ELECTRONIC INFORMATION SERVICES IN SELECTED UNIVERSITY AND SPECIAL LIBRARIES OF BANGLADESH: A STUDY
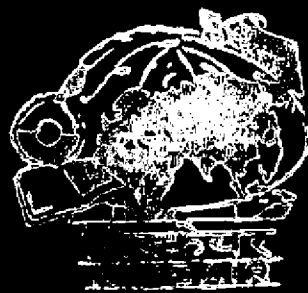
Dissertation submitted in the partial fulfillment for the award of
ASSOCIATESHIP IN INFORMATION SCIENCE

By
Md. Moniruzzaman
AIS (2007-2009)

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Under the Guidance of
Dr. M. Natarajan
Scientist, NISCAIR

GIFT

By

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For My

Grandmother

निस्केयर
NISCAIR

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Bangladesh: a study" under my guidance for the partial fulfillment of the award of Associateship

in Information Science, a two year Master Degree course in Information Science, conducted by

National Institute of Science And Information Resources (NISCAIR).

To the best of my knowledge, the work is original and has not been submitted elsewhere.

ঢাকা
বিশ্ববিদ্যালয়
গ্রন্থাগার

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তথ্যবিজ্ঞান ও গ্রন্থাগার ব্যবস্থাপনা বিভাগ
ঢাকা বিশ্ববিদ্যালয়

<u>29 August 2009</u>

<u>Certificate</u>

This is to certify that the dissertation entitled "Electronic Information Services in Selected University and Special Libraries of Bangladesh: a study" has been done by Mr. Moniruzzaman, AIS student (2007-2009) in the partial fulfillment of the requirements for the award of Associateship in Information Science, a two year Master Degree course in Information Science conducted by National Institute of Science and Information Resources (NISCAIR).

To the best of my knowledge, the facts reported in this dissertation have been collected first hand by the candidate and that other sources what ever used have been acknowledge. The work is original and has not been submitted elsewhere.

(Muhammad Mezbah-ul-Islam, *Ph.D*)
Associate Professor

DECLARATION

The work reported in this thesis is original and has not been submitted by me to any University or Institution for the award of any degree. Such information has been obtained from other sources is duly acknowledged in the dissertation.

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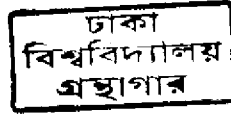
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Mr.Md.Moniruzzaman

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Abbreviations:

DUL   -Dhaka University Library

ICDDR'B   -International Center for Diarrhoeal Diseases Research, Bangladesh.

BUET   -Bangladesh University of Engineering & Technology.

BANSDOC   -Bangladesh National Scientific & Technical Documentation Center.

SAIC(SAC)   -SAARC Agricultural Information Center.

BRAC   -Bangladesh Rural Advancement Committee.

IEEE   -Institute of Electrical and Electronic Engineers.

ICT   -Information and Communication Technology

LAN   -Local Area Network.

MAN   -Metropolitan Area Network

WAN   -Wide Area Network

OPAC   - Online Public Access Catalogue

UGC   -University Grants Commission

BANSLINK   - Bangladesh National Scientific & Library Information Network.

BULMS   - Brac University Library Management System.

EIS   –Electronic Information Service

BIPC   -Bangladesh INASP-PERI-Consortium.

GLAS   -Graphical Library Automation System.

NLA   -National Library of Australia.

WWW-   World Wide Web

LIC   -Library & Information Centers

Chapter- 1

Electronic Information Services in Selected University and Special Libraries of Bangladesh: A study

1.0   Background of Bangladesh

Bangladesh has born as an independent & sovereign state in the world map on 16th December in 1971 following the war of liberation against the West Pakistan. InBritish Period present Bangladesh was the province of West Bengal(Kolikatta) in India .In 1947 British rule was ended and the country was partitioned into Pakistan vs. India. The eastern wing of Pakistan was called East Pakistan (Present Bangladesh) & the western wing was called West Pakistan (existing Pakistan).But very soon differences arose between the East & West Pakistan's. The East Pakistan fought for independence against the colonial rule of West Pakistan. The beginning of 16th December was a sparking sunny morning of clear blue skies typical of the mild weather season in newly born Bangladesh. On behalf of Eastern Theatre (Bangladesh) the Indian & Bangladesh commanding Chief Lieutenant General **Mr.Gajit Singh Aurora** ordered allowing 24 hours' time to Lieutenant General Niazi to accept the surrender by 9 a.m. that day was December 16,1971.After applying mighty force in resolving national issues Pakistan's (Niazi's) Armed Forces laid down their arms and surrendered .at **"Ramna Race course Maidan"** at 4.30 p.m. on 16th December in1971. After 9th month direct struggle & a blood-bath (from **March 25 to December 16,1971**) the nation politically sovereign has come into existence "as **"The Peoples' Republic of Bangladesh"**.

The country at birth had inherited a poor undiversified mixed economy characterized by an undeveloped infrastructure, stagnant agriculture and a rapidly growing population. But now it is considered as a developing country with industrial development, development of education, technology, natural resources, various infrastructures, controlling the growth rate of population, increasing the agricultural

production as well as various initiatives regarding the socio-economic development.More than 85% of the area of Bangladesh is generally described as a delta or a flat alluvial plain crisscrossed by the mighty Padma, Meghna, Jamuna and their innumerable tributaries and distributaries. There is an extensive hilly area in the districts of Chittagong, Hill-tracts in the South -East. The highest peak in Bangladesh is the Keokradong (4,034 feet) at the South -Eastern extremity of the area. Bangladesh is divided into 6 administrative Divisions, 64 Districts (Zillas), 6 City corporations, 308 Pourashova, 481 Upozila, 596 Thana and 4498 Union parishad. In rural area thanas are divided into Union and then Mauzas a land administrative unit. Urban area is divided into City Corporation and then Wards. After the independent, Bangladesh Government has the course of 5 year and 2years planned development since 1973-2002.

Development for example, In 1990 the total primary school was 47,241(Govt-37,655+Reg.-6.226+Non.Reg.-3.320) where as in 1995 it was increased in total-59,894(37710+17151+5033). Enrollment in Primary education increased from 12.1 million (5.4 million girls) in 1990 to 17.3 million (8.18 million girls) in 1995 with the rise in completion rate from 41% in 1990 to 60% in 1995. Education System broadly categories as-Primary education, Secondary Education, Madrasha Education, Cadet Collage, College & Medical Education, University Education (General), University Education (Agriculture), Engineering Education, polytechnic Education, Vocational Training, Teacher Training (General),Teacher Training (Technical)Commercial Education, Scholarships, Mass Education, Special project of the Mininstry Education, Extra- Curricular Activities and Religious Affairs Education respectively.

1.1 History of Libraries in Bangladesh

The library development in Bangladesh is closely related with the history of library development in Indian sub-continent. The evolution of library in the Eastern part of Indian sub-continent was a private initiative with the establishment of Public Library in Calcutta(Kolkata) in 1835 which is now the National Library of India(**Manna 1997:92**)This library movement was jointly started by some natives and British Civil Servants in the early 1800's.As a result, in Bangladesh region(then the East Bengal), **the Jessore Public Library** was established in 1851 by dint of Public Library Act 1850.The very oldest & historical three others like- **Woodburn Public Library at Bogra, Barisal Public Library at Barishal, and Rangpur Public Library at Rangpur** were established with in 1854(**Khan 1984:126**).

Although libraries have been in existence since the beginning of civilization. Formal library and information practice in Bangladesh dates the middle of the nineteen century(**Mannan 1997:93**).At present different types of libraries are running in the country on their own ways. Maximum of this libraries are not well equipped with modern facilities including internet and electronic publication and services. As a result, the learners, researchers, professionals of the country remain deprived of the world of knowledge and the existing literature meet a little of the information requirement of the educated section of people. It can be notified that every educational institute has its library according to Government Rules & Regulations from primary level to university level. So total number of libraries remarks the total educational & training institutes of Bangladesh. Besides these divisional libraries, district & thana libraries are serving the stakeholders under the administration of Central Public Library which is under the Ministry of Cultural affairs of Bangladesh Government. However, Central Public Library was established in 1954 during the first five year plan (1955-60) on the basis of the recommendation of L.C. Key, an Australian consultant. Bangladesh inherited about 175 public libraries and information centers established during the British and Pakistan period.

In another statistics shows that there were 112 public libraries in East Pakistan (present Bangladesh) in 1971. It is mainly due to lack of baseline survey providing accurate information about college libraries in Bangladesh is difficult. But according to **Bangladesh Bureaus of Statistic(BBS)**, there are **2288 colleges**(private & public), **24** medical colleges, **2** Dental colleges, **24** polytechnic institutes & engineering colleges, **42** law colleges, **4** agriculture colleges and **2** home economic colleges in Bangladesh. **Source: BBS 2006:359.**

Following Public Libraries are in Bangladesh

Categories	No. of Libraries
Govt. Public Lib.	66
Non-govt. District level Public Lib.	64
Non govt. Thana level Public Lib.	555
Total	685

Source; Hakim MA: 1996; p: 160

According to the rule of the government for affiliation, any college must have a library with minimum 500 collections. Considering this clause it is expected that every college belong a library of it's own but in practice except a few, most of the college do not have any proper library facilities with them.

According to a survey, 40% govt. intermediate colleges have got below 500 books, 80% college library 2000, where as 42% non govt. intermediate colleges have got below 500, 71% college library below 1000 books, 22% govt. degree college library's collections are as 3000 to 5000 and 32% post graduate degree college libraries have got 10,000 to 20,000 books and 32% have got more than 25,000 books in respect of 63% college library (none-govt. degree) have got below 2000 books.

There is no unique authority or any coordinating agency for the management of existing library system in Bangladesh except the government public library sector. From the capital city to the rural areas different types of libraries are serving different users with varied collections that are financed and administrated by different authorities. There are various types of library system in Bangladesh mainly National Library, Public Library, Academic Library, and Special Library. Infect there was a very little attention to libraries and library development **(Khan 1984:126).**

1.2   Present Scenario of University Libraries

The library is an effective institute for prolonged, systematic self-education of human being. Libraries & information centers in general have important part to play in future development in the socio-political, cultural, educational, as well as intellectual progress in a country. It is a social mechanism that should be the heart from which every development in the community radiates and gets irradiated. Infact, it was intended to preserve racial memory through books but with the progress of civilization and advances of science and technology, libraries and information centers are intended to preserve the memory of mankind through the compounded global store of intellectual capital consisting of all forms and types.

The establishment and development of university libraries goes back to the establishment to the universities in Bangladesh. Dhaka University Library is the first university library in Bangladesh established in 1921.University Libraries are also categories as the Academic Library. There are two kinds of University Libraries like as- Public University Library (Autonomous) and Private University Library (Non-Government).Public Universities (Autonomous) are funded by the Government indirectly. As public universities are autonomous body, the libraries are controlled by the university authority under the supervision of University Grants Commission (UGC).The collection and services of Public university libraries are more extended than that of private university libraries. The collection range from 2 thousands to 15 thousands of the private university libraries where as public university libraries are

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from 50 thousands to above 6 lacs including all kinds of library collections. Private Universities are funded by Non Gov. Organizations, university authority as well as other sources. There are 32 Public University in Bangladesh and with in this 2 (one in Barisal & another one in Pabna) university on going process. There are 58 Private University/Libraries in Bangladesh and with in this 53 are approved by the UGC and another number of 5 universities are going on their activities without the approval of UGC. But they are trying to fulfill the condition of UGC waiting the final approval in short span of time. So total number of Universities is 90 in Bangladesh.

1.3   Present Scenario of Special Libraries

Special Libraries and Information Centers in Bangladesh have been reflected as a social and non profit service oriented organization providing information to their members from a long time past. It is major source of information in the organization it serves. The special library is, in short, a particularized information service, which correlates, interprets and utilizes the material at hand for the constant use and benefits of the organization (Sharp 1963). It is responsible for the collection, organization, storage, retrieval, interpretation, transmission and utilization of information directly concerned with and auxiliary to, the work of the parent organization's clientele in the achievement of that organization's specific aims & objectives, products & services. The Special Libraries in Bangladesh are characterized as Institutional Libraries and the nature of collection and services are reflected according to information needs and financial abilities of the organizations. According to the official source of Library Association of Bangladesh (LAB) there are 664 special libraries in Bangladesh. Another important segment of special libraries is non- government organization (NGO) libraries & information centers and foreign mission libraries in Bangladesh. According to NGO Affairs Bureau official sources more than 3500 NGOs are working in different sectors in Bangladesh. Most of the NGOs maintain library or information units at least at the head office.

According to the **Directory of International Organizations in Bangladesh**, there are more than 13 international donor agencies, 17 UN organizations,47 diplomatic missions in the country. A study conducted by **Goethe Institute** shows that most of these organizations maintain library services for different information supports and public relations of the parent organization (**Alam 2002:6-7**).Modern information system and services are characterized these libraries.

So it is being said that the special libraries are an integral part of the library system of the country and play an important role for national development. Referring **Mosharaf and Selim, Ahmed (1985:109)** mentioned that different Ministries including attached departments and directorates, autonomous and semi- autonomous bodies, foreign missions, private organizations, news agencies, societies, learned bodies and voluntary organizations in Bangladesh have their libraries for social, economic, scientific & technological progress; the development of successful research and services depends on the acceleration of special library system. It is acted in various specializations e.g. Agriculture, Health Population, Science & Technology, social Sci.& Rural Development etc.

A special library is a particularized information service centre designed to meet the research needs of the specialists, the experts, and the top management of the parent organization". There are about **680** Special Libraries in Bangladesh. (**Source: University Grants Commission-2008, Bangladesh**). It is funded both government & privately, also funded by NGO's, parent & foreign organizations.

1.4   Status of ICT Applications in Libraries

ICT status of Bangladesh is not remarkable without the some favorable initiatives by the government as well as private entrepreneurs. The history of computer using in Bangladesh entered into computer village in 1964 with the installation of an IBM 1620 machine at the Atomic Energy Commission (Dhaka). Libraries in Bangladesh

began to use computer in the early 1980s. Little progress was observed in the application of computers to library services between 1964 and 1995, but there has been considerable progress since 1996. The internet comes lately in Bangladesh in 1993 and IP connectivity in 1996. In April 2000 the government withdraw taxes on VSAT after that the Internet scenario of the country has been changed rapidly. Present there are nearly 120 ISPs serving for accountholders-based connectivity with more than 500,000 users. The Ministry of Science and Information and Communication Technology approved the ICT policy in 2002. Commission on International Trade Law (UNCITRAL), known as the UNCTIRAL Model Law on Electronic Commerce, has been drafted by Ministry of Law, Justice and Parliamentary Affairs and is now being reviewed, while Copyright Act has been amended to incorporate the Intellectual Property Rights (IPR). Though the ICT Act has not yet been published. But the Copy Right (amendment) Act 2005 has been passed to protect the intellectual property rights including the computer equipments like software, hardware and patent.

