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A SCENARIO OF SPECIAL LIBRARIES AND ICT APPLICATION IN THE STATE OF ASSAM: A STUDY

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ABSTRACT: *Computing technology, communication technology and mass storage technology are some of the areas of continuous development that reshape the way libraries access, retrieve, store, manipulate and disseminate information to users. ICT has impacted on every sphere of Special library services. ICT has brought unrivalled changes and transformation to library services, in accordance with LIS such as OPAC, user services, reference services, bibliographic services, current awareness service, document delivery service, inter library loan, audio visual service and users requirement can be provided more efficiently and effectively using ICT, as they provide convenient time, place, cost effectiveness, faster and most-up-to-date dissemination.*

Keywords: Information and Communication Technologies (ICT), Special Library, Library services, Assam.

INTRODUCTION:

Special library movement started in the beginning of last century when it was felt that neither academic nor public libraries could satisfy the information need of groups of people working in very specific areas. A special library is a library that provides specialized information resources on a particular subject. Its clientele are specialized and limited and the library delivers specialized services to its user promptly on demand or on anticipation. These libraries are attached to an institution which is working for a particular goal and hence the library works towards fulfillment of the institutional goal as an important organ of the parent institution. It is stated that a special library is not a separate entity, but exists as an integral part of a highly specialized kind of organization whether it be an industrial organization, research or service institution, a trade organization, a government agency or a museum ¹.

In a special library environment the users are highly qualified in specific areas of their work. While doing their job they are in need of very specific piece of latest information. Therefore, most of their information requirements are from reference books, hand books, journals, standards, patents, reports, maps, diagrams, state-of-the-art-reports, etc which are generally not in much demand in other types of libraries. These forms of documents are costly and rare and therefore these libraries use to spend huge annual budget for procurement of documents unlike other libraries. Further, these specialized documents may be in various forms, language etc.

In the 21st century, the libraries have started applying technological facilities available in a larger way as it shows prospects in managing the libraries more efficiently. Information Communication Technology has added a wing to the library services. Side by side publication industries globally started to publish their documents in electronic form in a big way. According to an estimate in USA itself 23% of books published in 2016 are in electronic form ³. Electronic journal become much more wide spread and very much important resources in the present century. Since, users of any special library mostly

depend on journals for information none of them can afford to avoid subscribing to e-journals⁴.

Although special libraries generally have huge budget for procurement yet no library can be self-sufficient and can satisfy its clientele cent percent. Demand of information in special libraries attached to R&D organization are mostly from journals published from the country and abroad and library use to spend major portion of its annual budget in acquiring journals. Still there is big gap always exists between demand and supply due to the limitation of budget. Therefore these libraries should evaluate its collection from the point of view of uses so that it can avoid spending limited budgetary resources for unused journals. One of the authors earlier therefore tried to evaluate the current list of journals at NEIST (then RRL, Jorhat) library and was successful in eliminating unused / less used journals so as to accommodate new journals demanded by the users within the available budgetary resource⁵. Works of bibliometric analysis were already reported where it has been tried by various workers to bring out ranked list of journals in core areas of research so that library authority may get help in selecting journals to the library within the available budgetary resources and increase percentage of satisfaction of its users from the available collection of the library⁶⁻⁸. Acquiring electronic journals has become more critical than print only when both are not affordable for libraries due to limitation of budget⁹. But these libraries cannot avoid acquiring e-resources as the user community of the present century prefers using documents in electronic form. Seventy five percent readers enjoy the convenience of having a device that can comfortably fit in their hand, weigh as little as 8 ounces, and yet carry the equivalent of 1,000 plus books wherever they go¹⁰.

As there is always exists a big gap between journals subscribed by the library and journals required by the users due to constraints of budget, regular increase in subscription and also regular increase of foreign exchange rates. Journals are basic input for R&D work and they are increasing three folds every 15 years². Costs of journals in the last twenty years have increased 226% in terms of dollars which may be further compounded by currency conversion. The budget of libraries to acquire all such information resources also has increased by 110% during the same period but vis-a-vis the cost escalation of journals, there is a substantial mismatch of 116% ($226\% - 110\% = 116\%$) which has constantly been causing reduction in journals information base of the special libraries of R&D institutions. Making matters further complicated is the ever increasing number of R&D journals, R&D workers, new disciplines, institutions and global competition¹¹. To bridge the gap between these two the concept of resource sharing has come into existence.

Information and Communication Technology (ICT) have brought significant changes to our day to day life. Today we are living in the information age. Information plays an important role in economic and social development of our society. The amount of valued literature is being published at a greater pace. So, applications of ICT in libraries have become the most important issues now. The special libraries in Indian have been preparing themselves on a corporate basis; a platform for ICT based information services. The internet has transformed the ways and means of information services. Breaking the distance barrier, internet has emerged as a boon to the information seekers as well as libraries. It has become popular, easy to use and inexpensive teaching and search tool.

According to S.R. Ranganathan, the growth of library is synonymously associated with the size of the library which has a great impact in the libraries in the ICT environment. The emerging Information, Communication & Technologies (ICT) have brought many changes in

the libraries. These technologies have facilitated LIS professionals to work together to acquire and share and provide better services to the user community. As a result, ICT is gaining increased attention in the service computing community. Library services in general and a reference and information service in particular refers to be personal assistance provided to users in pursuit of information. The reference and information services, provided to the library users may be categorized into three broad groups:

- Information services that involve either finding the required information on behalf of the users, or assisting users in finding information.
- Instruction on the use of library resources and services; and
- User guidance, in which users are guided in selecting the most appropriate information sources and services.

The increasing availability of electronic information sources, emergence of web based digital libraries and use of desktop based search tools and agents have changed the notion of traditional reference and information services. The whole array of Information and Communication Technology (ICT) enabled services are:

- Database search services.
- Bibliographic databases
- Full text retrieval
- Referral databases.
- Online database services.
- CD- ROM database services.

In India, one of the most important steps that need to be taken is to digitize education in order to expand it, make it more accessible thereby reaching a large mass of students. Using ICT related technologies in every sector is to turn our nation into a knowledge society. Developing a strong inventory of various disciplines in the areas of digital learning in both education and administrations such as improving teacher's training and course curriculum, digitization of libraries, coaching teacher's, helping students and encouraging them to complement their traditional teaching methodologies with ICT based learning and developing and implementing, monitoring and ensuring the success of e-governance for education.

