionals and information scientists for current application and future developments of IT. As an initiation of the study, various concepts on the study, such as IT, use of IT, impact of IT on library and information centres have been discussed.

## Information Technology

Information technology is now a comprehensive term, often used synonymously for 'new technology' or 'new information technology' and generously applied by both experts and layman to a wide range of information systems. 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. Several definitions have been attempted by many persons to define the term information technology. However, in our context, information technology can simply be defined as the application of new technologies to the acquiring, storing, processing, retrieving and transfer of information for performing the user's needs.

Information technology refers to the use of such facilities as word processors, computers, mass storage devices and various types of

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communication links to provide fast and efficient information storage, processing, retrieval and transmission. It can also be defined as 'various means of obtaining, storing and transferring information, using computers, telecommunications and microelectronics' (Khan, 1989:33).

UNESCO (1995:233) defines IT as "the scientific, technological and engineering disciplines and the management techniques used in information handling and processing; their applications; and their interaction with men and machines; and associated social, economic and cultural matters."

From the library point of view, we can define IT as library automation, building up CD-ROM databases, in-house database of library holdings in electronic form, e-mail, on-line retrieval networking, multimedia and the Internet.

Thus, IT can be defined as the new science of collecting, storing, processing, manipulating, retrieving information and transmitting it through various media of technology like expert systems, computers and telecommunication systems, microforms, information systems and videotext, etc.

### **Major ITs Used in 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 library and information centres 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 are mainly: (i) computer technology and (ii) telecommunication technology.

### **Impact of IT on Libraries and Information Centres**

Information technology has become an indispensable part of scientific and technological development that is being applied to information related aspects of the human activity. In the present 'age of information', IT has been making tremendous impact on different sectors of the libraries and

information centres; their organization, administration, management and services. In the context of library and information management, IT has become synonymous with automation and modernization of libraries or information centres.

At present, libraries, significantly the academic and special libraries have to gear up to meet the challenges of ever-increasing amount of information. In perspective of complex and multi-faceted user requirements this results numerous specialization and flow of non-stop information, decreasing comprehensive acquisition of documents for libraries, growing demands of information, increasing number of users, etc. IT has been playing a vital role in improving the capabilities of libraries towards attaining satisfaction of their users.

### **Objectives of the Study**

The main objectives of the present study were:

- to determine the extent of IT used in library and information centres in Bangladesh
- to find out the problems of using IT faced by the library professionals of Bangladesh
- to point out the impact of information technology on libraries and information centres of Bangladesh
- to suggest the new roles of library professionals and information scientists for future developments of IT and their use.

### **Methodology**

The population of the study consisted of the following: government public libraries, public and private university libraries, national libraries and major special libraries in the country. A short structured questionnaire was devised to look at the IT use and its impact on the library and information centres in Bangladesh. Field visits to libraries were undertaken for the collection of data in a structured way.

### **Findings of the Study**

Analysis of the data collected shows that only 58 libraries and information centres in Bangladesh are using computers in their operations and most of

them are concentrated in Dhaka. Among these, 42 (72.41%) libraries and information centres are using only CDS/ISIS software package for creating bibliographic databases, 3 libraries and information centres are using both CDS/ISIS and dBase software, 2 libraries and information centres are also using both CDS/ISIS and Inmagic software and one library is using CDS/ISIS, dBase and Inmagic software packages. Only 10 (17.24%) libraries are not using CDS/ISIS software but they are using other packages like Inmagic, FoxPro, dBase, Data Trek, etc. In fact, a few number of university and special libraries are literally automated and most of the rests are still in initial stage of computerization programme. Table 1 shows the library and information centres using computers in Bangladesh.

**Table – 1: List of library and information centres using computers in Bangladesh**

<b>Name of the Institution</b>	<b>Database</b>
AEC Library, Dhaka	CDS/ISIS
Ahsanullah Science & Technology University Library	--
AIC Library, Dhaka	CDS/ISIS and Inmagic
Ain O Shalish Kendra Library	CDS/ISIS
Army Central Library	FoxBASE
BANBEIS Library, Dhaka	CDS/ISIS
Bangabandhu Agricultural University Library	CDS/ISIS
Bangladesh Agricultural University Library	CDS/ISIS and Inmagic
Bangladesh Forest Research Institute library, Dhaka	CDS/ISIS
Bangladesh Parliament Library	CDS/ISIS
BANSDOC, Dhaka	CDS/ISIS
BARI Library, Gazipur, Dhaka	--
BELA Library	CDS/ISIS
BIDS Library, Dhaka	CDS/ISIS
BISS Library, Dhaka	CDS/ISIS
BIRDEM Library, Dhaka	CDS/ISIS
BMDC Library, Dhaka	CDS/ISIS
BPATC Library, Savar, Dhaka	CDS/ISIS
BRAC Library, Dhaka	CDS/ISIS