South East Asia- Middle East-West Europe(SEA-ME-WE-4) is a submarine cable consortium connecting a total of 14 countries at 16 landing stations. Bangladesh joined this consortium and signed a MoU on 4th September 2002 at Bali in Indonesia, and then Bangladesh signed the Construction and Maintenance Agreement in 2004 in Dubai, after 4 years of joining this consortium on 21st May 2006, The Prime Minister of Bangladesh inaugurates this sub-marine cable. The total length of the cable is 22,000 km(approx) where Bangladesh landing station is 1260 km away from Cox's Bazar seashore. According to the Project Director, Submarine Cable implementation Project" initially Bangladesh would get the opportunity to transmit data 10gbps which equivalent to 100000- voice channel". Meanwhile, many IPS's in Dhaka have already started using the Submarine Cable even though an appropriate cable in infrastructure is yet in place. They are providing speed up to 2Mbps.

In the present age of information, libraries & information centers have become profit making organization due to adoption of new technological advances, innovations and changing nature of their information storages, processing, retrieval and services. Instead of the user approaching for information services in the library or information centers, the information must reach the users place to work; whether it is a classroom or the home. The technological evolution in libraries has been called **"quiet revolution". According to Becker**, it is "quiet" because the signs of change are subtle and not always evident; it is a "revolution" because the new technology will most surely affect all libraries.

The library management system is integrated if it is sharing a common database to perform all the basic functions of a library and it may be called fully automated library system.**(UNESCO 2001:3).** An integrated library system enables the library to link circulation activities with cataloging, serials management etc. at any given time. In Bangladesh, for many decades the libraries have been serving the users with its printed books by manual or traditional system. In 20th & 21st century the scenario has totally been changed. The present digital era that has led to the collection building with the application of information and communication technology (ICT), which helps in accessing the electronic resources, and sharing it in the respective fields of our country. Now days it is being served by the Electronic-Information besides its printed documents. The library services being developed with the initiatives from govt. to private especially in university and special libraries of Bangladesh.

Modern technology started with On-line Computer Library Center (OCLC), using of barcode & scanner, Bibliographic Automation of Large Library Operations using a Time Sharing System (BALLOTS). Library Card Catalogues replaced as On-line Public Access Catalogue (OPAC), Integrated Library System that has created very successful mechanism in the respect of resource sharing. In the modern era. hundreds of library software take part an important role for the collection building. preservation

as well as services development. Open Source Software (OSS) is available in online to uplift the library services with super technology. Electronic Information Services declared the **"library without wall"** as well as digital information services. It reduces the time of the users and offered a very sophisticated searching & retrieval system of information. Although it is difficult for Bangladesh to cope with fast technology due to cost effectiveness, administrative policy making, tight budget, lack of skillful manpower, lack of infrastructure etc. are the main drawback to introduce new technology in the field of library & information services. In comparison with developed countries we are serving traditionally to the users but for eg. India is using super technology like digital and virtual library including Radio Frequency Identification (RFID) system whereas Bangladesh is not able to reach fully automation in library & information services.

1.5   <u>Dream of a Digital Bangladesh & Young Generation</u>

The electoral pledge of the newly installed government (December,2008) has popularized the buzzword digital Bangladesh all segments of society. Everybody now is eager to explore the term Digital Bangladesh and its possible impaction society. Recently "The 9th Parliament Election December 2008" was held in Bangladesh. Bangladesh Awame League has formed the Government with obtaining 75% vote. One of the most election manifestos was to prepare the Digital Bangladesh within 2020.So we people have the great expectation to the present government to free flow of information by utilizing the ICT in every sector especially the field of library and information center. According to their manifesto government has already taken the initiative to "Digital Vhumi Record" by innovating Electronic Total Station (ETS) in February 2009 at Saver District.

Broadly speaking, a digital society ensures an ICT driven knowledge-based society where information will be readily available online and where all possible tasks of the Government, semi-government and also private spheres will be processed using state

of the art technology. In other words, one has to establish technology-driven e-governance which includes e-administration, e-commerce, e-production, e-agriculture, e-health etc. e-Governance enables the continuous enhancement of the actions of the state, focuses on the efficiency of the internal administration and establishes an Information Management System to arrange internal processes speeding up decision-making at all levels of the government, e-Governance aims to place the government within the reach of all citizens increasing transparency and citizen's participation. Thus, the development of e-Governance should promote universal access to government's services, integrate administrative systems, networks, and databases, and make such information available to the citizens via internet. In a nutshell, such e-Governance should transform the government into a citizen centric technological driven one. Building strong ICT infrastructure is the pre-requisite for digitalizing Bangladesh. For this, we need to focus on the following relevant issues assessing the harsh reality that hinder our development in this context.

Latest statistics reveals that Bangladesh faces a power deficit of up to 2000 MW against demand of 5000 MW daily. It may be noted that for proper ICT development an uninterrupted power supply is a must. Outside Dhaka, at present a few computer network infrastructures have been developed so far. Apart from some educational institutes outside Dhaka observation finds that most of the LAN setups are Dhaka centric. This observation reveals the reality of the digital gap even within the country. For the ICT development Internet users of the country must be increased. In this case our position is a worst one among the sub-continental countries.

The latest statistics (ITU, 2007) has revealed the Internet penetration in our country is only 0.3%.Where as for Pakistan and India, the rates are 7.3% and 5.3% respectively. Since 2006, Bangladesh has been connected to worldwide Internet Super High Way through an under sea submarine cable. But this single submarine cable frequently faces disruption resulting in slow bandwidth. Network readiness Index

(NRI), developed by the University of Harvard, measures the propensity for countries to exploit the opportunities offered by information and communications technology.

The NRI seeks to better comprehend the impact of ICT on the competitiveness of nations. The NRI is a composite of three components: the environment for ICT offered by a given country or community, the readiness of the community's key stakeholders (individuals, businesses, and governments) to use ICT, and finally the usage of ICT amongst these stakeholders. Unfortunately, the latest survey (2006-7) has revealed that Bangladesh's NRI ranking is one of the lowest among the Asian countries. The profusion of ATM machines in the streets of Dhaka is at least an indication that Bangladeshis are getting more and accustomed to using electronic system introducing in wide of varieties. Another major example of the growing digital trend in Asia is Singapore. Once again, there are striking similarities between the history of Singapore and the unfolding story in Bangladesh. The Singapore Government started a plan to develop Singapore into a city driven by digital technology. This was started by a push to introduce high definition television content to the mass consumer market in 2007. This reminds us of the latest initiatives taken in Bangladesh for introducing mobile WiMAX frequencies to provide high-speed mobile wireless internet access throughout the country.

A digital Bangladesh might even be able to stay the monstrous problem of traffic jams in the major cities. Many Asian countries are now employing the various features of GPS car navigation systems like route guidance for congestion, audio assistance, maps with 3D effect, zoomed images of traffic intersection, destination information sign, improvement in driver assistance, indication of lane information, wide screen for better visibility, high-quality picture technologies, pursuit of high accuracy etc. The technology will probably tell you that all available roads are clogged anyway (much like the radio programs monitoring traffic in the capital), but you will at least be able to make 'informed' decisions.

Chapter- 2

2.1   Introduction

Information is an invaluable resource is being collected, organized, disseminated, transformed and communicated through print and electronic media. The electronic sources will be cost-effective and users will be in a position to get pin-pointed information with the help of powerful search engines. The developments in the mass storage, computers and communications fields have made electronic resources very popular. The LICs can be attached to the research Institutions that can subscribe a good number of electronic information sources to cater to the needs scientists. The resources available in these centers have been immense value to these scientists in keeping abreast for the current knowledge in their respective spheres. The study concludes with the major findings and suggestions to improve the existing IT infrastructure facilities to facilitate better access to electronic information sources & services. The electronic information sources have become an integral part of the services and they have a crucial role to play in the Research and Development. Now the scientific community working in Research and Development (R & D) organization depends of their research activities on electronic sources. The developments in the mass storage, computers and communications fields have made electronic resources very popular. The impact of electronic resources on libraries has been widely reported in the literature in the literature. This study conducted a detailed survey to know the scientists feelings and satisfaction with respect to access electronic sources in the selective library and information centers of Bangladesh.

2.2   EIS: Means, Methods and Management

The term "Information " means any communication or representation of knowledge such as facts, data, or opinions in any medium or form, including textual, numerical, graphic, cartographic, narrative, or audio-visual forms (Ravichandra Rao, 2000). Electronic information may be broadly defined as "the information stored in a medium, which requires and electronic device to read its contents". (Pragnya and Saroj, 2001). The term "information resources management" means the process of

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managing information resources to accomplish agency missions. The term encompasses both information itself and the related resources, such as personnel, equipment, funds, and information technology. The term " information system " means a discrete set of information resources organized for the collection, processing, maintenance, transmission, and dissemination of information, in accordance with defined procedures, whether automated or manual and capturing, storing, and channeling information **(Carmel and Kazlauska,2002).**

2.3 Growth and Development of EIS

Electronic information has become a major topic in the world literature in recent years, particularly because of the developments in information technologies. Electronic information-all those publications which are in electronic or digital media-is usually known as electronic information resources and services. In early 70s. Most of the electronic sources were available in magnetic tapes and some were online. These were of course, mostly secondary sources. Since then many developments have taken place. Today, electronic sources are available on the net are often referred to as online sources. These resources consist of reference documents, data, research publications, journals, thesis, dissertation, books, magazines, learning materials, case studies, conference papers, conference proceedings, research report, project reports, technical reports, working papers, workshop reports, evaluation reports etc.

In the electronic information industry, change is so rapid that there is a little agreement, even on definitions. Indeed, each individual seems to shape his or her own definitions. Toj define electronic information rather narrowly; cohesive content published first electronically **(referred to in cyberspace parlance as "born digital")** for a specific audience, although the web dominates our thinking now. "electronically" includes CD-ROMs. floppy disks, the internet (as opposed to the web), and texts distributed via e-mail.

2.4 E-journals, E-books

E-journal as EIS that Electronic Journals or e-journals may be defined as any serial publication (such as journal, magazine and news letter) in digital format and made available on CD_ROM,DVD, online systems and the Internet. E-journals are often referred to interchangeably as "electronic publishing", electronic serials"," online journals" and electronic periodicals"

Bombak et al.(1992) defined e-journal publication whose primary means of delivery to subscribers is through computer files'. Most of the publication process of e- journal is now done electronically, over the internet-submission, peer review, editing and hosting on the publisher's website. Any user having access to Internet can now have access to e- journals as publishers are able to deliver them directly to the users' desktops.

E-journals are becoming popular and more effective with the growth and expansion of the Internet,. They have revolutionized the change in the field of library and information services. They have been regarded as important library resources and many libraries all over the world have already replaced print journals with e-journals. As a case in point, the W.W.Hagerty Library of Drexel University made migration to an e-journal as quickly as possible with a key component of its strategic plan in 1998. Montgomery (2000) in a case study indicated that with few exceptions, if a journal is available electronically, only the electronic version is purchased whenever possible. In 2002/2003, the Libraries Deanship of United Arab Emirates University (UAEU) made a commitment to cancel printed journals and migrate to all e- journals collection (Abdulla, 2005). The first e journal subscriber in Bangladesh is the Library and Information Service Unit (LISU) of International Centre for Diahrial Disease Research, Bangladesh (ICDDR,B) that started subscription in 1994. Subsequently, the leading private universities namely North South University Library, Independent University Bangladesh Library, East West University Library. American International University. Bangladesh Library came forward to subscribe e-journals. Regarding a

study only four libraries, on their own initiatives are offering training programmes for staff. The libraries indicated that no e-journals publisher is giving training facilities for their information professionals. It is also observed that only two libraries are organizing formal orientation programme" on how to use and access to e-journals" on regular interval. Although nine library organizations have websites, five of them do not provide links to e-journals and eight do provide alphabetical listings of e- journals in their websites. No library maintains a catalogue for e- journals. Only the British Council Library provides remote access to e-journals. Recently BRAC university library of Bangladesh also provide the remote access by their digital initiative.The study also demonstrated seven of the surveyed libraries subscribe AGORA and HINARI, five have JSTOR, four subscribe to Oxford University Press and ACM package, two use IEEE and only one subscribes Emerald, proQuest, EBSCOhost, ASLIB,EOLSS and Blackwell. E- Journals should be accessed by registered IP and Password, but it was found that many journals publishers are not giving access through IP address, and this is not convenient for the users. It was also found that no e-journals are available in CD_ROM/DVD version; therefore if the libraries discontinue subscribing, they will have no access to back issues after the end of the subscription period.

E- books

Electronic Books or e- Books are books in computer format (0's and 1's) and are read on all types of computers including handheld devices designed specially for reading e-Books. It is supported by special reader like as Microsoft Reader, Adobe e-book, (Amazone e-bookstore, Barnes & Nobel e-bookstore) Net library & portable device (GemStar e-book, Palm e-Reader, Mobi-Pocket. In short sense e books are essentially published books and reference materials that were digitized and are distributed electronically (Seeker, 2004:17).In the year 2000 e- books were signed as the new publishing revolution. One of the first commercial e-book services, Net Library was established by OCLC in 1998.

2.5 Library Consortia

According to Malaysian Journal of Library & Information Science, Consortia or buying clubs have been established in most of the countries in the world to reduce the subscription cost of e- journals and to obtain some extra benefits from the publishers. In Bangladesh, not enough libraries are subscribing to e-journals in order to form a consortium. However, the Independent University, Bangladesh took initiative to form a consortium among the private universities in recent past, but no library has shown interest in establishing a consortium. Library consortium can carry out the benefits like as lower cost than the regular price, more e-journals can be subscribed at the same time, to help resource sharing among the libraries, training facilities from the vendors, available resources etc. Some library consortium in India like as INDEST, INFLIBNET, CSIR E-JOURNAL Consortium.etc.

A consortium could be described as a group of organizations who come together to fulfill a combined objective that usefully requires co-operation and the sharing of resources. And need to have a clear mutual goal in order to ensure their success. The aim should be to deliver" more than the sum of the individual parts"(Yernagula and Kelkar,2006)

Consortium or Information Systems /Networks at sector and National level

In Bangladesh like other developed and developing countries, efforts have been taken to establish information systems / networks(Consortium) at sectoral and also at national level for information resource sharing among the Library Documentation and Information (LDI)Centers for meeting the information needs of the user groups. The notable information systems and networks in the country are:

1. "National Health Science Information Resource- Sharing Network' is a system working in health sector's LDI centers with NHLDC as its national focal point participating in Health Literature, Library and Information Services(HELLIS);

2. National Agricultural Information System(NAIS) is a network in agricultural sector with AIC as the national focal point participating in AGRIS'

3. Information Network on Rural Development(INRD) is a network in rural development sub- sector with CIRDAP library located in Dhaka as its principal focal point in rural sub- sector;

4. Development Science Information System is a network in the development sector with BIDS library as its national focal point participating in DEVINSA;

5. BANSLINK is a national network in science and technology sector with BANSDOC as its national focal point participating in regional and international networks in the same nature. (It's a failure project)

6. Bangladesh Education and Research Network (BERNET) is a network of University Grants Commission starting its function since April7, 1999 with UGC's University Resources Center located at UGC's office as its National focal point with the objective of resource sharing among the universities of Bangladesh and abroad.