The computers have now become an integral part of our everyday life. They are used everywhere from industry to business, media to communications, schools to colleges to universities and where not. The recent advancement in communication & technologies has made tremendous changes in Library and Information science. The Library is an important component of any educational institution and organization. All traditional operations of Libraries are gradually shifting towards digitization. New issues like automation, digitization, networking, internet, multimedia, etc. are gradually coming up.

During the last decade the discussion about changes in special libraries focuses most frequently on the automation of the library mainly information and communication technology (ICT) developments, the implications of information in Digital format, new learning and teaching concepts, new economic models legal frameworks.

It is believed that ICT offers librarians opportunities to redefine how information and associated instruction are communicated to students and faculty. As information systems increase in complexity and new resources continue to spring up. Librarians are becoming indispensable counselors in the electronic environment. They are called upon to assist faculty

and students in identifying and evaluating many sources and to serve as true advisors and teachers independently of time and place rather than as custodians of collection.

IMPACT OF ICT IN THE DEVELOPMENT OF LIBRARY SERVICES:

ICT is basically uses in the following library environment:

- **Library management:** The activities of Classification, Cataloguing, Indexing, Database Creation, Database Indexing, etc. are done by the use of ICT.
- **Library automation:** Automating a library reduces the human intervention in all the library services, so that any user can receive the desired information with the maximum comfort and at the lowest cost. Major areas of the automation can be classified into two parts organization of all library database and housekeeping operations of library.
- **Library Networking:** Library networking means a group of libraries and information centers are interconnected for some common pattern or design for information exchange and communication with a view to improve efficiency.
- **Audio-Video Technology:** It includes photography, microfilms, microfiches, audio and tapes, printing, optical disk, etc.
- **Technical communication:** Technical communication consisting of technical writing, editing, publishing, DTP systems, etc.

Today libraries are uses various types of electronic equipment and communication technologies to ensure the smoothness of library activities. Some of the common resources available in the libraries are:

Computers: Computer based technology have become dominant forces to shape and reshape the products and services of the library has to offer.

OPAC: An online public access catalogue of the materials held by a library or group of libraries.

Union catalogue: It is a combine library catalogue describing the collections of a number of libraries. Union catalogue have been created in a range of media including book format, microform, cards and more recently networked electronic databases.

CD-ROM: It presents a state of art review of the applications of all aspects of library involvement and staffing implications.

Scanner: It is a device that optically scanned images, printed texts, handwriting, or an object and converts it to a digital image.

RFID: Radio frequency identification is a term used for technologies utilizing radio waves for identifying individual items automatically. RFID is used very similar to barcodes.

Tele text: It is a television information retrieval service developed in the United Kingdom in the early 1970s. It offers a range of text based information, typically including national, international, and sporting news, weather and TV schedules.

Facsimile: It is a copy of reproduction of an old book, manuscript, map, art, or other item of historical value that is a true of the original source as possible.

Photocopy: photocopier is a machine that makes paper copies of documents and other visual images quickly and cheaply. Xerography is the most current photocopiers widely used in libraries today.

Printing Technology: In computing, a printer is peripheral which produces a text and/or graphics of documents stored in electronic form, usually on physical print media such as paper or transparencies.

Barcode: A barcode reader or Barcode scanner is an electronic device for reading printed barcodes.

Following are some of the services provided through ICT in the libraries:

Document delivery services: Through this service, library delivers copies of journal articles and book chapters from participating libraries.

Inter library loan: It is a comparative arrangement among libraries by which one library may borrow materials from another library.

Indexing and abstracting services: It is a method which is used to retrieve information from a table in memory or a file on a direct access store or the art of compiling an index. The preparation of abstracts, usually in a limited field, by an individual, an industrial organization, and these are being published and supplied regularly to subscribe.

Chat services: Online chat may refer any kind of communication over the internet. Online chat may address as well point to point communication as well as multicast communications from one sender to many receivers.

CAS: The purpose of the current awareness services to inform the users about new acquisition in their libraries. For this display boards and shelves are used. Some libraries produce complete or selective lists for circulation to patrons.

SDI: SDI refers to tools and resources used to keep a user informed of new resources on specified topics.

Scanned Copies: A scanning service for material not available electronically, which is held by the library. This includes articles from journals, chapters from books, manuscripts, survey reports, etc.

Bulletin board services: It is a computer system running software that allows users to connect and login to the system using a terminal. Once logged in, a user can perform functions such as uploading and downloading software and data, reading news and bulletins and exchanging messages with other users.

Electronic services and E-resources: these are mainly CD_ROM, OPACs, E-journals, E-books, ETD and internet which are replacing the print media. These are found to be less expensive and more useful for easy access.

Digital Library: A digital library in which collections are stored in digital formats and accessible by computers. Digital contents may be stored locally or remotely via computer networks.

Some other electronic sources provided by ICT:

Audiovisual materials: This collection contains a wide range of audiovisual materials to support the research and study needs of staff, researchers and students.

Internet: Through internet communication has become easier and faster and decision are made instantaneously. Internet made it easier to have access to information to all people at all places and at all the times.

Library website: It helps to recognize the facilities and information sources available in the library and integrate the services to one platform.

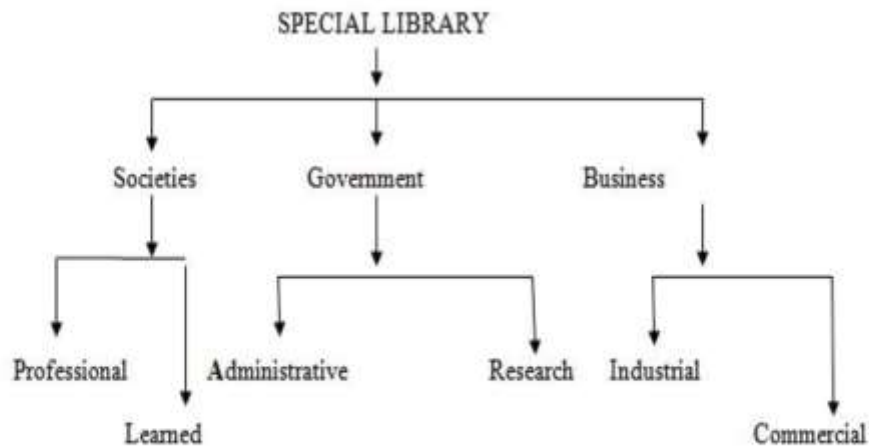
Database: Database is an organized collection of data for one or more purposes, usually in digital form. The data are typically organized to model relevant aspects of reality, in away that supports process requiring the information.