BSCIC Library, Dhaka	CDS/ISIS
BUET Library	dBase
CDL, Dhaka	CDS/ISIS
Central Public Library, Dhaka	CDS/ISIS
Chittagong University Library	--
CIDA Library	CDS/ISIS and dBase
CIRDAP Library, Dhaka	CDS/ISIS and dBase
Dhaka Chamber of Commerce and Industry Library	CDS/ISIS
Dhaka University Library	CDS/ISIS
DISC of ICDDR'B, Dhaka	CDS/ISIS, Inmagic, dBase
East-West University Library	CDS/ISIS
ERD Lib. & Documentation Centre	CDS/ISIS
ERDOC, Dhaka	CDS/ISIS
HRC Library & Documentation Centre	CDS/ISIS
IBA Library	CDS/ISIS
IIT Library, Gazipur, Dhaka	CDS/ISIS
Independent University Library	CDS/ISIS
IPGMR Library, Dhaka	--
IUBAT Library, Dhaka	--
Jahangirnagar University Library	CDS/ISIS
Khulna University Library	dBase
LAB Library	CDS/ISIS
National Library of Bangladesh	CDS/ISIS
NGO Forum Library	CDS/ISIS
NHLDC, Dhaka	CDS/ISIS
NILG Library, Dhaka	CDS/ISIS
NIPORT Library, Dhaka	CDS/ISIS
North South University Library	CDS/ISIS
Rajshahi University Library	CDS/ISIS
RDRS Library, Dhaka	CDS/ISIS
SAIC, Dhaka	CDS/ISIS
Shahjalal Science & Technology University Library	CDS/ISIS
Social Marketing Company Library	CDS/ISIS
The Population Council Library	CDS/ISIS

The World Bank Library	dBase
UNIC Library	CDS/ISIS
UNICEF Bangladesh Library	Data Trek
URC Library	CDS/ISIS
Voluntary Health Services Society Resources Centre	CDS/ISIS and dBase

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Table 1 shows that only 9 (15.52%) government university libraries, 5 (8.62%) private university libraries, 2 (3.45%) national libraries, 1 (1.72%) public library and 41 (70.69%) special libraries are using computers in their operations and services. In fact, the application of computers in most of these libraries and information centres is so limited than the optimal needs of the users.

This study also indicates that only 9 (15.52%) libraries and information centres in the country have been using e-mail facilities. They are BUET Library, North-South University (NSU) Library, Independent University Library, DISC of ICDDR'B, Community Development Library (CDL), BANSDOC, SAIC, CIRDAP Library, BIDS Library and Documentation Centre. However, a few libraries have access to their parent organizations' email facilities.

### System Analysis Task

A formal study should be undertaken to investigate the possibility of the new system before implementing computers in the libraries. It is important due to the cost involved in computerization project and it will affect the total working environment in the library. But a sad fact that was noticed while gathering data for this is that most of the libraries in the country did not undertake any formal study before going for automation.

### Computerized Library Operation

Table 2 indicates that out of 58 libraries, 47 (81.03%) libraries use computers for database creation, 5 (8.62%) libraries use computers for serial control, 5 (8.62%) libraries use computers for CAS and SDI services. Only 14 (24.14%) libraries use computers for CD-ROM search and 9 (15.52%) libraries use e-mail services.

**Table 2: Types computerised library operation**

Computerised Operations	No. of Institution	Percentage
Database creation	47	81.03
Serial control	05	8.62
CAS and SDI services	05	8.62
CD-ROM search	14	24.14
E-mail	09	15.52

### Service

The majority of the libraries indicated that they could serve their users better after introducing computers in the library. Some libraries indicated that they did not yet generate full database of their holdings, hence they face some problems regarding users' queries.

### Resistance to Change

About (86.20%) libraries and information centres mentioned that they did not face any strong resistance from their staff while introducing computers in the library operations and services. Some libraries mentioned that they face a brittle impeding from some of the staff members. These staff members did not want to come out of their traditional mould of functioning. There was a fear of the unknown of the new system.

### Problems of use of IT in Libraries

The major problem areas related to the use of computers in the libraries were mainly manpower, training, fund support, preference of manual operation, software packages, power failure, etc. About 41 (70.69%) libraries were facing problem of properly trained manpower and 52 (89.65%) libraries and information centres did not get sufficient funds from the authority for the purchasing of new computers and accessories. 32 (55.17%) libraries were facing software problem in their computer application systems and services, 40 (68.96%) libraries were facing power failure problems and 26 (44.83%) libraries reported that some staff members were reluctant to use computer but they felt comfortable in manual operation and services. Table 3 shows the problems relating to application of IT in libraries and information centres.

**Table – 3: Types of problem relating to IT in libraries**

<b>Types of problem</b>	<b>No. of libraries</b>
Manpower and training	41
Fund support	52
Software package	32
Power failure	40
Preference of manual operation	26

### **Impact of IT on Libraries in Bangladesh**

Although Bangladesh entered into the computer age in 1964 and the use of computers, CD-ROMs, e-mails, desktop publishing etc. technology in libraries and information centres are indeed unsatisfactory (BANSDOC, 1996:30). In Bangladesh like many other developing countries, the library-based information systems and services are mostly traditional in nature. Only some special and university libraries are using computers and a few number of libraries are in the process of computerization and networking. The same can be said for library and information science courses provided by two universities and two library and information science training institutions. Department of Library and Information Science of the University of Dhaka has launched two courses on computer applications from 1987-88 academic session. Now the Department has included a number of computer courses including system analysis and design, computer hardware and software, hardware maintenance and troubleshooting, programming language, database management system, etc. in the course curriculum. Moreover, the Department of Library and Information Science of the University of Dhaka, BANSDOC, INFOSERVE, ICDDR'B and CIRDAP arrange regular library based computer training programmes for both students and library professionals.