The above information systems and networks, especially the use of information technology (an integral component and input of information system /network) in Bangladesh are evaluated and criticized by lack of information specialists in country and abroad. It is observed that 'lack of technically trained staff, lack of standard lack of administrative support, lack of software packages and lack of funds are the major problems in automation of library services in Bangladesh for creating information system/ network. Actually, information systems / networks in various sectors and sub-sectors in Bangladesh have just started their journey. But with no meaningful success so to say mainly due to lack of policy, planning and serous study and research on it.

Consortium or Information Systems /Networks at International level

ICOLC (The International Coalition of Library Consortia) is an information organization that began in 1997. Comprising about sixty library consortia in the United States, Canada, the United Kingdom, the Netherlands, Germany, Israel, and Australia, the Coalition represents over 5,000 member libraries worldwide. The Coalition serves primarily higher education and research institutions by facilitating discussion among its members on issues of common interest.

By subject/ discipline covered

-Single discipline oriented consortia/ Multi-discipline oriented consortia

By type of organizational structure

-Loosely knit federation (INDEST, FORSA):This type of consortia are generally driven by small homogeneous groups who have a need to cross- share the resources in a specific subject area. In this case, publishers define a minimum number of libraries for the consortium to take- off, at a specific rate per product.

-Tightly knit organization (CSIR by DSIR, INFONET by UGC, ICMR, DAE, IIM)

This type of consortia emerges either by coalition, affiliation and collaboration among them.

By basis of formation

Non-sponsored consortia: Here, the publisher offered deep discounted consortium price to the participating libraries on a national level. The pre-condition was that there should not be any drop in their print subscriptions. The Emerald Full-Text Library published by the Emerald Publishing Group (formerly MCB University Press) is an example.

Sponsored consortia: In this model, the very existence of the consortium will solely depend on the central funding agency. The strength of this model is that the financial responsibility of running the consortium is shouldered by the parent body. INDEST, UGC INFONET, CSIR, ICMR consortia etc. are the example of this model.

According to a study conducted during 2004, various consortia models are practiced in South Asia and each of them have varied features-

- Open Consortia
- Closed Group Consortia
- Centrally Funded Model
- Shared – budget Model
- National Consortium
- Publisher Initiatives

Need For Library Consortium

The consortium is needed for libraries because of:

- Information explosion
- Diversity of user needs
- Financial crunch
- Impossibility of self-sufficiency

Advantages of library consortium

Some of the important advantages of library consortium are as follows:

- Consortia-based subscription to electronic resources provides access to wider number of electronic resources at substantially lower cost.
- Optimum utilization of funds.
- Facilities to build up digital libraries. **449782**
- Helpful to provide better library services like CAS and SDI
- Cost sharing for technical and training support.
- Electronic Journals demand neither library space nor shelving costs nor can they be stolen from the library.
- The consortium have been offered better terms of licenses for use, archival access and preservation of subscribed electronic resources, which would not have been possible for any single institution; and
- Available 24 hours a day, 7 days a week
- Economy in maintenance. Whereas some disadvantages also exist.
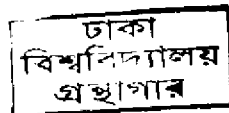
2.6 E- dictionaries, Online database, Online-Catalogue, Audio-visual media, Open Access journal

Electronic dictionaries

Several language dictionaries have been made available in CD-ROM (Compact Disc – Read Only Memory) format which have made searches very easy much more user-friendly. A dictionary in CD-ROM can combine text, images and sound in one package and make cross-referencing a very simple process. Example: Encyclopedia Britannica.

Online databases

Source and reference databases have been at the forefront of the electronic publishing industry and will continue to be there in the years to come. They can be incorporated in the library in CD-ROM format or by direct contact through a gateway with the host system itself. This is a major area of interest for the organizations which lack secondary and tertiary information sources. This is a major area of interest in our libraries for information professionals and these developments pose many challenges for providing reference services. In this area organizing compatible indexing, abstracting and indexing terms bank for multilingual information materials is essential so that more number of users can benefit this type of materials. Some very popular databases that can be searched online are: MEDLARS DATABASE

HINARI/ AGORA DATABASE etc.

Online Catalogues

The Online Public Access Catalogues (OPAC) supplements the existing card catalogues and can be consulted for comprehensive searches. Here the users have the choice for searching materials available in more than one place. Most of the OPAC's are very user-friendly and are helpful to naïve users who have no idea about searching materials in the libraries. The user after having access to such catalogues usually become self sufficient and seldom require the services or help of the reference staff while using libraries or accessing information. The developments in information technology are greatly affecting reference services in libraries of various countries. But what is more important is that incorporation of information technology in libraries and especially in reference environment raises other issues, such as, the existence of telecommunications infrastructure, technical support for equipment maintenance and review of library science courses so that the professional can be ready to meet the new challenges. It is time now for the information professional of our country to put into practice the techniques of reference work. Any technology provides us with a powerful search and display device which will only be effective in the presence of a sound theoretical and practical knowledge of the professionals involved in the task.

Audio-Visual Media

Sometimes information cannot be conveyed by words alone. Librarians have extensively made use of the audio and visual form the new technology to their advantage. Some recordings on tape, reel-to-reel or cassette and audio cassettes have been of great help to libraries especially in providing services to the blind. In recent years, visual aids too have come to be used especially in education the users in use of library services. The commercial and institutional production of visual and audio aids to education has become so substantial that many libraries are going for them. The British Library has compiled and published a bibliography called the British Catalogue of Audiovisual Materials. Videotapes were the first to come to market and

were later replaced by video discs. Both the tapes and discs have considerable potential value as sources of information. Presently the Compact Discs are capturing the market as they have the advantage go high quality of sound and vision. The value of the audio-visual materials in libraries thus cannot be disputed.

Open Access Journals

The open access initiative is aimed at making scholarly research freely available via the Internet (Correia & Teixeira,2005:7).The first open access journal to emerge was Plops Biology in the year 2003 which was received with great enthusiasm. In the publishing arena the Biomed Central publishing house embarked on free access to peer-reviewed journals. The Directory of Open Access Journals (DOAJ) made open access journals available covering different languages and subjects(Falk,2004:3)

On line resources

- Local database of traditional books in machine-readable form.
- E-book, v-book, electronic tax, map, image, sound, video, and multimedia etc.
- E-journal
- LAN, MAN, WAN for web browsing, e-mail etc.
- Well trained manpower for online help.

Off line resources

- CD-ROM, Jukebox etc.
- Audio visual aid etc

Chapter- 3 Page

3.1   Review of Literature

A search of the published literature yielded several studies conducted with the aims and objectives of the study. In that point of view different types of e-resources and journals has used for this purpose.

Siddiqui in his article on "Management for change in acquisitions in academic libraries" discussed academic libraries worldwide have been using the internet to enhance collections, expand services, and improve operations. Internet resources and services such as e-mail, OPACs, publisher catalogs, electronic resources, multimedia , encyclopedias and dictionaries are becoming common and useful collection building tools in many libraries, especially academic libraries.

Woodard in his article on "Technology and innovation in library instruction management" discussed with new educational technologies, the changing nature of access to information and advances in understandings of how people learn, library instruction managers seek strategies for incorporating technology into teaching and learning.

Gail suggested in his article's that the rapid growth in the creation and dissemination of electronic information and emphasized the digital environments speed and ease of dissemination often with regard for its long-term preservation and access. In addition to Gail's remarks on wide acceptance of electronic sources, Agaba et. al. described the study were investigated the utilization of Electronic information resources by the academic staff of Makerere University in Uganda. It examined the academic staff awareness of the resources available, the types of resources provided by the Makerere University Library, the factors affecting resources utilization.

Ann and others identified the (Electronic Library information navigation), a system that Lund University Libraries have managed to develop to tackle the problem of investigation of electronic information resources, increase the use of these resources and marked the administration of the electronic resources more efficient. Another study conducted by **Rowley under the JISC**, project designed to investigate the use of electronic information resources in higher education with a view to offering insight that may be relevant to the use of information in a range of other environments.

Leo discussed the usefulness and effectiveness of illustrates the experiences of both academic and support staff in the use of electronic books within a higher education setting. Information is central in our daily activities these days. Advances in computer and communication technologies have brought about the representation, recording, and communication of information in electronic form. Information may be put in electronic form using analog or digital technology. For example, in a conventional audiocassette, information is recorded using analog technology whereas on a CD-ROM information is recorded using digital technology.

Analog technology has been known for a long time whereas digital technology is relatively new. Digital technology is preferred over analog technology for reasons of efficiency and reliability. At present, there is a perceptible trend towards the use of digital technology in both communication and computer fields. One may say that there is a digital revolution that is currently sweeping the world. As a result, electronic information is also going digital. Even sound and video are being recorded using digital technology. Many of you may be aware that many cinema theaters have modernized their projection system and use digital sound (Dolby) sound systems. Digital recorded audio and video CDs are available today.

According to Information Communication and Society (Indira Gandhi National Open University (IGNOU), Electronic information in digital form is called **digital information.** In many texts, no distinction is made between electronic information and digital information. Two terms are used synonymously. One must remember that electronic information may be analog or digital whereas digital information is entirely digital. In other words, digital information is electronic but electronic information is not necessarily digital. Electronic information is accessible via electronic devices and not possible to remote access whereas digital information is accessible via network and possible to remote access of information.

In 1987, **Cloonan** described-the changes from 1957 as a "**Tsunami**". The present wave the coming of the electronic age is still upon and shows no sign of recording. The aftershock waves bring in now technological advancements that librarians and archivists must embrace. The world of special collection continues to change rapidly.

Paul's article demonstrated that, at the turn of 21st century, two trends in the world of university & research libraries seen clear, one "Ominous", one "hopeful".

"**Ominous**" trends are that the library is increasingly becoming one of a series of redundant points of electronic access to the Internet rather than a unique repository of physical artifacts and their apposite reference tools. In a future world with out books as tangible documents of the age researchers shall likely lack the equivalent of incurables and first editions that today serve to inspire scholars to appreciate the chronological development of European culture of previous centuries.

In contrast the "**hopeful**" trend is that at the very moment when the publication and preservation of bound monographs & serials that gave the birth to modern scientific historical research are in maximum peril, humanistic scholarship has increasingly return to the artifact book & journal as resources for cultural and literary history.

Bertot, J C stated in his article discussed - that networked environment as the myriad of public, private, organizational, and other networks, systems, and applications used to provide users with access to electronic services and sources. These services and sources could be as simple as online document viewed via a web page or as complex as an electronic commerce/ e-government, e-marketing interaction through which a user can purchase products and/ or attain services such as renewal of a driver's license. In libraries, network-based services and resources can take many forms, including:

- Searching library holdings;
- Placing a hold or recalling library material;
- Making an interlibrary loan request;
- Licensing online databases, e-journals, and e-books for customer access;
- Digitizing library collections for online access;
- Providing organized web pages that lead customers to library /non-library content;
- Providing real-time and asynchronous digital reference services.

Depending on the nature of the services or resources that libraries wish to provide their stakeholders as well as users, libraries will need to invest in technology infrastructures that range in ability and expense and staff and customer training, in addition to considering a number of management and organizational issues that best enable the library to take advantage of such services and resources. Moreover, libraries will need to networked environment in general and library network-based services and resources in particular.

The writer mentioned that it is not about the digital divide but it is important though to provide some background data regarding library and research center internet connectivity and involvement.

- 98.7% of US public libraries have an Internet connection, and 95.3% provide public access to the internet

- 50% of US public libraries have an Internet connectivity speeds of T1(1.5mbps) or greater

- 99% of US public schools have an Internet connectivity with 87% of instructional rooms having access to the Internet

- 85% of US public schools have broadband access to the Internet

- 95% of US academic libraries have Internet connectivity according to the most recently national data from 1998

- 54% of the US population uses the Internet through disparities exit by age, ethnicity, income, and education

- Recent research suggests that there are between 85,000 and 144,000 public computing sites across the United States, through which individuals might have access to the Internet

According to Mc Clure, Bertot, & Zweizing, 1994, There are multiple dimensions to library Internet connectivity, from which a number of issues for libraries emanate. On the one hand, libraries need to pause for a moment and reflect upon a major accomplishment. In 1994, just 21% of US libraries were connected to the Internet In less than ten years, public libraries have attained near100% connectivity. This deserves some perspective: there are approximately 9,074 public library systems in the US that have a total of 16,298 service outlets (typically branches, but also bookmobiles). This is a major accomplishment one about which the library community should be proud. Some additional and final statistics provide perspective on the implications for connectivity and network-based services and resources-this time from the Association of Research Libraries (ARL, 2002a, 2002b):

According to Recent Technology Trends in Library management System: Issues & Challenges, The change over from a Traditional Library to an Electric Library is a major turning point in the history of librarianship. The combination of computers & telecommunication are acting as driving forces in the development of electronic libraries in the 21st century. There are some major factors encouraging the development of electronic library, they are as follows-

- The information explosion in all domains of knowledge;

- Financial deficit discouraging libraries to purchase information resources;

- Reduced shelving space;

- Availability of personal computer and access to telecommunication facilities at reduced cost;

- Availability in information in electronic media such as CD-ROM's. Magnetic discs etc, which provides scope for editing; and

- Access wealth of information via Internet/WWW.

Harun or Rashid M, demonstrated in his thesis "National Education Information System of Bangladesh" that 6.90% LDI Centers have photocopier machine for reprographic work in their libraries, 55.17% have facilities of user of photocopier sharing with their parent offices and 37.92% have no Photocopier for reprographic work. It was seen at the study that none of the LDI Centers have computer facilities of IBM brand, only 12.07% have computer facilities in their libraries with IBM Compatible brand, and 87.93% have no computer facilities. These data show the very poor use of IT in the educational LDI Centers in Bangladesh. 29.94% are fully professional (Master in Library Science), 31.21% are sup-professional (Degree or Diploma) 12.10% are Para-professional (Certificate course passed) 26.75% are non-professional. The average number of Library staff is 2.81. It is reveled that the Educational LDI Centers in the country are under-staffed. In

modern age, various types of information services are provided by the educational LDI Centers to their users. But, it is observed that only loan 100%, reference services 95.55% provided are satisfactory, while the other services provided are not satisfactory. The study was shown that 31.03% provided BIB services 17.24% provide documentation listing services, 15.51% indexing services 8.62% abstracting services and very few centers are provided translation services, 72.41% LDI provided non-formally inter-library co-operation services, 5.17% use computer in preparing library databases, there is no use of computer in lending services and E-mail, 6.90% use computer in house keeping tasks this statistics shown very unsatisfactory position of the use of IT, i.e. computer technology in the different tasks of LDI centers activities.