These days nobody can deny the impact of ICT in library services. Now a day's ICT is playing a significant role in the library system because:

- It can provide library users a speedy access of Information.
- Access to unlimited information from different sources.
- It can also help to provide Electronic document delivery service.
- Web access of OPAC is only possible in ICT environment.
- Online reader's advisory services also possible through ICT.
- Provides large number of storage capacity.
- To reduce chance of redundancy.
- Through ICT sharing of Information made easier.

STUDY AREA WHERE REQUIRED:

The present study is confined to all types of central and state government special libraries of Assam. The state and central govt. special libraries are a huge concern in the state of Assam. A special library serves the specialist located within a single establishment or group and all are engaged in working towards one common purpose. They are expected to provide specific information on request from their users. A special library can be categorized as the following because of their areas covered and its different types in present day information area.



There are vast numbers of special libraries in all over Assam which have been included in this study. The study has been further delimited to the status of ICT infrastructure and computerized services in the particular area of Special Libraries in Assam. There are approx 70(seventy) number of special libraries under the categories of organization like- Humanities, Social sciences, Science & Technology. Among them 17 (seventeen) numbers of special libraries have taken for the systematic study (table-1).

Table -1 Special libraries of Assam selected for the present study

Sl. no.	Name of The Institute	Year of Establishment	Name of the Library	Place
1.	Assam Legislative Assembly (ALA)	1937	ALA Library	Guwahati
2.	Assam State Museum	1940	Ananda Chandra Agarwala Library	Guwahati
3.	The Institute of Advanced Study in Science & Technology (IASST)	1979	Knowledge Resource Centre	Guwahati
4.	National Institute of Rural Development & Panchayati Raj (NIRDPR)	1983	NIRDPR Library	Khanapara, Guwahati
5.	Gauhati High Court	1948	Judges' library	Guwahati
6.	Indian Council of Forestry Research and Education (ICFRE)	1988	RFRI Library	Jorhat
7.	Tata Institute of Social Science (TISS)	2012	TISS library	Guwahati
8.	Indian Institute of Bank Management (IIBM)	1982	IIBM Library	Khanapara, Guwahati
9.	North East Institute of Science & Technology (NEIST)	1961	Knowledge Resource Centre	Jorhat
10.	Toklai Experimental Station of Tea research Association (TRA)	1911	Toklai Experimental Station Library	Jorhat
11.	Assam Institute of Research for ST & Sc.	1977	AIR ST & SC Library	Khanapara, Guwahati
12.	National Institute of Public Co-Operation & Child Development (NIPCCD)	1978	NIPCCD RCG Library	Khanapara, Guwahati
13.	Indian Institute of Entrepreneurship (IIE)	1994	IIE Library	Guwahati
14.	Institute of PLASMA physics	1991	PLASMA Physics Library	Guwahati
15.	Department of Historical & Antiquarian Studies (DHAS)	1928	DHAS Library	Guwahati
16.	Central Institute Of Plastic Engineering and Technology (CIPET)	1999	CIPET Library	Guwahati
17.	Assam Science, Technology and Environment Council (ASTEC).	1987	ASTEC AEDA	Guwahati

OBJECTIVES:

Through the present study it was intended to access availability of information sources in the library, services provided to the users, degree of application of ICT infrastructures to make the library services useful to the user community and their satisfaction there on.

METHODOLOGY:

The present study was based on the survey using schedule, questionnaire, observation and conducting interview as well as collection of data from the secondary sources of information, i.e. Institution's Websites/Home page, Annual reports, etc. The study covers limited areas of library's collection and services, development of ICT infrastructure, status of library automation etc.

DATA ANALYSIS:

For the present study seventeen Special libraries have been surveyed and collected different information and data related to the effectiveness of ICT application towards the development of library services. Data are organized in a tabular form and analyzed below. In the tabular form, institution names were abbreviated for convenience.

For providing efficient library services, the library must have good infrastructural resources and facilities. Man power is one of such important resource. Through the present survey it is seen that in most of the special libraries do not have sufficient man power. In some cases the available man power are also not professionally qualified. In ASTEC library, NIRDP library a grade four person is running the library without any other staff. Similarly in the oldest special library of Assam, Toklai Experimental Station Library is running by a person with PG degree in mass communication. Others are also found to be under staffed to provide efficient library services. This hampers the working and the services to be impacted by the special libraries. Further, it is also seen that, due to under staff these special libraries mostly could not provide adequate library services to their users.

Library personnel

Table -2 shows about the library personnel. From the Table it is observed that in all the libraries surveyed professional staffs are less. Most of the libraries are operated by one professional with one or two non-professionals. And some of the libraries even don't have professional staff, among them Ananda Chandra Agarwala Library of Assam State Museum, NIRDP Library, ASTEC, Toklai Tea Research Centre Library are found. Because to run a library properly its staff should aware about library science and well trained about library.

Table -2: library personnel

SL NO	Name of the Library	LIBRARY PERSONNEL		Qualification
		Total No	Designation of Staff	
1	ALA Library	10	NA	NA
2	Ananda Chandra Agarwala Library	3	Library cum Publication Officer, Jr. Asstt & Library Bearer	B.A, B.A & HSSLC
3	Judges' Library	10	Asst. Librarian(1), Library Asst.(2), Current Attendant(5), Librarian(0)	NIL
4	Knowledge Resource Centre(IASST)	5	Asst. Librarian(1), Library Asst.(1)	(MLISC,), NIL M.Phil, PhD.
5	NIRDP Library	2	In Charge. Asst. Administration Librarian(1), MTS	HSLC
6	TISS Library	6	Librarian(1), Asst. Librarian(1), Library Asst.(NA) & Library Bearer	NIL, MLISC, MLISC & NIL
7	IIBM Library	2	Asst. Librarian(1) & Attendant(1)	Ph.D & HSLC
8	NIPCCD RCG	2	Asst. Librarian(1) & MTS(1)	MLISC & NIL