In spite of all these efforts at education and training of library professionals in IT, there is a general feeling of dissatisfaction with the human resource situation. It is estimated that a large percent of library professionals are not aware of the use of IT in libraries and the rests who can handle IT is still too small. Moreover, the level of their skills is limited and they are not able to optimally use the IT and manage it in a cost-effective way. Very recently



the government of Bangladesh has undertaken a project to introduce computer course in secondary and higher secondary levels for the massive spread of computer education (The Bangladesh Observer, 1998:1).

The present technology-based profession demands new skills, methods and new approaches for information. The mental attitudes and thinking have to be transformed to cope up with the challenges from technology, environment and users. It is essential for each and every library professional from top to bottom to understand the use and benefits of IT and how to provide better library and information services.

The potentiality of professional librarians and information scientists regarding IT is very crucial aspect for installation and implementation of library automation. Both librarian and staff should be willing to integrate automation in libraries and information centres and should equip them with modern technology in order to serve the users better. The major difficulty in integration of IT in library environment is not only the lack of finance but also lack of proper training, education and initiative on the part of librarians.

The 21st century is coming with new challenges of IT for library professionals and they should be prepared to face the challenges of the new century. In fact, the success of IT 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 IT.

### **Recommendations**

The present status of IT used in libraries and information centers in Bangladesh is not satisfactory at all. Among these, some libraries have a small number of computers or have a single computer only. The recommendations of this study are reflected mainly by the librarians having had IT related experiences in Bangladesh.

At the present time, readers are faced with multidimensional problems of having either too much information or too little or none at all. To avoid this controversy the areas of study or research need to be consulted. CD-ROM or on-line databases can provide a wealth of information on popular topics,

while there is generally a paucity of information on topics related to local content (Ming, 1996:82). Indispensably, the libraries and information centres of Bangladesh should respond to the tide of development in IT and should constantly move to diversify their operations and services in order to fulfil the 'just-in-time' needs of users.

Developments of IT provide assurance and opportunities for compact storage of information, fast processing, rapid retrieval, timely and easy access to the ocean of information. The application of new information and communication technologies specifically computers, CD-ROM, telex, facsimile, e-mail and Internet should be integrated with library's information services in Bangladesh.

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 is still in a primary and experimental stage.

Networking is one of the most effective ways of serving the user's needs comprehensively. The data communications have supported the establishment of networks at local, regional, national and international levels (Varalakshimi, 1992:237). On-line access to comprehensive databases through library networking systems e.g. LAN (Local Area Network), WAN (Wide Area Network) is essential for getting available world's most recent published information to meet the needs of our users.

Manpower is an essential element for the application of information and communication technologies is concerned. Necessary steps should be taken to develop properly trained and competent library human resources for maintaining automated library and information systems.

At the national level, efforts should be made to set up the library and information science research and training institution in Bangladesh like INSDOC, IIT in India and AIT in Bangkok. The government should be taken all initiatives through BANSDOC or Central Public Library for providing advanced training programmes on modern information and communication technologies and their application in library and information services.

Libraries with the help of software development firms should try to develop software packages for the use of computers in Bangladeshi libraries in general and to make the best use of the available readymade software for libraries, provided they are capable of solving the local needs (Ahmed, Munshi and Ahmed, 1997:42).

Professional library associations in Bangladesh like LAB, BALID, etc. should organize short-term training programmes for library professionals in the field of computer application to library and information services, on-line information retrieval, data processing, electronic publishing and also training on such packages e.g. Word Processing, CDS/ISIS, dBase, FoxPro etc. This is no doubt, without computer the modern library and information centre can not be thought and modern functions, activities and services are quite impossible to perform.

### **Conclusion**

The atmosphere of library and information science is currently holding up a rapid and dynamic evolution. In agreement with the requirements of modern information environment, libraries and information centres are responding to developments with the pace of an evolving information and communication technologies. In order to meet the challenges of 21st century, the libraries and information centres in Bangladesh have also been introduced modern information technologies in their services. The government of Bangladesh has been started to computerise in different administrative sectors of the country and to develop databases and management information systems to quicken the decision making programme. To make the computerization programme successful in both government and private sectors in the country, our government has also taken some commendable initiatives. One is as for example; the government of Bangladesh has considered the computer as a tax-free instrument in the budget of the fiscal year 1998-99, which will make the computerization programme successful in the country. It will cause a well impact of IT on libraries and information centres of Bangladesh. It is also encouraging that at the end of 20th century we have to realize that the 21st century will be only the 'Era of Information Technology'. Just it is the matter of time.

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