However, in metropolitan city a very few libraries have introduced new technology with maintain in-house bibliographic databases, internet facilities, developing website, CD-ROM searching, collection of e-book & e-journals, using library automation software, open source software, functional modules, operating system. user interface, network architecture, automation standards, developing library consortium for sharing the resources, www.searching & downloading documents with digital objects etc. Maximum university and special libraries in capital city as well as divisional areas in Bangladesh are using computer technology supporting with other automated technique.

Dr. Md. Golam Mostofa described in his paper that, the general collection of public university libraries (84.65%) is much greater than private university libraries (7.78%) while the percentage of collection of special libraries is (7.57%). Public university libraries have leading number 75.87% of non-book collection. private university libraries 18.94& while the percentage of non- book collection of special libraries is only 5.19%.

Some university & special libraries are serving the stakeholders with all kinds of IT facilities, library software, OPAC,CD-ROM searching with library automation like as Dhaka University Library, Rajshahi University Library, Bangladesh University of Engineering & Technology, Bangladesh Agricultural University Library, Chittagong University Library, ICDDR'B library, BANSDOC library, SAARC Agricultural Information Center, (SAIC) library, National Health Library & Documentation Centre(NHL-DC), Bangladesh Atomic Energy Commission(BAEC)Library, American Cultural Centre Library, The British Council Library, North-South University Library, Independent University of Bangladesh, America n International University(AIUB), East-West University library, Bangladesh Rural Advancement Committee (BRAC)University Library and others library respectively. Thus electronic information resources have approved its advantages over print media.

A term electronic information resource is considering any information that in accessible through computers or networks. Internet in also an electronic information resource and through study we are view that complexities involved in accessing the right information from the user perspective. The quantity and variety of information available on internet is unbeatable. The complexity in the process of accessing electronic information on internet could be minimized provided the information professionals design and develop "innovative services" with respect to networked environment. However, e-journals are not widely used in libraries and information centers in Bangladesh. Very few private universities and research centers or libraries subscribe to e- journals in country. Some leading public university libraries, for example Dhaka University Library, Rajshahi University Library, and Bangladesh University of engineering and Technology (BUET) library are planning to subscribe to e- journals in the near future. It seems that the few libraries that are subscribing to e- journals are not aware of issues such as analysis of users needs, speed of internet, provision of easy access to e- journals and orientations and training programmes for staff and users.

A study report among the ten library institutions in the capital city , Dhaka Bangladesh has shown that subscribe to e- journals in that study have sufficient computers, but seven (7) libraries have dedicated computers only for use in the library and three(3) libraries do not have enough dedicated computers to access to e-journals in the library. The speed of Internet connection in four libraries is 512/256 kbps. And that of six libraries is 256/128kbps. The libraries indicated that they do not have dedicated speed allocation for access to e-journals in the libraries. The data revealed that two libraries are providing printing facilities, which the author see an essential service because users prefer reading hard copy of articles to reading on screen. Sometimes the cost of printing is expensive and users are interested to write the downloaded articles into CD_ROM for further use at their convenience. However, it was found that five libraries are not offering CD-writing facilities.

Towards electronic libraries whose two main features are library management systems, and online search and retrieval systems CD-ROM and the Internet. This new service environment will lead to changes in the roles of many of the stakeholders to the information market place. Progress towards the information society will be influenced by the way in which issues such as globalization, standards, intellectual property rights; security and bibliographic control are tackled. School offering professional and training in library and information service, particularly in India most in this sub-continent, should perceive these changes as new opportunities in the job market and respond to these challenges by developing appropriate curricula and facilities for learning which should result in the quality services are expected.

3.2   <u>Objectives and Scope of the Study</u>

The concept of consortia regarding networking and resource sharing amongst various research institutions is very much a proven fact in the industrialized nations. Recent literature on national systems of innovation depicts intensive scientific collaborations between universities and specialized centers, and argues that research may increasingly function as a locus of national knowledge intensive networks. It has been found that research in general is becoming more interdisciplinary and that research is increasingly conducted more in networks, both domestic and international. The main objective of the present study is to describe and measure the recent service conditions and procurement process of materials in University and Special libraries of Bangladesh. The sub- objectives are-

- To identify the existing scenario of Electronic Information Services in selected University and special libraries of Bangladesh.

- To point out consortia concept for networking & sharing of the e-resources.

- To find out the major barriers and to suggest the new services as per changing scenario.

- To find out the user satisfaction of the selected libraries.

Scope of the study

In Bangladesh, more than 90 universities and 680 special institutions are available. But for the recent study, onle three(3) university libraries and three(3) special libraries have been selected which is situated in the capital city of Bangladesh due to the limitation of time. The study has been operated with the following scopes:

- Historical background of Bangladesh
- It is limited to the objectives, various sources of e-information of the libraries.
- Impact of the electronic information services in the field of research and development.
- It has been covered data processing, analysis, and presentation along with findings.
- Evaluate the digital initiatives in Bangladesh
- Drawing recommendations in the light of prevailing situation of Bangladesh.

3.3   Methodology

The literature review in the previous chapter has cited that the maximum university & special library or information centers in Bangladesh are serving the users applying inadequate modern technology. However, in metropolitan city a very few libraries have introduced new technology with maintain in-house bibliographic databases, internet facilities, developing website, CD-ROM searching, collection of electronic books & journals, using library automation software, open source software, functional modules, file formatting, operating system, network architecture, www searching & downloading facilities as well as remote access with digital objects via networks. According   to   the aims, scope & objectives of the study new technologies as well as services in the field of library and information centers, a multi-disciplinary approach was deemed more appropriate. Primary documents comprised of contemporary periodical and journals,

notification literature, technological texts, encyclopedias etc being notified the present status of electronic information services in selective fields. Of course, periodicals, journals have been used most extremely in the study, Institutional records & government document documents were other primary sources for the study regarding the present scenario and problems of EIS services in Bangladesh.

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Questionnaire have been designed for collecting data to point out user satisfaction and presently working staff of the selected libraries which has also be depicted the future assumption of their perspective user satisfaction in reasonable time. Personal visit has also extended the collecting mode of EIS services of selected areas. Some other information which involved the history and activities of these information centers was collected by talking to people who were associated with these centers in some capacity at some stage. This was vetted and updated by referring to various annual reports, workshop proceedings, brochures etc. Regarding the study Information System Network was collected from the website and also by downloading some information from the internet. The information was also collected by referring to surveys and reports available in online.

3.4   Data Collection Tools

Two sets Questionnaire has been designed for the personnel's presently employed and the users in several University and Special Libraries for collecting information and data regarding the present scenario of electronic services of the LDI Centers in Bangladesh (**Annexure: 1 & 2**).

Chapter- 4

4.1   Selected Libraries

There are about **86** Private & Public Universities and **680** Special Libraries in Bangladesh. Private Universities are funded by Non Gov. Organizations and Public Universities (Autonomous) are funded by the Government. Special Libraries are acted in various specializations e.g. Agriculture, Health Population, Science & Technology, Social Sci.& Rural Development etc. These are Government, Non-Government and International Organizations.

For the study the following 06(six) University & Special Libraries are selected in Dhaka of Bangladesh:

SL. NO:	Types of Lib.	Name of Lib.	Year of Est.
01	Academic(Auto)	DUL	1921
02	Academic(Auto)	BUET	1962
03	Academic(Private)	BRAC	2001
04	Special	BANSDOC	1972
05	Special	ICDDR'B	1962
06	Special	SAC	1989

Selected Libraries

4.1.0   University Libraries

The University libraries are exists to meet the information needs of its users. It aims at providing required information pin pointedly, exhaustively and promptly in a usable form. Both libraries should be provided personalized high quality services, using mechanical or electronic method, for storage and retrieval of documents. Library automation provides better services and gives added benefits at less cost. Computerization of library has brought increased use of library collections. The university libraries of Bangladesh are still at infancy with regard to automation. However some of university libraries opting for automation show that the libraries have a mind to adapt to the new changes and the other libraries will follow the suit

4.1.1 Dhaka University Library (DUL)

Dhaka University Library has been serving from the very beginning of the university with its small collection in the year of 1921.At present it is one of the biggest library in Bangladesh for it's collection and services. The beginning scenery of DUL is totally different compare with recent time. It has past about 100years with tremendous changes similarly to technology as much as possible. DUL has installed ICT in 1998.It has an automation unit. The activities of the Library are being conducted from three separate buildings. All the functions of reading and circulation are done from the main building and Science section of the Library. Work relating to periodicals, acquisition, processing, binding, reprography and administration are done from the Library Administrative Building.

In 2007-2008, the total number of books and bound volume of journals were 6.21,058 volumes. In the previous year the volume of the same was 6, 15,856. It may be mentioned here that in 2007-2008 the collected number of total journals was 260 titles and in the previous year was 255 titles. For on-line facilities of foreign journals, an amount of Tk.10,42,000/- equivalent to US $ 15,000 has been paid as subscription to the Bangladesh Academy of Sciences (BAS), as a result, the students, teachers and researchers will be able to read & down load more than 10 thousand foreign journals of 16 publishers.10 CDs with 2 DVD(Dhaka Prokash), 2500 Microfilms,10.000 microfiche, 20,000 Reports, 5000 thesis and 30 computers. It has installed proven library software GLAS (Graphical Library Automation System) equipped with a network server and a number of PCS distributed in a LAN within different sections of the library and faculty buildings of the university. This system is being used for creating bibliographic databases, controlling acquisition, cataloguing and serials, effecting CAS and SDI services and online literature searches of the national and international databases through CD-ROM and also via Internet. The library installed Internet connection since 1998 and provides limited use of Internet to the students by 7 terminals. Two computers have installed for catalogue searching.

This library is being served the users with a collaboration of library consortium like INASP-PERI Bangladesh. It is also linked with international databases like AGORA and HINARI.

Automation project for DUL

The "library Automation Project" funded by the UNDP, stopped at halfway was to be introduced in the library to facilitate the students and teachers with a borrower's identity cards. The total collection of books and journals were supposed to be attached with barcode levels. The Automation Project was converted into a programe and was decided to be run by the university, when the UNDP withdraw its finance.(New Nation, Jan06,2004). Here it is necessary to mention that the UNDP provided 9 computers-6 for internet services and 3 for online catalogue. But at present only 4 are active for internet services and only 2 for cataloguing, which eventually receive a huge pressure. Everyday a huge number of students enlist to use the computers but only few of them get chance. At present the authority has taken an initiative to develop full automation software which is experimental named XPDULAP. If will complete the library will able to deliver full electronic information services for the users in home as well as abroad by net.

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4.1.2 Bangladesh University of Engineering& Technology (BUET)

At present, the central Library is housed in 4-storied building of its own having approximately 20,000-sft-floor space. The library has a collection of 1, 36,871 items of which 16,993 are bound periodicals and 218 titles are in the current subscription list. The library can accommodate 292 students at a time to provide reading room facilities there are rare and out of print books, ready references and prescribed texts. In addition internet browsing facilities are also being provided since September 2003 to the student. 41 PCs are kept aside for this purpose and an average of 125 students are using this facility everyday. Except for certain designated official holidays, the library reading rooms including browsing are open to students from 09:00 to 22:00 hours daily. There are 44 staff members in the library including 11 professionals having Master's degree in Library and Information Science. The administration of the library system headed by the University Librarian comprises of the following sections: Acquisition; Cataloguing; Reference; Circulation; Administration.

Computerization of the Library

Library is the heart of research and academic institutions and therefore, the use of computer technology has become essential. With this view in mind, a proposal was made by the Librarian to the Vice-Chancellor to computerize the activity of the BUTE Library dated July 31st 1995. The Library was continuing the book processing (mainly catalogue card printing) and bibliographic services using existing CDS/ISIS software. In the year 1999 the library itself started to develop visual FoxPro based software of extend the computerized library services including the book circulation work. The software partially completed the acquisition module and processing module and in the end of the 1999, library started using this software with these two modules (i.e. acquisition work, catalogue card printing & bibliographic services).by this time the collection of the library materials and the users need was increasing rapidly and also in different ways. The modern information and communication technology became available, popular, and easier to the Information Society or

Knowledge Society. The networking, internet, website, online access, digital library, etc, became very common terms to the users. The collection, management, and dissemination of information and knowledge have become very much computer based. Without computerization of the library it would be very difficult to manage the information knowledge effectively and efficiently.

Now it has been modified on 27 October 2003 because of rapid up-gradation of computer technology. The library was connected to the optical fiber based BUET backbone server in 2003. Fiber optics Backbone network was established in the BUET campus on June 2002 on a test basis with the technical support by the IICT (Institute of Information and Communication Technology) of BUET.

Besides the networking and electrification work the library purchased a licensed copy of Oracle 9i with the sub-licensed agreement with IBCS-PRIMAX Software (Bangladesh) Ltd. In November 29th 2001, a licensed copy of Windows 2000 Server and McAfee 5.5 on 24 June 2001.

The library developed an Oracle based integrated library software named BUETLIB alone with website provision, with the cooperation of the department of Computer Science and Engineering (CSE) of the university. CSE developed the BUETLIB using Oracle is as a back end tier, Visual Basic as a front tier, HTML with Java Script as a middle tier, and ASP, IIS as website. BUETLIB is a scanner and self generated bar code supported software. It is very users friendly and within a very short time the library users can operate smoothly and effectively. It has strong search facilities, controlling system of avoiding duplication work and good security system. It is capable to print catalogue cards & book pickets including Bengali version book. Subject heading, keywords and class number generation system is very relational and powerful.

The BUETLIB consists of different module in accordance with the Library's own systems, environment as follows: Acquisition Module; Processing Module; Circulation Module; Reference Module; Web Module. The library website has been developed. Web address is: www.buet.ac.bd/libraryheta hosted to BUET server.

4.1.3   BRAC University Library

At present BRAC University Central library is renowned as "**Ayesha Abed Library**". The library started its journey from the beginning of University establishment in 2001.

Its aims to provide support for the University's learning, teaching & research activities. The library house approximately 18000 books in its collection, and has 1085 registered members. The library has extended the range and depth of its collection through subscribing to the following e-resource via PERI under the Bangladesh INASP-PERI consortium programme.