	Library			
9	IIE Library	4	Librarian, Asst. Librarian & Other Staff(2)	MLISC, MLISC & NIL
10	DHAS Library	4	Asst. Librarian & Bearer(2)	MLISC & NIL
11	ASTEC/AEDA	1	Peon	Under Metriect
12	CIPET Digital Library	3	Librarian, Professor. In Charge. & Helper	BLISC, Ph.D& HS
13	Institute of PLASMA Physics Library	1	Asst. Librarian	MLISC
14	Directorate of AIR ST & SC Library	3	Librarian(1) & NA	MLISC
15	RFRI Library	4	Library Information Asst.(3) & Bearer(1)	MLISC(All) & NA
16	Knowledge Resource Centre(NEIST)	4	Technical Asstt 1 Technician 1 Library bearer 2	MLIS BLIS HSLC
17	Toklai Experimental Station Library	3	Library Cum Information Officer., Senior Asst. & Attendant	(M.A, Mass Com), (B.A, PGDCA) & 7th Standard

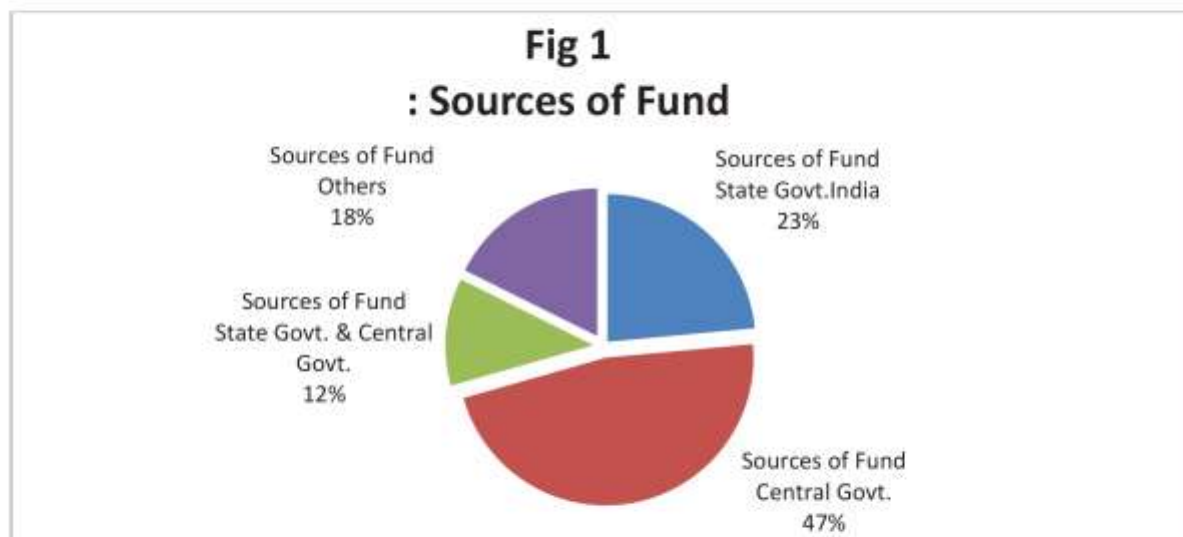
Sources of fund

Finance is the backbone of any library. Special libraries need regular flow of fund for its collection development program. They generally spends major portion of their annual budget in acquiring journals / serials. Apart from that they also acquire different kind of documents from across the globe on demand by its users. The special libraries under the present study get their library funds from a mixture of local, state, federal and other sources. While the majority of funds for libraries come from state, and local sources, federal funding provides critical assistance, giving libraries across the country the financial support they need to serve their communities. Special libraries are having a special attention, therefore investment of the sources of fund which play a vital role in making the libraries globalized. Libraries can earn its fund from different sources such as fee, gifts, donations, fines, UGC funds, etc. and the aid provided by the Government. In the table -3 Different sources of fund of Special libraries have been found.

Table -3: Sources of fund received by special libraries under study

Sl.No.	Name Of The Institution	Name of The Libraries	Sources of Fund
1	Assam Legislative Assembly	ALA Library	central govt. India& state govt. grant
2	Assam State Museum	Ananda Chandra Agarwala Library	state govt. grant
3	Gauhati High Court	Judges' Library	state govt. grant
4	The Institute of Advanced Study in Science & Technology (IASST)	Knowledge Resource Centre	central govt. India

5	National Institute of Rural Development & Panchayati Raj (NIRDPR)	NIRDPR Library	central govt. India
6	Tata Institute of Social Science (TISS)	TISS Library	UGC & Gifts
7	Indian Institute of Bank Management (IIBM)	IIBM Library	Banks' Special
8	National Institute of Public Co-Operation & Child Development (NIPCCD)	NIPCCD RCG Library	central govt. India
9	Indian Institute of Entrepreneurship (IIE)	IIE Library	central govt. India
10	Department of Historical & Antiquarian Studies (DHAS)	DHAS Library	state govt. grant
11	Assam Science, Technology and Environment Council (ASTEC)	ASTEC/AEDA	state govt. grant
12	Central Institute Of Plastic Engineering and Technology (CIPET)	CIPET Digital Library	Library fee
13	Institute of PLASMA Physics	Institute of PLASMA Physics Library	central govt. India
14	Assam Institute of Research for ST & SC	Directorate of AIR ST & SC Library	central govt. India & state govt. grant
15	Indian Council of Forestry Research and Education (ICFRE)	RFRI Library	central govt. India
16	North East Institute of Science & Technology (NEIST)	Knowledge Resource Centre	central govt. India
17	Toklai Tea Research Institute	Toklai Tea Research Institute Library	central govt. India & others



In the list of Special libraries as mentioned in the Table-3 and fig-1, 47% of libraries collect funds from Central Government, such as Knowledge Resource Centre (IASST), NIRDPR Library, NIPCCD RCG Library, IIE Library, RFRI Library, Institute of PLASMA Physics Library, Knowledge Resource Centre (NEIST) and Toklai Experimental Station Library. Toklai Experimental Station library acquire current journals on exchange of their

own publications, namely, Two & a Bud, Tea encyclopedia, Memorandums, etc. 23% libraries collect fund from State Government, such as Ananda Chandra Agarwala Library, Judge's Library, DHAS Library and ASTEC/AEDA, Whereas two library collects fund from both central and state government, namely Assam Legislative Assembly Library and Directorate of AIR ST & SC Library. And some of the libraries collect fund from library fee, UGC fund and gifts. As an autonomous institute IIBM Library collects its funds from eight sponsored banks. Table 4 below shows the volume of budget of the libraries under study for a particular year.

Library budget

Budget of the library must increase at least by 10% every year so as to enable them to meet the ever increasing cost of documents it acquires. Particularly a special library in S&T mostly acquire foreign journals which are very costly due to two factors, viz, increase of publisher's price and increase of foreign exchange rates. The pattern of increase of budget of KRC NEIST, during 2012 to 2016 is shown in table-5 below.

Table -4: Budget for 2012 in special libraries:

Table-4: Budget 2012 (Rs. In lakhs)	
Library	Budget
ALA	-
ACA	-
JL	-
KRC(IASST)	13.00
NIRD P	15.25
TISS	-
IIBM	15.90
NIPCCD RCG	2.88
IIE	18.32
DHAS	7.00
ASTEC/AEDA	3.00
CIPET	-
PLASMA	4.35
AIR ST & SC	24.65
RFRI	7.26
KRC(NEIST)	78.00
Toklai	-

Table-5: Annual budget of KRC, NEIST during 2012-2016 and proportion of expenditure in journal subscription

Years	Total budget (Rs. in lakhs)	Amount spend for subscription of journals (Rs. in lakhs)
2012	78.00	72.05
2013	86.00	81.00
2014	95.00	89.50
2015	100.00	95.00

2016	110.00	102.50
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Participation in consortium for enhancing resource base by libraries

It is seen that due to the ever increasing cost of resources from the beginning of 21st century the concept of consortium have come into existence. In India there are various consortium being run successfully by different organizations. Some of them are furnish bellow-

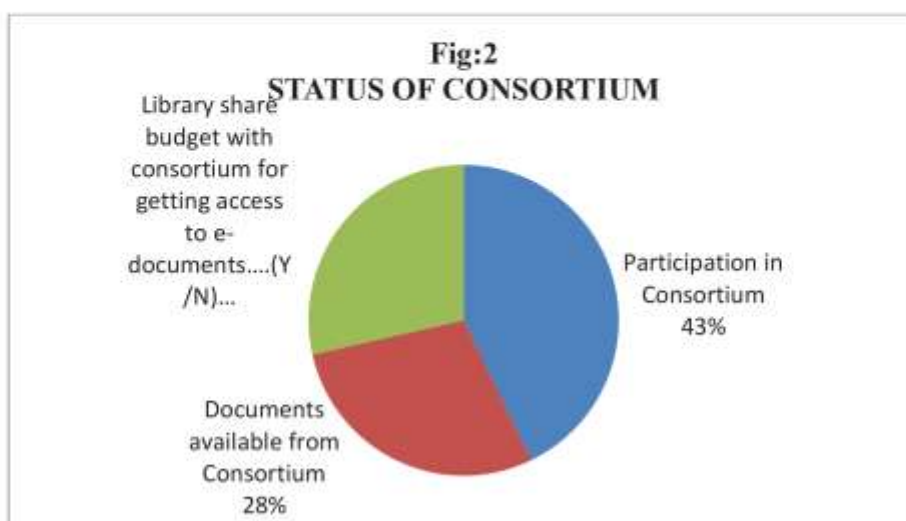
- Council for Scientific and Industrial Research (CSIR) e-journal.
- FORSA (The Forum for Resource Sharing in Astronomy & Astrophysics)
- HELINET (Health Sciences Library & Information Network).
- UGC INFONET e-Journal consortium.
- UGC INDEST Consortium.
- IIM (The Indian Institute of Management).
- N-LIST (National Library & Information Service Infrastructure for Scholarly Content).
- E- Shodhsindhu etc.

Table-6 and fig: 2 below shows that 43% libraries are participating in consortium. Among the libraries selected for study KRC (NEIST) has been participated in CSIR E-Journal Consortium, KRC (IASST) has been participated in NKRC and TISS library has been participated in Shodhganga. 28% libraries get available documents from consortium. 29%

Category	No. of the Libraries	Percentage (%)
1.Participation in consortium	3	43%
2. Documents available from consortium	2	28%
3.Library share budget with consortium for getting access to e-documents....(Y/N)	2	29%

libraries share budget with consortium for getting access to e-documents.

Table-6: Status of Consortium in the libraries selected

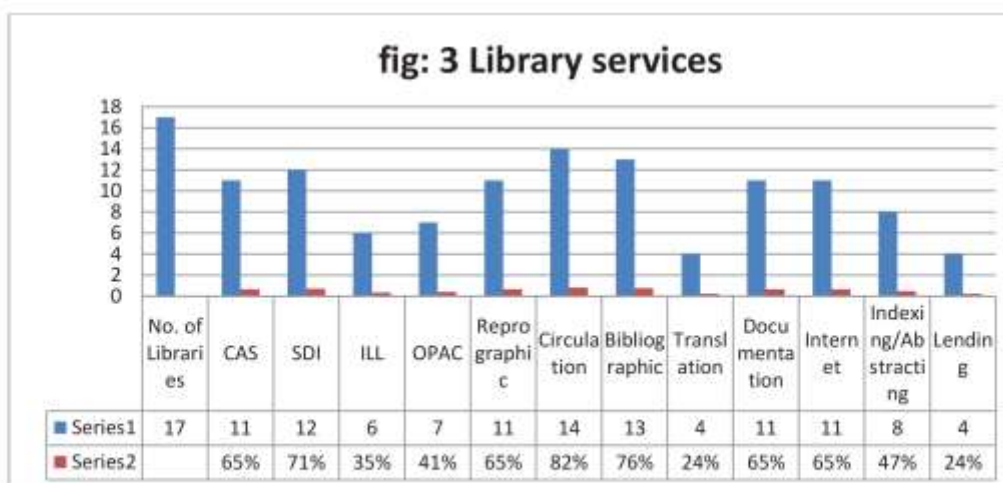


Library Services:

Table -7 and fig: 3 below shows the services provided in the respected libraries. The services which are mostly offered in libraries are Circulation Service (82%), Reprographic Service (65%), Bibliographic Service (76%), CAS (65%), SDI (71%), Documentation Service (65%) and Internet Service (65%). Indexing/Abstracting service (47%) is offered by few libraries. Inter Library Loan service (35%) is also provided by some of the libraries when it is required. OPAC (41%) facility is also there in some libraries. A very few number of libraries offered translation service (24%), such as Knowledge Resource Centre (IASST), IIBM library, NIPCCD RCG library and DHAS library.