The use of library resources is indispensable for pursuing study and research. Ayesha Abed Library (AAL) of BRAC University aims to provide variety of services designed to support the student, faculty members, researchers, staff, and members of BRAC as well as University; outside users. All categories of members of the Library would like to examine, consult, borrow and brows through any book, journal and other printed and non-printed resources. All may receive other services of the library. The rules have been enacted to ensure the best services of the library for its members. In 2008 BRAC University "**Ayesha Abed Library**" continued to make progress towards the realization of the key strategies designed to improve support for the University's learning, teaching and research activities. The library has developed and improved its core services and products that year. Over sixty computers are located on the 2nd floor of Aarong House, which provide on-line access to the Internet. The

library was able to extend the range and depth of the collection through subscribing e-resources via PERI under the Bangladesh INASP-PERI consortium program. The library also subscribes to a number of databases such as JSTOR, e Granary, AGORA, HINARI, EOLSS, and OARE. It provides training, orientation, and workshop for a wide variety of groups and individuals regularly. The library staff attends trainings and workshops in order to improve their professional and technical skills.

In 2008, the library successfully implemented a Digital Institutional Repository Project funded by INASP (International Network for the Availability of Scientific Publications), UK. The main objective of this project was to support and promote the research and intellectual output of the university. More recently, in January 2009, the library received a $24000 grant from the Elsevier Foundation (US) to implement a complete library automation system using Open Source Software (OSS)-KOHA to enrich the infrastructure, serving as both a local resource and model for other Bangladeshi University Libraries. (dspace.bracu.ac.bd.

4.2   Selected Special Libraries

4.2.1   Bangladesh National Scientific & Technical Documentation Center (BANSDOC) Library

According to the provision, BANSDOC was created in 1987 as an independent organization was placed under the administrative control of the Science & Technology Division of the Ministry of Education and subsequently under the Ministry of Science and Information & Communication Technology from August 14, 1994.

BANSDOC is a national center under the Ministry of Science and Information & Communication Technology. Its activities are under the following categories:

- Library services

- Documentation services

- Bibliographic Service

- Reprographic Services

- Cyber Center(Online Services)

BANSDOC works closely with similar counterpart institutions in the countries over the world to bring about global information exchange. It is associated with the activities of International Federation for Information and Documentation (FID), International Federation of Library Associations(IFLA), Commonwealth Library Associations(COMLA)SAARC Documentation Center(SDC),European Patent Organization(EPO), European Commission(EC),United Nations Educational Science and Cultural Organization(UNESCO), Islamic Educational Scientific and Cultural Organization(ISESCO) etc. At present its collections are 20,000 books, 425 journal titles, 28 computers, 50 slides, 50 CDs. It provides CAS, SDI services, Abstracting and electronic document delivery services via network. Now it is working for library databases.

A website for BANSDOC has been created to introduce its activities throughout the world. Through the BANSDOC website anyone from anywhere of the world can know about the activities and services of BANSDOC. At the same time readers could know the information about the library collection through the catalogue search which is built in the website. Moreover, researchers, students, teachers, scientists, technologists can plays their respective document supply request to BANSDOC through the link of Email, which is in the web page.

4.2.2 International Center for Diarroheal Disease Research, Bangladesh (ICDDR'B) Library.

ICDDR'B Library is the pioneer in computerization of information system in Bangladesh. It initiated the program in 1985 and brought 15 computers. At present LISU has 13 computers and among them 12 computers are connected with Internet. The LISU provide internet facilities to students with free of cost.

The library maintains its database by using the software namely "Alice for Windows". The total records in the databases are 26,300 against the total collections 56,000.The library maintains the following databases:

- Monographs
- Documents
- ICDDR'B Publications
- ICDDR'B Research Projects
- Bound Journals
- CD-ROMs

The library is connected with international online networking systems like POPLINE and MEDLINE. The total system is server based and there is system administrator who operates and manages the total system. The library has 25 audiocassettes, 20 videocassettes, 200 CD-ROMs and 6 printers, 2photocopiers and 9AC.Recently the library has installed Wi-Fi systems. So it may describe that for the Electronic Information Services, this library has been performing a vital role for the development and state of art in the implementation of new technology in library and information ground in Bangladesh. It is remarkable that it is mainly rich with medical sciences information and related ones.

4.2.3   <u>SAARC Agricultural Center</u> (SAC) Dhaka, Bangladesh.

Earlier name was SAARC Agricultural Information Center (SAIC)

The SAARC Agricultural Center (renamed in April, 2007 in place of "SAARC Agricultural Information Center")located at the Bangladesh Agricultural Research Council (BARC) Complex, Dhaka, is the first regional centre established by SAARC. The Center started functioning in Dhaka in 1989. Since then, the Centre has been continued with the work of gathering, preserving and disseminating information related primarily to agricultural research and development. From the beginning it was functioned by manual system for the information services but in time being now it is also serving the users electronically as well as working digital wave.

The SAARC Agricultural Center maintained the library with books, periodicals and electronic information materials especially related to agricultural sciences for users from of Bangladesh and other countries of the SAARC region and beyond. The library has more than 2,415 books, 364 journals, 172 E-journals, 07 computers, 2000 slides, 400 audiocassettes, 227 videocassettes, 240 CDs, 260 microfilms, 2000 microfiche and 700 reports. In 2007, the library has introduced Digital Audio-Visual Service containing number of digital video CDs on Agriculture. It is automated with computer based bibliographic database of all books, journals proceedings, reports and Ph.D. Dissertations are available in the library. The database has been developed through customized software and this service is available at the center website (www.saarcagri.net).

Presently the library renders the services like as print and electronic material services, bibliographical services, CAS, SDI services, Reprographic like as digital audio visual services. CD-ROM publishing and acquisition, Video Telecast on TV. Slide making. etc. The internet connectivity is established through the Non-Line-Of- Sight (NLOS) method Linux Server Gateway. This will assists the Center to access the internet and distribute information to the users among the member countries.

4.3   Data Analysis & Findings of the Study

The questionnaire was submitted physically to the head of 6 selected institutions. The response was received from 60% to somewhere 80% .For this study I investigated only three(3) university (2 Public & 1 Private) and three(3) Other Special Libraries in the Capital City, Dhaka of Bangladesh. Dhaka University Library, Bangladesh University of Engineering & Technology (BUET) Library, and Bangladesh Rural Advancement Committee (BRAC) University Library

Whereas Special Libraries are-Bangladesh National Scientific & Technical Documentation Center (BANSDOC) Library, Dhaka, Bangladesh, SAARC Agricultural Information Center, (SAIC) Dhaka, Bangladesh and International Center for Diarrhea Disease Research, Bangladesh (ICDDR'B) Library.

The core data. which are collected through structured **Questionnaire-1&** 2 from Employees of the institutions and the users of the libraries. The background information. which is gathered by my direct observation, is also representing here by the help of statistical method and the data has been analyzed with tables & diagrams. Regarding the analysis Ms-Word & Ms-Excel have been used.

4.2.3 Tables and Figures

The collected data has been furnished and tabulated to major the present services of the selected libraries. Regarding the purpose table and bar diagram has been drawn in this chapter to identify the services as well as users satisfaction of the selected libraries.

For the infrastructural information below table has been created which has enabled to data about the professionals and the daily visiting users of the libraries.

Table-1.1

Basic Infrastructural Information of Sample Libraries

Types of Lib.	Name of Lib.	Year of Est.	Total Staff	Per day User	Ratio between staff & Users
Academic	DUL	1921	P=70,SP=50 NP =94 Total = 214	3000	0.07 : 1
Academic	BUET	1962	P=11,SP=10 NP =23 Total = 44	295	0.15 : 1
Academic	BRAC Uni..Lib.	2001	P=08,SP=04 NP =08 Total =20	400	0.05 :1
Total		---	=278	3695	0.08 :1
Special	BANSDOC Lib.	1962	P=24,SP=10 NP =08 Total = 42	15	2.8 :1
Special	ICDDR'B Lib.	1962	P=6,SP=01 NP =01 Total =08	50	0.16 :1
Special	SAC Lib.	1989	P=04,SP=13 NP =18 Total = 35	10	3.5 :1
Total		---	=85	75	1.13 :1

Note: P=Professional, SP= Semi-Professional & NP=Non-Professional

It has been found from the above table-1.1 that in the academic three (3)libraries there are 278 staff and the no of users visiting the library is 3695 per day. In the three (3) special libraries there are 85 staff and the no of users visiting the library is 75 per day. The percentage of professional staff subsequently in academic libraries are 32.71%, 25%,40%, and the Special libraries are 57.14%,75% and 14.29%.which is not more satisfactory level.

The data of above **Table 1.1** is depicted as Bar diagram below-
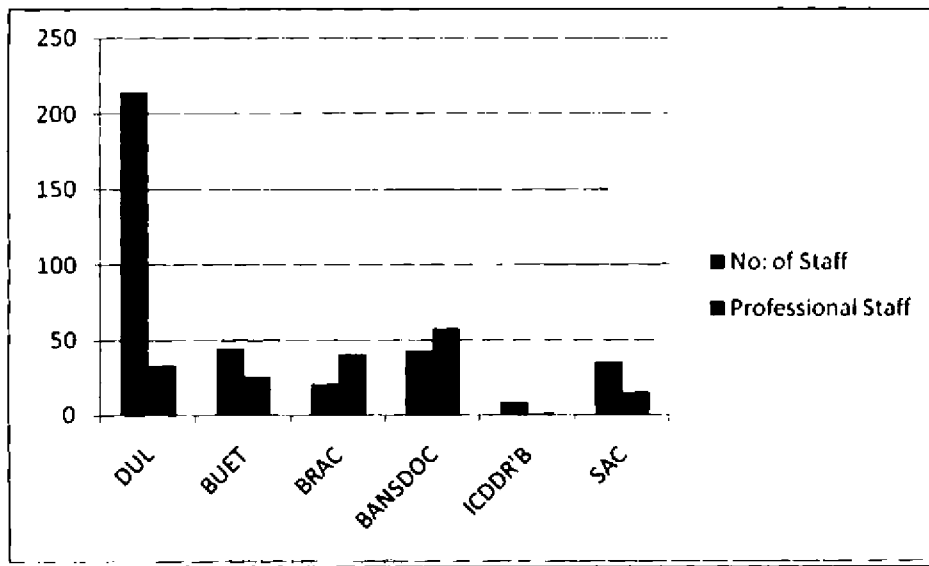
Figure 1.1 Percentages of professionals & total staff

The no of users visit to the library, the **figure 1.2** is drawn below-
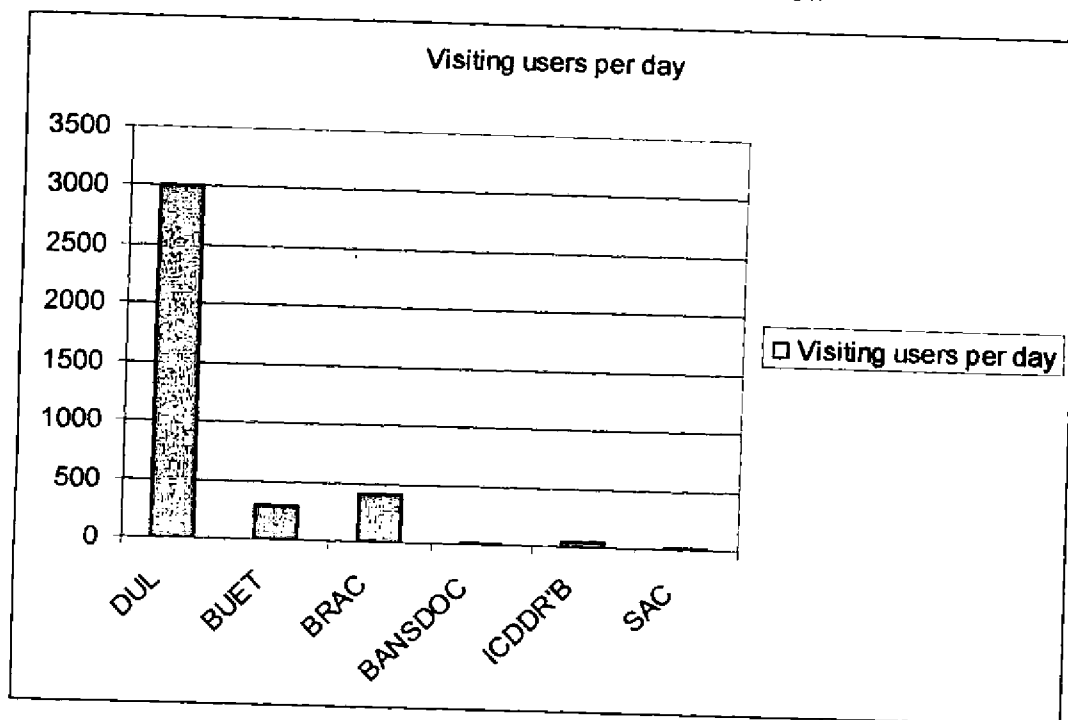

Figure 1.2 Available user

From the above **figure 1.2** has depicted that the users of academic libraries is more satisfactory level rather than special libraries. With in the two prime nodes users are very satisfactory level in academic comparison to special level which has mentioned as 3695 & 75 subsequently.

From the collected data the details of the collections in the selected six libraries are given below in table- 2.2

Table- 2.2

Collection details

Types of Lib.	Name of Lib.	Books	Journals Title/ Vol.	Electronic Journals	Reports
Academic	DUL	5,71,000	50,000 vol. 260 title	10,000	20,000
Academic	BUET	1,25,066	18,627 vol. 218 title	4,000	2,249
Academic	BRAC Uni.Lib.	19,000	14,000 vol.	13,000	1,000
Total =		7,15,066	82,627 vol.	27,000	23,249
Special	BANSDOC Lib.	20,000	30,000 vol. 425 title	4,000	2,500
Special	ICDDR'B Lib.	11,268	33,806 vol.	25,000	1,000
Special	SAC Lib.	2,415	10,000 vol. 364 title	172	700
Total =		33,683	73,806 vol.	29,172	4,200

From the **Table- 2.2** it is being observed that the ratio of bound journal & Electronic journal is **3.06: 1** and bound books vs electronic journals are **26.48:1** in Academic libraries. On the other hand, the ratio of bound journal & Electronic journal is **2.53: 1** and bound books vs electronic journals are **1.15:1** in Special libraries. Whereas subsequent collection of Electronic Journals in Academic & Special libraries are **1: 1.08** and bound journals are **1: 0.89** which mentioned the better electronic information services in Special libraries rather than Academic libraries. But the general collection of printed books is higher in Academic libraries than the special libraries. In the sample libraries the ratio of collections between Academic libraries & the special libraries are **1: 0.05**

Fig-2.2: General Collection of Sample Libraries
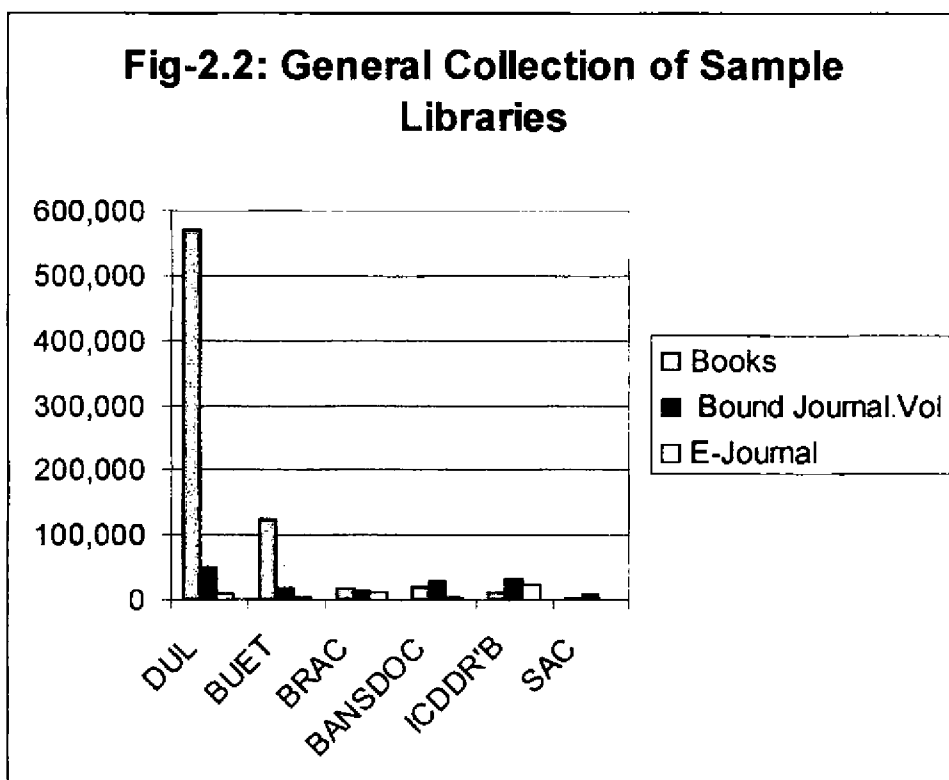
From the above **figure-2.2** it is found that the collection of e-journal s is not so rich in both of selected libraries. But in special sectors electronic collection is higher than the academic sectors. It is also depicted that from the above figure the collection of printed books are more higher in academic libraries than the special libraries.