Table-7: Library Services

No. of Libraries	CAS	SDI	ILL	OPAC	Reprographic	Circulation	Bibliographic	Translation	Documentation	Internet	Indexing/Abstracting	Lending
17	11 (65%)	12 (71%)	6 (35%)	7 (41%)	11 (65%)	14 (82%)	13 (76%)	4 (24%)	11 (65%)	11 (65%)	8 (47%)	4 (24%)



Technical Operations:

Special library should be specialized in its own right but some of the special libraries of the study specialized only its collection and services to some extent. Manual system cannot meet that much information needs of the readers so computerized system of information storage and retrieval is must.

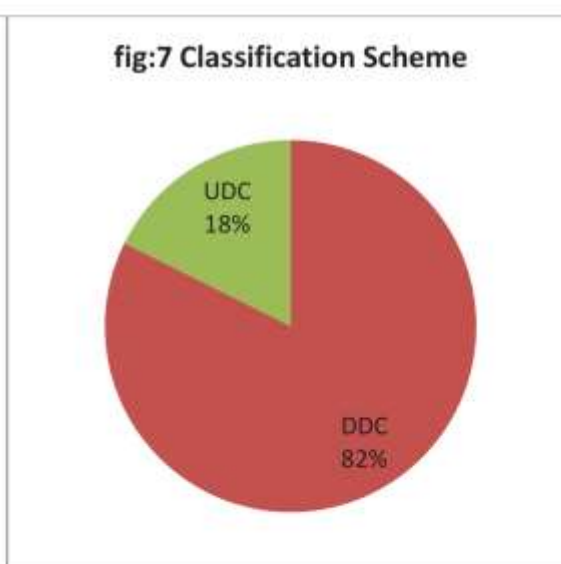
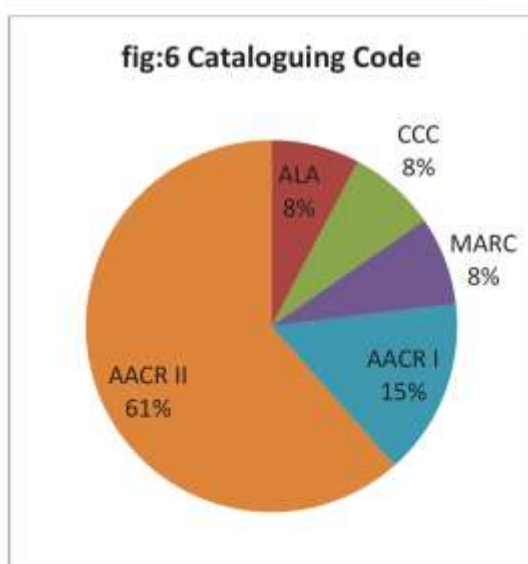
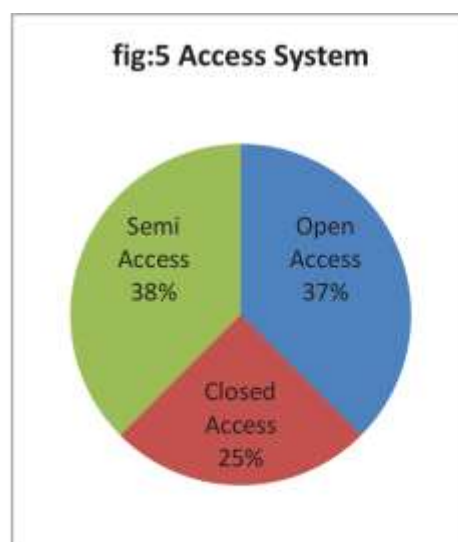
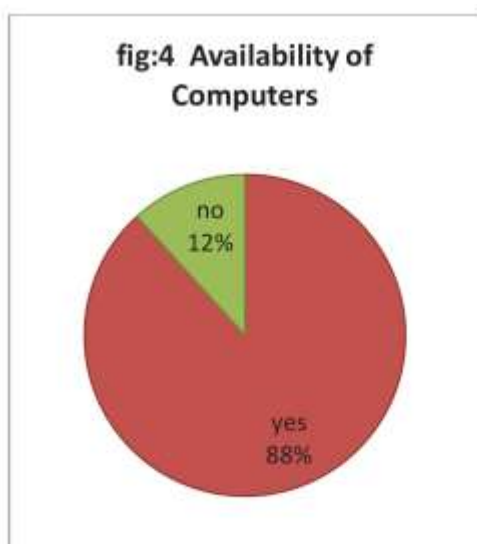
It has been seen from the surveyed data that 88% libraries have computer facility for both the library personnel and users. The libraries are using different software and operating system for their regular housekeeping operations except ASTEC library. Most of the libraries have been using Windows as operating system. Only KRC IASST and RFRI library is using Linux. KRC NEIST provides its online services through the campus wide LAN at Jorhat and through WAN to the users working at its branch Laboratories at Itanagar and Imphal.

From the Table 8 and Figs 4-7 it is found that 90% of the libraries are using different classification scheme and cataloguing code. From the survey it is found that among them 37%

libraries have open access system, 38% libraries have semi access system and 25% have closed access system. It is found from the study that except PLASMA Physics library, CIPET library and KRC NEIST in all the libraries classification process is done through DDC and as regard to cataloguing it's seen that except ALA library, Ananda Chandra Agarwala Library and RFRI Library, all the other libraries' process of cataloguing is AACR II. While the processing of cataloguing in ALA Library is ALA, Ananda Chandra Agarwala Library is CCC and RFRI Library is MARC. KRC NEIST is using the cataloguing code of all three as, AACR I, AACR II & CCC. Judge's Library, NIRDP Library, Toklai Experimental Station Library does not have any cataloguing code.