By the questionnaire the collected data regarding the non-book materials of the selected libraries has been furnished in below table no: 2.3
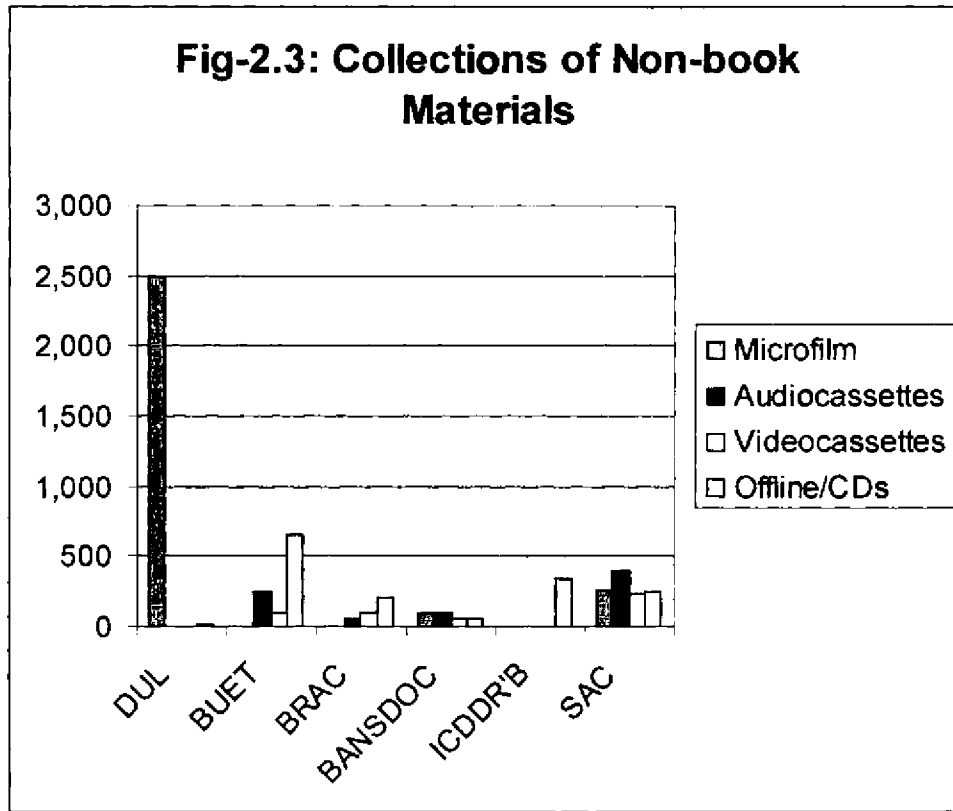
Table- 2.3

Non-Book collection details

Types of Lib.	Name of Lib.	Micro-film	Micro-fiche	Audio-cassettes	Video-cassettes	Off-line/CDs
Academic	DUL	2500	10,000	Nil	Nil	12
Academic	BUET	Nil	Nil	250	100	655
Academic	BRAC Uni.Lib.	Nil	Nil	60	100	200
Total =		2,500	10,000	310	200	867
Special	BANSDOC Lib.	100	500	100	50	50
Special	ICDDR'B Lib.	Nil	Nil	Nil	Nil	347
Special	SAC Lib.	260	2,000	400	227	240
Total =		360	2,500	500	277	637

From the **Table 2.3** the collection of non book materials like microfilm & microfiche is better in DU with only 12 CDs but Audio & Video cassette is nil rather than BUET & BRAC university library. BUET & BRAC's collections of Audio & Video cassettes subsequently 250,100 & 60,100.But in surveyed among the special libraries. ICDDR'B library's non book collection is not satisfactory rather than SAC &

BANSDOC. ICDDR'B library provides CD services more satisfactorily rather than SAC & BANSDOC. From the data overall finding is not satisfactory level of the non-book materials collection and services in both Academic and Special libraries.

### Fig-2.3: Collections of Non-book Materials

From the above **figure-2.3** it is found that the highest collection of micro-film in Dhaka University and also be mentioned that in special sector BANSDOC and SAC has the overall services in a minimum position.

Table: 2.4

Hardware & Software packages including Net- connection

Types of Lib.	Name of Lib.	No. of Computers	Network	Using Software	Linked online(N) Consortium	Linked OnLineNe twok (Int.)
Academic	DUL	30	LAN	GLAS, XPDULA P (exp).	INASP-PERI	AGORA, HINARI
Academic	BUET	62	LAN	BUETLIB	BIPC	ALA, OARE
Academic	BRAC Uni.Lib.	34	LAN WAN	BULMS, KOHA, DSPACE	INASP-PERI	AGORA, HINARI & others
Total =		126	---	---	---	---
Special	BANSDOC Lib.	28	LAN WAN	Nil	Nil	NISCAIR AGORA, HINARI & NLA
Special	ICDDR'B Lib.	18	LAN	CDS/ISIS, ALICEfor Windows	NIRD	AGORA, HINARI & OARE
Special	SAC Lib.	07	LAN	Nil	Nil	Agri.Cent ers of all SAARC Countries
Total =		53	---	---	---	---

The collected data from the selected libraries about the use of hardware and software packages as well as the Net connection and their speed has furnished in the **Table-2.4** From the above Table it is observed that using software regarding the Electronic Information services (EIS), machine readable service for better resource sharing facilities Academic libraries are richer than the Special libraries. Among the surveyed special libraries BANSDOC & SAC library don't use any kinds of automation software except ICDDR'B library. But it is being mentioned that they are working for automation to serve the users in systemic format. The collections of computers are also better in Academic libraries rather than Special libraries. Subsequently the total number of the computers is in Academic & Special libraries are **126 & 53.** Ratio of using computer between this two types of libraries are2.38:1. But it is also been mentioned that 4 surveyed libraries (except BANSDOC & SAC) are linked with national & international consortium for electronic information sharing for the users satisfaction. 100% surveyed libraries use LAN connection only 33.33% of surveyed libraries use WAN connection

Fig-2.4: Networ & Link to National & Int.Consortium
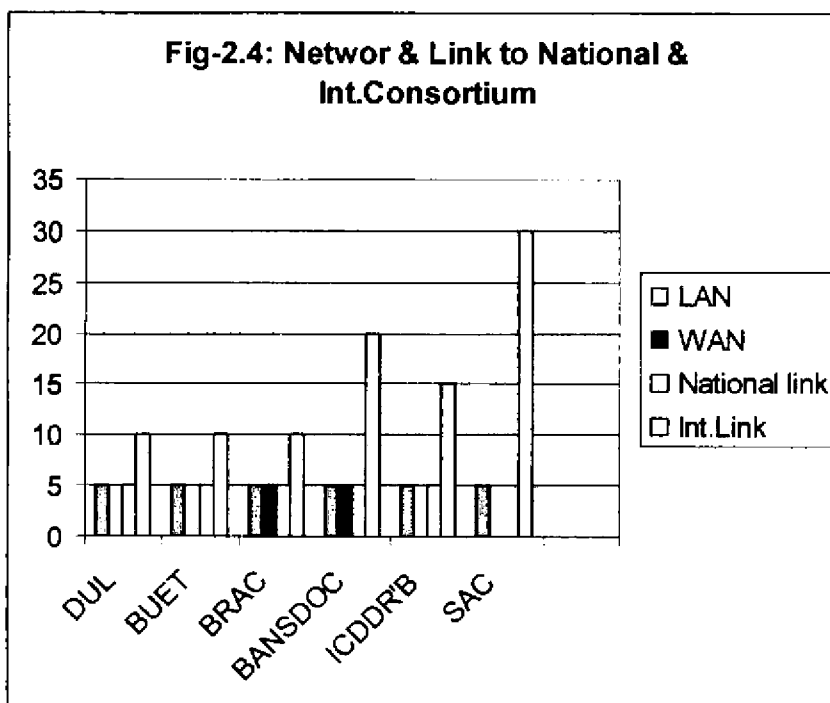
Note: It is also being noted that the numeric values of per Net=5, Per software values=5, & Per link to National and International consortium= 5 has been counted for the **Figure of 2.4.**

Fig-2.4.1: Using Computers & Software
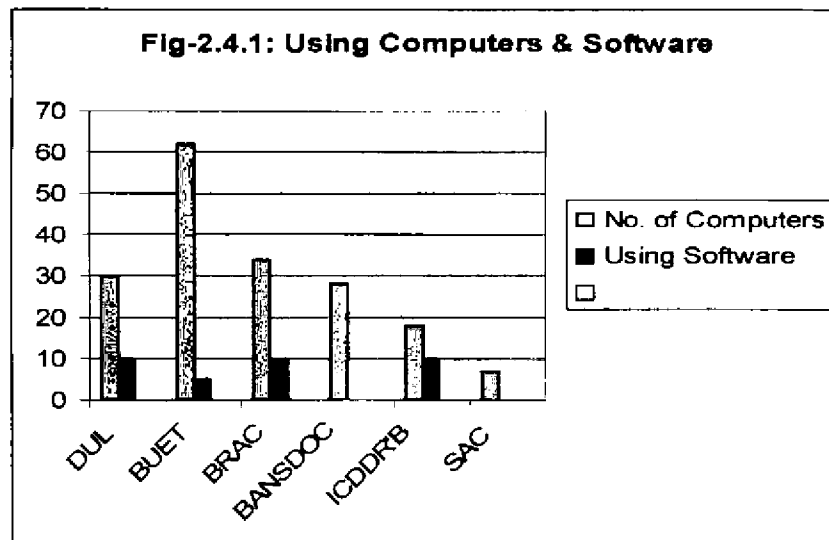
From the **Figure 2.4.1** only four selected libraries among the six are using library software but regret that BANSDOC & SAC do not have any software for delivering the EIS services. It is found that BUET & BRAC libraries have its position by using the computers and user friendly software.

The collected data from selected libraries regarding the Electronic Information Services (EIS) and the document delivery systems are furnished in the below Table-

Table: 2.5

EIS & Document Delivery System of Sample libraries

Types of Lib.	Name of Lib.	OPAC Service	E-journal/ E-book	CD-ROM Searching	Web Page Inf. Service	Doc.Delivery with latest technology.
Academic	DUL	Yes	E-journal	Yes	www.univd haka.edu.	On-line & Email
Academic	BUET	Yes	E-journal	Yes	http://www. buet.ac.bd	E-mail only
Academic	BRAC Uni.Lib.	Yes	E-journal	Yes	www.library brac.ac.bd	On-line,Email & facsimile
Special	BANSDOC Lib.	No	E-journal	Yes	http://www. bansdoc.gov .bd	On-line & Email
Special	ICDDR'B Lib.	Yes	E-journal	Yes	www.icddrb .org	Email, facsimile
Special	SAC Lib.	No	E-journal	Yes	http://www. saarcagri.net	On-line & Email

From the above Table 2.5 it is observed that only BANSDOC & SAC do not have OPAC .In the observation of survey 4 libraries (in percentage 66.67%) libraries provide OPAC services for their users & stakeholders.100% of surveyed libraries provide E-journal services & disseminate information by their websites. None of surveyed library provides E-books services. 66.67% of surveyed library provides online document delivery services whereas 100% of surveyed library provides email

services and 33.33% library provides facsimile services for their users. From the **Table 2.5**, the following two Bar diagram (**Fig: 2.5 & 2.5.10**) have been drawn:
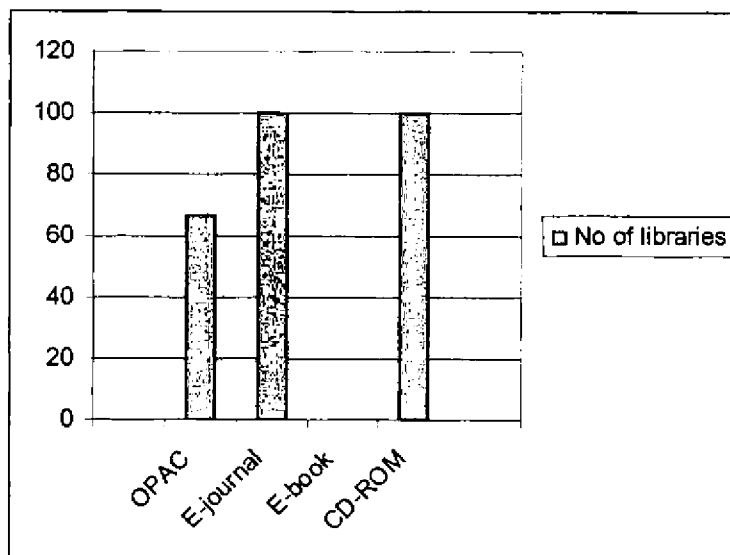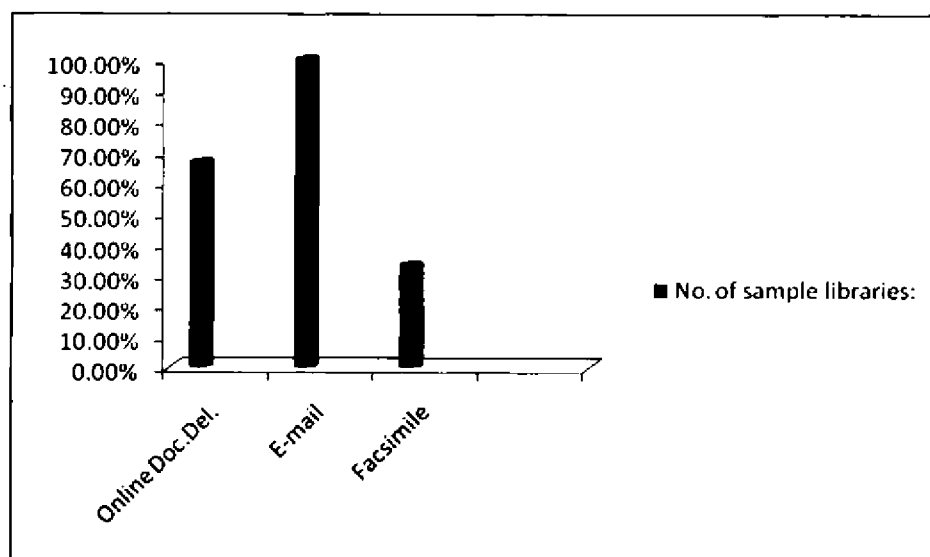
Fig: 2.5: Electronic Inf. Service