Table-8: Technical Operations carried out by special libraries under study

Table-8: Technical Operations							
SL NO.	Name of The Libraries	No. of Computers	Operating System	Software	Classification Scheme	Cataloguing Code	Access System
1	ALA Library	2	NA	Koha	DDC 22nd	ALA	Semi access
2	Ananda Chandra Agarwala Library	NA	NA	NA	DDC	CCC	Semi access
3	Judges' Library	7	Windows	Koha	DDC 23rd	NA	Closed access
4	Knowledge Resource Centre(IASST)	15	Linux	SOUL & D. SPACE	DDC 23rd	AACR II	Semi access
5	NIRDP Library	3	Windows	E- Granthalaya	DDC 19th	NA	Closed access
6	TISS Library	77	Windows	Koha	DDC 23rd	AACR II	Semi access
7	IIBM Library	4	Windows	CDS/ISIS	DDC 19th	AACR II	Open access
8	NIPCCD RCG Library	1	Windows	Books help plus	DDC 21st	AACR II	Semi access
9	IIE Library	3	UNIX & Windows	Inhouse software	DDC	AACR II	Open access
10	DHAS Library	5	Windows	SOUL 2.0	DDC 19th	AACR II	Open access
11	ASTEC/AEDA	NIL	NA	NA	DDC	AACR I	Open access
12	CIPET Digital Library	13	Windows	Others	UDC	AACR II	Open access
13	Institute of PLASMA Physics Library	2	Windows	E- Granthalaya	UDC 21st	AACR I	Close access
14	Directorate of AIR ST & SC Library	3	Windows	SOUL	DDC 21st	AACR II	
15	RFRI Library	3	LINUX	Koha	DDC 23rd	MARC	Open access
16	Knowledge Resource Centre(NEIST)	5	Windows	Koha	UDC 2015	AACR I, AACR II & CCC	Semi access
17	Toklai Experimental Station Library	3	LINUX & Windows	NA	DDC	NA	Closed access



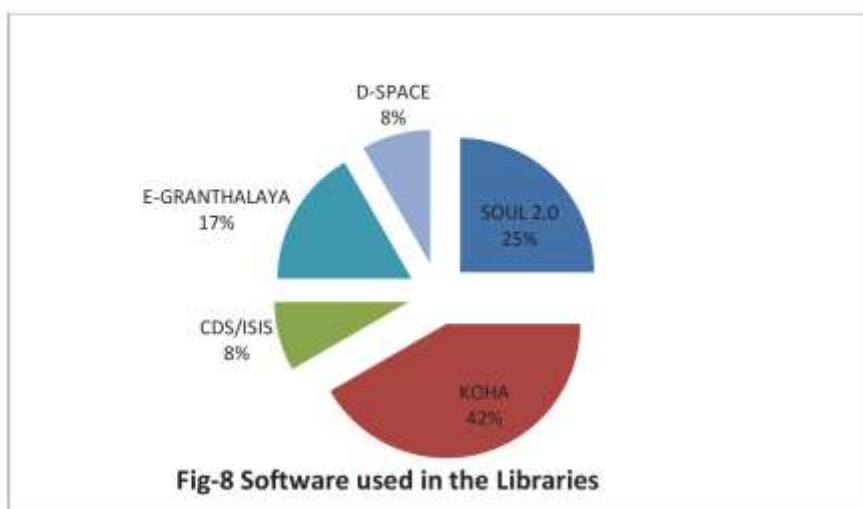
Software using for library automation:

Table No. 9 and fig-8below shows that out of seventeen surveyed libraries, five libraries are using KOHA followed by three libraries are using SOUL 2.0, two libraries are using E-Granthalaya, one library is using CDS/ISIS and another library, that is KRC IASST using both SOUL 2.0 & D-Space and the rest three libraries are using some non-standardized software for library automation.

Table –9: Software used by special libraries under study

Software used	No. of Libraries	Percentage (%)
SOUL 2.0	3	25%
KOHA	5	42%
CDS/ISIS	1	8%
LIBSYS	0	0%

E-GRANTHALAYA	2	17%
ALICE FOR WINDOWS	0	0%
D-SPACE	1	8%
OTHERS	3	25%



Modules of software in operation for automation:

Table number 10 shows the different areas of automation done by the surveyed libraries. It is found from the study that out of the seventeen libraries surveyed three libraries are automated fully. Some are partially automated followed by thirteen libraries have done acquisition, 14 libraries have done cataloguing, twelve libraries have done circulation, Nine libraries have done OPAC, 8 libraries have done Serial Control modules and only eight libraries have done article indexing module. Among these seventeen libraries only Ananda Chandra Agarwala library and ASTEC/AEDA library till now have not applied any ICT application. Nothing has been done automated in these two particular libraries.

Table – 10: Modules of software in operation for automation:

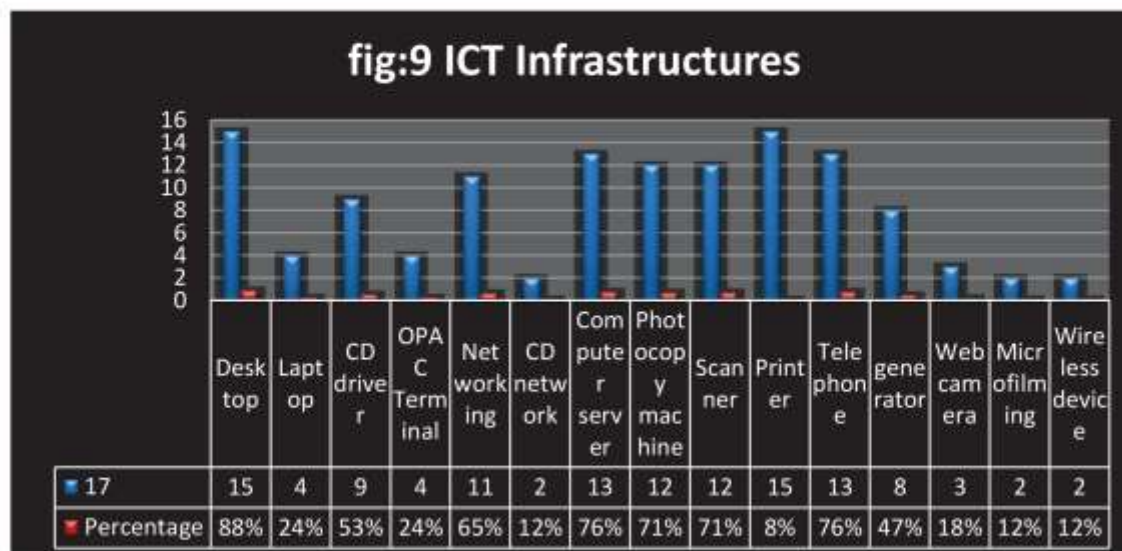
SL NO.	Name of the Libraries	Acquisition	Cataloguing	Circulation	OPAC	Serial Control	Article Indexing
1	ALA Library	Yes	No	No	No	No	No
2	Ananda Chandra Agarwala Library	No	No	No	No	No	No
3	Judges' Library	No	Yes	Yes	Yes	No	No
4	Knowledge Resource Centre(IASST)	Yes	Yes	Yes	Yes	Yes	Yes
5	NIRDPA Library	Yes	Yes	Yes	Yes	Yes	Yes
6	TISS Library	Yes	Yes	Yes	Yes	Yes	No
7	IIBM Library	No	Yes	Yes	No	No	Yes
8	NIPCCD RCG Library	Yes	Yes	No	No	No	Yes
9	IIE Library	Yes	Yes	Yes	No	Yes	Yes
10	DHAS Library	Yes	Yes	No	No	No	No
11	ASTEC/AEDA	No	No	No	No	No	No
12	CIPET Digital Library	Yes	Yes	Yes	Yes	No	No
13	Institute of PLASMA Physics Library	Yes	Yes	Yes	No	No	Yes
14	Directorate of AIR ST & SC Library	Yes	Yes	Yes	Yes	Yes	Yes
15	RFRI Library	Yes	Yes	Yes	Yes	Yes	No
16	Knowledge Resource Centre(NEIST)	Yes	Yes	Yes	Yes	Yes	Yes
17	Toklai Experimental Station Library	Yes	Yes	Yes	Yes	Yes	No