Fig: 2.5.1: Electronic Document Delivery

From the Figure-**2.5 & 2.5.1** it has depicted that none of selected libraries provide e-book services respectively. But the CD-ROM, E- Journal services are satisfactory level and also mention that 67% libraries provide OPAC services as highest score of

document delivery by e-mail whereas about 34% libraries provide the facsimile services regarding the document delivery of Electronic
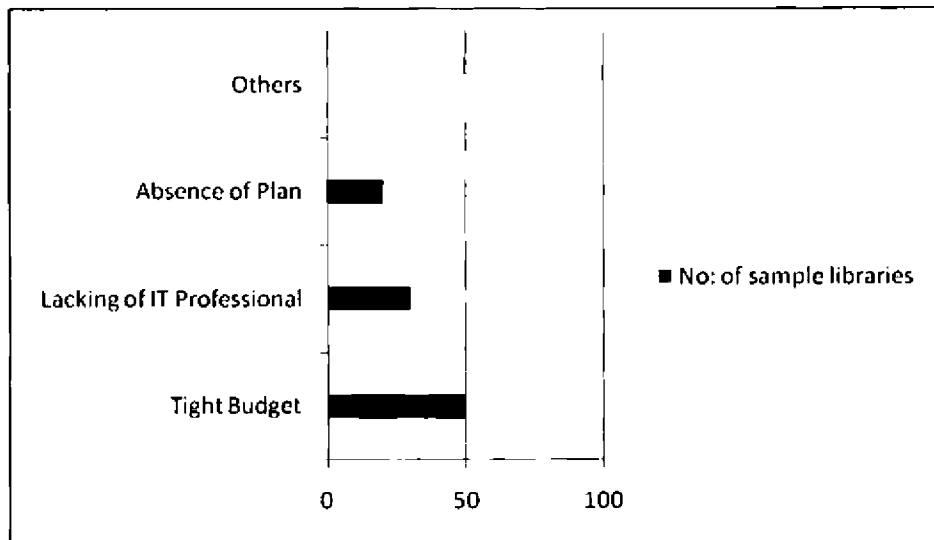

Fig: 3.1: Problems identified for new technology

The above figure 3.1 has shown the problem which is facing by the staff in the applying of new technology. 50% opinion has been thrown against the poor and loose budget.

Users Opinion about the Services

In the selected libraries how users are served by the employed that has also been described by collecting the questions answer from the users in every selected libraries From the user point of view the below table and bar diagram has been drawn for specific information about the users satisfaction:

Table: 5.5: User satisfaction

E-Journal	66.66%
E-Book	33.33%
Database search	83%
CD-ROM search	66.66%
Computer	50%
Speed of Net.	66.66%

Dhaka University Library

For the data collection of user faction in DUL 20 questionnaire has delivered among that 12 questionnaire has returned with data from the users regarding their satisfaction (60%).. Among the 12 users 8 persons are satisfied about the service of e-journal in average of that is 66.66%.Like that subsequently other percentages are 33.33%,83%,66.66%, 50% and 66.66%.
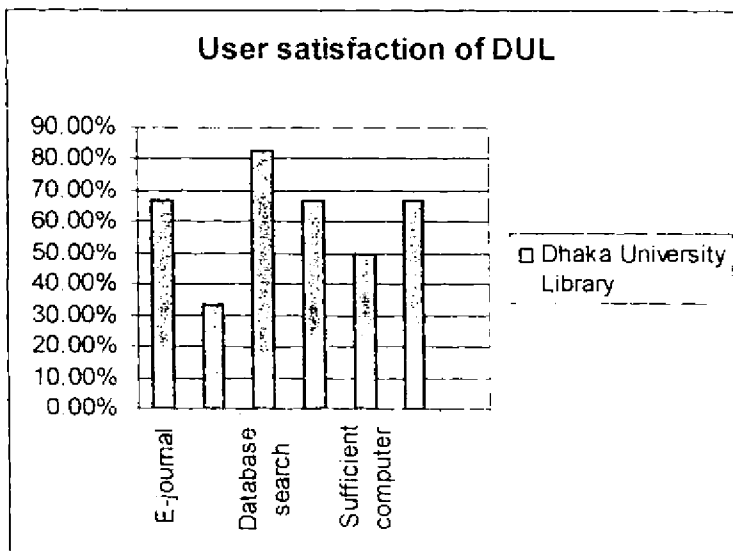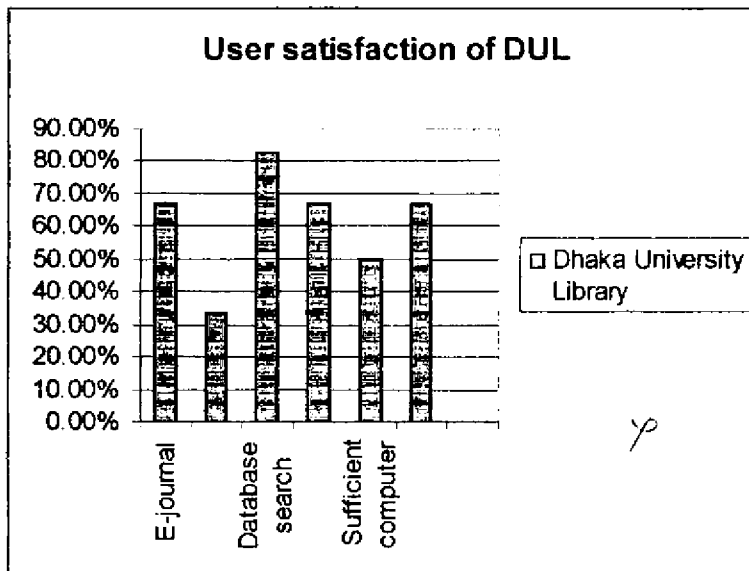

Fig:5.5

Fig-3.2

So it depicted from above **Figure-3.2** that most of users are satisfied for database search and e-journal services of DUL.

For find out the user satisfaction, collected data from the BUET Library has been furnished in the below **Table-3.3**. Due to the purpose 20 questionnaires has delivered.

Table-3.3: User satisfaction

E-Journal	**71%**
E-Book	**14.28%**
Database search	**85.75%**
CD-ROM search	**71%**
Computer	**85%**
Speed of Net.	**85%**

BUET Library

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Among those 14 questionnaires has returned with data from the users regarding their satisfaction (70%). Among the 14 users 10 persons are satisfied about the service of e-journal in average of that is 71%.Like that subsequently other percentages are 14.28%,85.7%,71%, 85% and 85%.
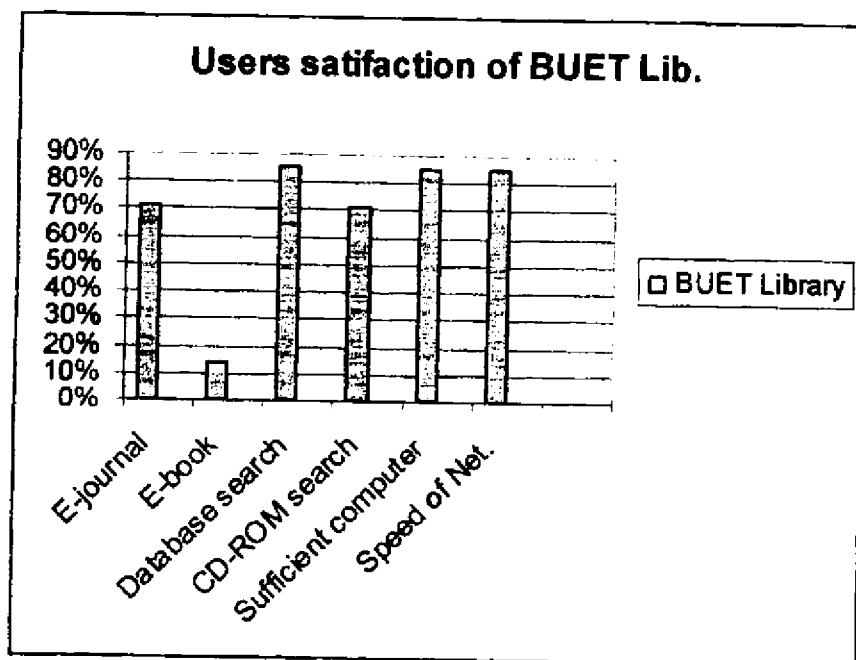

Fig-3.3

From the collected data which has furnished in the above **Table 3.3**, the above bar diagram has been drawn. It is found that the users of BUET library are more satisfied regarding the service of Speed of Net, sufficient computer facilities, and data base searching.

For find out the user satisfaction, collected data from the BRAC University Library has been furnished in the below **Table-4.3**. Due to the purpose 20 questionnaires has delivered. Among those 16 questionnaires has returned with data from the users regarding their remark is (80%). Among the 16 users, 14 persons are satisfied about the service of e-journal in average of that is 87%.Like that subsequently other percentages are 37%, 87%, 62%, 62% and 87%. The data has arranged in the below-

Table- 4.3

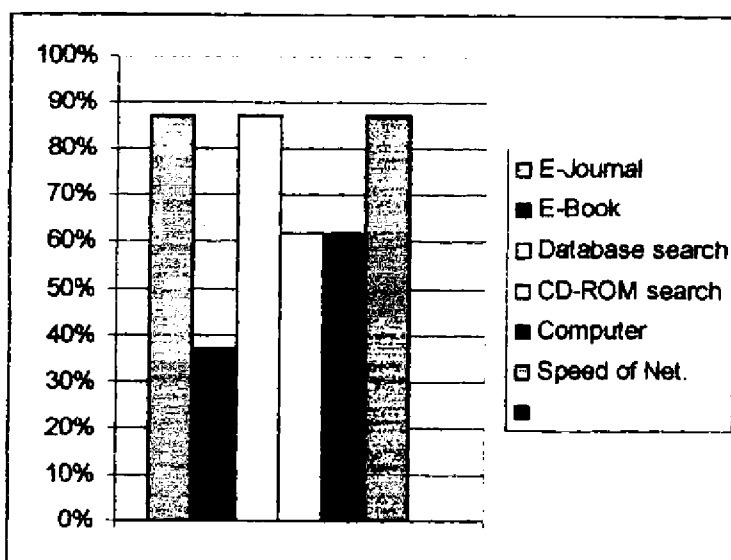| E-Journal	87%
E-Book	37%
Database search	87%
CD-ROM search	62%
Computer	62%
Speed of Net.	87%

BRAC Uni. Library

Fig-4.3

From the above **Figure-4.3** it is found that the user are highly satisfied in the service if electronic journal, database search and speed of internet of the BRAC University Library.
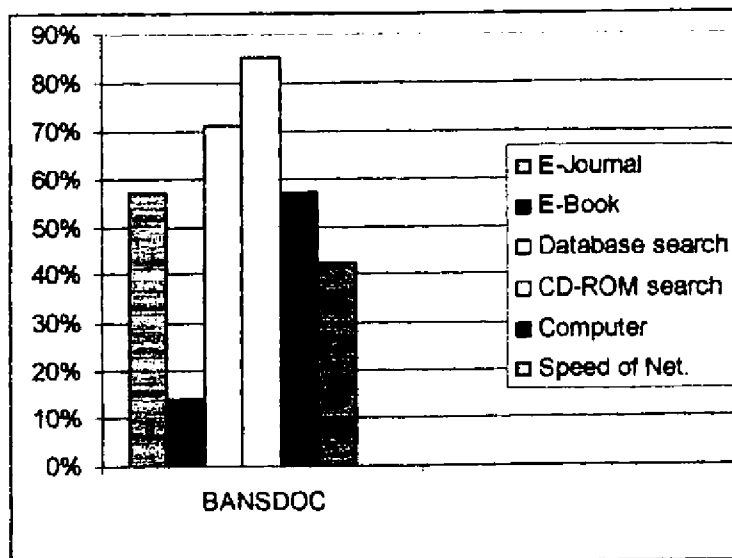
The collected data from the BANSDOC users has tabulated in order to calculate the users temperature. For find out the user satisfaction, collected data from the BANSDOC Library has been furnished in the below Table-5.3. Due to the purpose 20 questionnaires has delivered. Among those 14 questionnaires has returned with data from the users regarding their remark is (70%). Among the 14 users, 8 persons are satisfied about the service of e-journal in average of that is 57%. Like that subsequently other percentages are 14%, 71%, 85%, 57% and 42%. The data has arranged in the below Table-

Table- 5.3

E-Journal	57%
E-Book	14%
Database search	71%
CD-ROM search	85%
Computer	57%
Speed of Net.	42%

BANSDOC Library

From the above Table-5.3, the below bar diagram Fig: 5.3 has drawn and is found

That in BANSDOC data base search, CD-ROM search and the e-journal services is satisfactory level that has identified by the users in the above **Figure-5.3.**

The collected data from the ICDDR'B users has tabulated in order to calculate the users temperature. For find out the user satisfaction, collected data from the ICDDR'B Library has been furnished in the below **Table-6.3.** Due to the purpose 20 questionnaires has delivered. Among those 12 questionnaires has returned with data from the users regarding their remark is (60%). Among the 12 users, 12 persons are satisfied about the service of e-journal in average of that is 100%. Like that subsequently other percentages are 50%, 83%, 67%, 83% and 100%. The data has rearranged in the below Table-

Table- 6.3

E-Journal	100%
E-Book	50%
Database search	83%
CD-ROM search	67%
Computer	83%
Speed of Net.	100%

ICDDR'B Library

From the above **Table-5.3,** the below bar diagram **Fig- 5.3** has drawn and is found
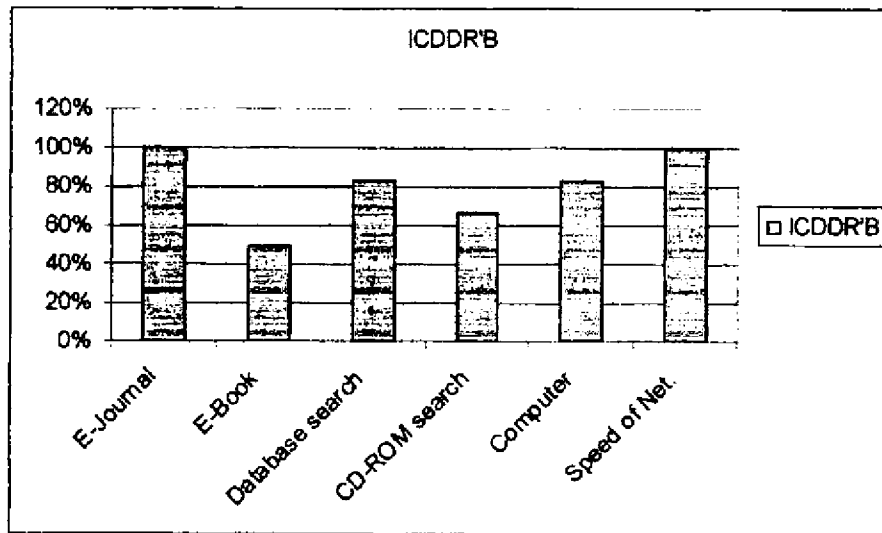
Fig-6.3

That the users are generally more satisfied of the services of ICDDR'B. All services are in better position except the e-book services.

The collected data from the SAC users has tabulated in order to calculate the users satisfaction. Due to the purpose 20 questionnaires has delivered. Among those 10 questionnaires has returned with data from the users regarding their remark is (50%). Among the 10 users, 4 persons are satisfied about the service of e-journal in average of that is 40%. Like that subsequently other percentages are 00%, 80%, 80%, 40% and 60%. The data has furnished in the below Table-

Table- 7.3

E-Journal	40%
E-Book	00%
Database search	80%
CD-ROM search	80%
Computer	40%
Speed of Net.	60%

SAC Library

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From the above **Table-7.3**, the below bar diagram **Fig: 7.3** has drawn and it is found
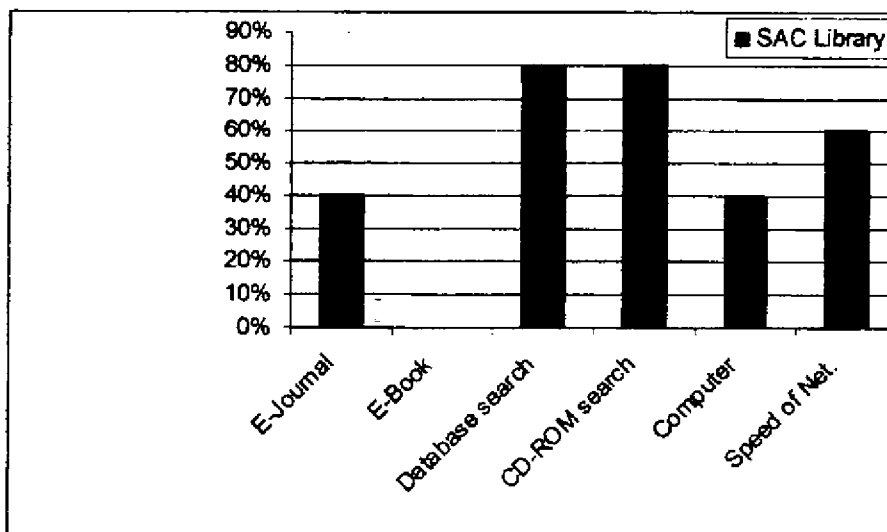
That the users of SAC library are more satisfied regarding the service of CD-ROM and data base searching. But regret that there is no satisfaction regarding the e-book services of the SAC library.

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Chapter-5

5.1 <u>Recommendations</u>

Based on findings from the literature and answers from the distributed questionnaire (Annexure- 1) the following recommendations are suggested-

- Special & University Libraries (both public & private) in the Bangladesh may adopt more flexible management structures to ensure better capacity to cope with the change of technology

- In the time of implementing new technology, librarians or professionals should consider the impact of change on staff and take the necessary steps to minimize its negative aspects and help staff through the process.

- Flexible Budget can be adopted for introducing new technology for the development education and research.

- Electronic preservation & dissemination of information helps the user to save the time and therefore it may be available all the time (24*7).

- More emphasis may be given to the library staff for training and retraining them.

- It is suggested the open source software/resources may be utilized for providing e-services to the user openly

- Cooperation with IT division is suggested, which will enable them to keep system in good condition.

- Library networks may be formed for sharing the resources by everyone from anywhere.

- Consortia may be formed either within university libraries or within specialized libraries for the maximum availability of e-resources at lesser cost and anytime access.

5.2 Conclusion

The University and special libraries are existing to meet the information needs of its users with the slogan "the right information to the right person at the right time."It aims at providing required information pin pointedly, exhaustively and promptly in a usable form. Both libraries should be provided personalized high quality services, using mechanical or electronic method, for storage and retrieval of documents. Library automation provides better services and gives added benefits at less cost. Computerization of library has brought increased use of library collections. The university libraries of Bangladesh are still at infancy with regard to automation. However some of university libraries opting for automation show that the libraries have a mind to adapt to the new changes and the other libraries will follow the suit. The impact of automation on library is quite obvious as it has created new type of work, prompt redefinition of certain functions, influence interpersonal relations, and transformed traditional organizational structure into new institutional entries. A global information society with electronic information resources is creating a new role in the 21st century. Online databases, electronic publishing and electronic document delivery are some of the pointers in this direction. Also the development of open source such as Dspace, E-print in facilitating access of all kinds of materials irrespective of scholarly publications. The developing countries have reached in top because of proper use of information technology. In Bangladesh, information system and technology is still backward in terms of information generation, use and applications. It is time to step toward the use access of these electronic and digital information resources for the benefit of library patrons, such as teachers, researchers, scholars. The library professionals also need to be trained to this effect

Annexure- 1
Questionnaire -1 for Employee.

Be sure to answer or put tick (√) all questions:
Name of Institute:

A. Particulars of Employee-
* Name:
* Age:
* Sex: Male ☐   Female ☐
* Academic Qualification:
* Professional Qualification:
* Present Designation:

1. Type of library?
   National   ☐   Academic(college, university etc) ☐

   Public   ☐   Special   ☐

3. Methods of processing?
   Manual☐   Technological ☐

4. If technological, please mention the year of practicing.
   Year: ☐ ☐ ☐ ☐
5. Please specify the existing standard?
   Traditional ☐   Systemic   ☐
   Basis of technology☐   Others   ☐
6. When did your Institute establish?
   Year ☐ ☐ ☐ ☐

7. Do you think that your Institute is fully automated?

    Yes   ☐

    No   ☐

8. If yes, do you fully satisfied with your service?

    Yes   ☐

    No   ☐

9. If no, what is your plan about it?

10. Have you plan to make it digitized?

    Yes   ☐

    No   ☐

11. If yes, from when you want to implement the digitization programme?

12. Total number of books?   ☐ ☐ ☐ ☐ ☐ ☐

13. National Title?   ☐ ☐ ☐ ☐ ☐ ☐

14. International Title?   ☐ ☐ ☐ ☐ ☐ ☐

15. Total number of e- books?   ☐ ☐ ☐ ☐ ☐ ☐

16. National Title?   ☐ ☐ ☐ ☐ ☐ ☐

17. International Title?   ☐ ☐ ☐ ☐ ☐ ☐

18. Total number of journals?   ☐ ☐ ☐ ☐ ☐ ☐

19. National Title?   ☐ ☐ ☐ ☐ ☐ ☐

20. International Title?   ☐ ☐ ☐ ☐ ☐ ☐

22. Total number of e-journals? □ □ □ □ □ □

23. National Title? □ □ □ □ □ □

24. International Title? □ □ □ □ □ □

25. Total number of Slides? □ □ □ □ □ □

26. Total number of News clippings(subjects)? □ □ □ □ □ □

27. Total number of Audiocassettes? □ □ □ □ □ □

28. Total number of Video cassettes? □ □ □ □ □ □

29. Total number of CDs □ □ □ □ □ □

30. Total number of Microfilms? ` □ □ □ □ □ □

31. Total number of Microfiche? □ □ □ □ □ □

32. Total number of Reports? □ □ □ □ □ □

32. Total number of Monographs? □ □ □ □ □ □

33. Others (specify) □ □ □ □ □ □

32. Total number of professional □ □ □

33. Total number of semi-profession □ □ □

34. Total number of non-professional □ □ □

Types of services

35. What types of services are available?

a. Reading textbooks

    Yes ☐

    No ☐

c. Reading e-journals

    Yes ☐

    No ☐

e. Photocopying

    Yes ☐

    No ☐

b. Reading journals

    Yes ☐

    No ☐

d. Reading e-books

    Yes ☐

    No ☐

f. Indexing

    Yes ☐

    No ☐

g. Abstracting

    Yes ☐

    No ☐

h. Current Awareness Service (CAS)

    Yes ☐

    No ☐

i. Selective Documentation Information Service (SDI)

    Yes ☐

    No ☐

j. Slide making

    Yes ☐

    No ☐

k. CD-ROM Searching

    Yes ☐

    No ☐

m. Reference Searching

    Yes ☐

    No ☐

l. On-line Searching

    Yes ☐

    No ☐

n. OPAC services

    Yes ☐

    No ☐

o. Inter library loan services

    Yes ☐

    No ☐

36. What types of document delivery system?

a. Postal communication

    Yes ☐

    No ☐

c. On-line systems

    Yes ☐

    No ☐

e. Electronic mail

    Yes ☐

    No ☐

g. Messenger

    Yes ☐

    No ☐

b. Air mail services

    Yes ☐

    No ☐

d. Facsimile(Fax)

    Yes ☐

    No ☐

f. Telecommunication

    Yes ☐

    No ☐

h. Others specify ☐

i. Existing system of services

    Traditional ☐

    Technological ☐

    Others ☐

j. Existing system of circulation

    Manual ☐

    Technological ☐

    Others ☐

37. Existing system of searching

    On-line ☐

    Off-line(CD-ROM) ☐

    Others ☐

38. What packages are used for giving services?

    CDS/ISIS ☐   dBaseIII/IV ☐

    Word star ☐   CD-ROM ☐

    Word perfect ☐   Others ☐

39. What types of technologies are used for services?

Computers ☐   Telex   ☐

Photocopier ☐   Video Text   ☐

Duplicating machine   ☐   Facsimile Telephone(Fax)   ☐

Electronic mail(E-mail) ☐   Microfilming ☐

40. Who are the users/ beneficiaries?

General public   ☐   Teachers & students   ☐

Doctors & Scientist   ☐   Researchers   ☐

Planners   ☐   Policymakers   ☐

41. Do you agree that library should be mechanized with the facilities of New Technologies?

Yes ☐

No   ☐

42. What are the main problems with new technologies and services?

Tight Budget   ☐
Lacking of skill personnel ☐
Technical errors   ☐
Loose policy   ☐
Others (specify)   ☐

43. Did you link up with On-line Networking System?

        Yes ☐

        No   ☐

If yes, please put tick(√) the below

    HELLIS   ☐   POPLINE   ☐

    AGRIS   ☐   DEVINSA   ☐

    MEDLINE ☐   AGORA   ☐

    HINARI   ☐   Others   ☐

If no, do you interested to link with Network Systems?

        Yes   ☐

        No   ☐

44. Have you linked with any library consortium for resource sharing in electronic system?

        Yes   ☐

        No   ☐

If, no, what is reason...........

Date   **Signature of Respondent**

Annexure-2

Questionnaire – 2 for Information Seekers.

Be sure to answer or put tick (√) all questions:

* Name:
* Age:

* Sex: Male ☐   Female ☐
* Academic Qualification:
* Professional Qualification:
* Present Designation:
* Official Address:
* Field of Specialization:
* Area of Research:
* Publication if any:

Electronic Information Seeking Behavior

1. For what purpose do you primarily seek information in Lib/ Doc Center?

   Research   ☐   Self Improvement   ☐

   Scholarly writings ☐   others   ☐

2. When seeking materials or information which source do you generally try?

   Discuss with subject specialist ☐   Discuss with librarian ☐

   Discuss with EIS personnel.   ☐   Others   ☐

3. When any book / document. is not available in the library what do you do?
   Do you ask the librarian to get it from other library on inter library loan

   Yes   ☐

   No   ☐

4. How do you see the following doc? Pls. tick the appropriate ones (F" for frequently S" for sometimes O" for occasionally and N" for never.

a. Books / Monographs   F☐   S☐   O ☐   N ☐

b. Research Report   F☐   S☐   O ☐   N ☐

c. News paper clipping   F☐   S☐   O ☐   N ☐

d. Conference Proceedings   F☐   S☐   O ☐   N ☐

e. Dissertation/ Thesis   F☐   S☐   O ☐   N ☐

f. EMIS Data bases   F☐   S☐   O ☐   N ☐

g. EMIS Data bases   F☐   S☐   O ☐   N ☐

h. Microfilm/ Micrifiche   F☐   S☐   O ☐   N ☐

i. CD/ ROM   F☐   S☐   O ☐   N ☐

j. Database search by internet   F☐   S☐   O ☐   N ☐

k. Online books   F☐   S☐   O ☐   N ☐

Online journals   F☐   S☐   O ☐   N ☐

If the answer is "N" in any case what is the reason do you think?

Not available in the LDI Center.   Yes   ☐ No☐

Lack of up to date information.   Yes   ☐ No☐

Lack of modern technology   Yes   ☐ No   ☐

Others   Yes   ☐ No☐

5.. Do you think that an Academic/ Special Lib should have the above document?

Yes   ☐   No☐

6. Do you think that this Academic/ Special Lib. provide services automatically?

Yes ☐   No☐

7. Do you think that EIS is better that manual services?

Yes ☐   No☐

8. Do you think that this Lib. provide EIS services?

Yes ☐   No ☐

9. Do you think computers are sufficient for the users?

Yes ☐   No ☐

10. Do you think that the inter-net facilities are sufficient?

Yes   ☐   No ☐

11. Which problems do you fell when you come to search the materials? pls. tick the below-

Lack of automation	Yes ☐	No☐
Lack of staff behavior	Yes ☐	No☐
Lack of sufficient document	Yes ☐	No ☐
Lack of IT professionals	Yes ☐	No ☐

12. Pls. specify your opinion about the collection & services of this institute-

Date   Signature of Respondent

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