ICT infrastructures availability:

Information and Communication Technology (ICT) has radically transformed most of the services provided by a library. The application of ICT in libraries has made remarkable changes in their daily operations and services. Information processing, storage, communication, dissemination of information, automation, etc. revolutionized the information communication technology. One of the most relevant outcomes of ICT is the introduction of the internet and development of World Wide Web, which has necessitated a major shift in the role of libraries. The application of ICT in the libraries becomes essential to provide the facilities to the user community.

ICT includes desktop, laptop, CD drivers, OPAC terminals, networking, CD network, computer server, etc. as well as the various services and applications associated with them. When such technologies are used for educational purpose, ICT becomes a subfield of educational technology. Table 11 and fig: 9 shows the current status and different ICT based facilities in the libraries selected. It is found from the study that most of the libraries are using the basic things only related to ICT like, Computer (88%), laptop (24%), server (76%), CD drivers (53%), scanner (71%), printer (8%), photocopy machine (71%), telephone (76%), generator (47%), networking (65%) and special to library OPAC terminals (24%). Ananda Chandra Agarwala library and ASTEC/AEDA library till now have not applied any ICT

facility. Digitization has not been done in all the libraries. Only Directorate of AIR ST & SC Library has been fully digitized. It's all the collections have been digitized. Assam Legislative Assembly has digitized its book collection only. KRC IASST, TISS library, RFRI library and KRC NEIST has digitized it's all collection except books. DHAS library has digitized its manuscript collections only. Figure-9 shows the ICT infrastructure facilities available in the respective special libraries.

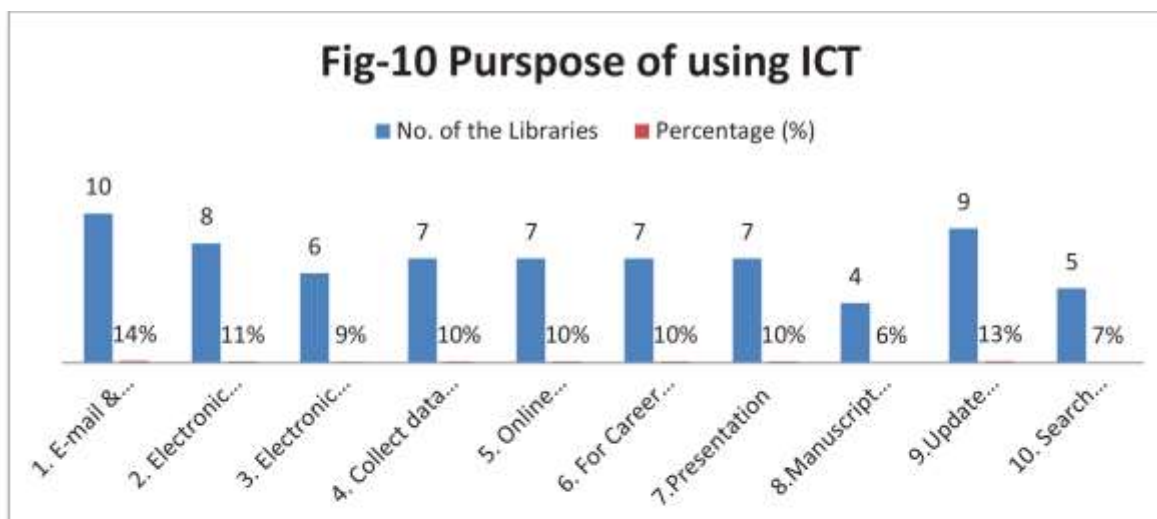


Purpose of using ICT:

Table number 12 and fig-10, shows purposes of libraries of acquiring or using ICT application. It is found from the studies that among 17 libraries 10 libraries (14%) are using ICT mailing and document sharing purpose. Eight libraries (11%) are using ICT for subscription of electronic journals then 6 libraries (9%) are using ICT for availability of electronic books, whereas seven libraries (10%) are using ICT for collecting data through internet, for online databases, for developing career and also only for presentation. Only four libraries (6%) are using ICT for manuscript. Then nine libraries (13%) are using ICT just to update knowledge of both users and staffs and lastly five libraries (7%) are using ICT for searching Web opacs/ OPACs.

Table-12: ICT based application used by special libraries under study

Purposes	No. of the Libraries	Percentage (%)
1. E-mail & Document sharing	10	14%
2. Electronic Journals	8	11%
3. Electronic Books	6	9%
4. Collect data through Internet	7	10%
5. Online databases	7	10%
6. For Career Development	7	10%
7. Presentation	7	10%
8. Manuscript Proposal & papers	4	6%
9. Update Knowledge	9	13%
10. Search Webopacs/OPACS	5	7%

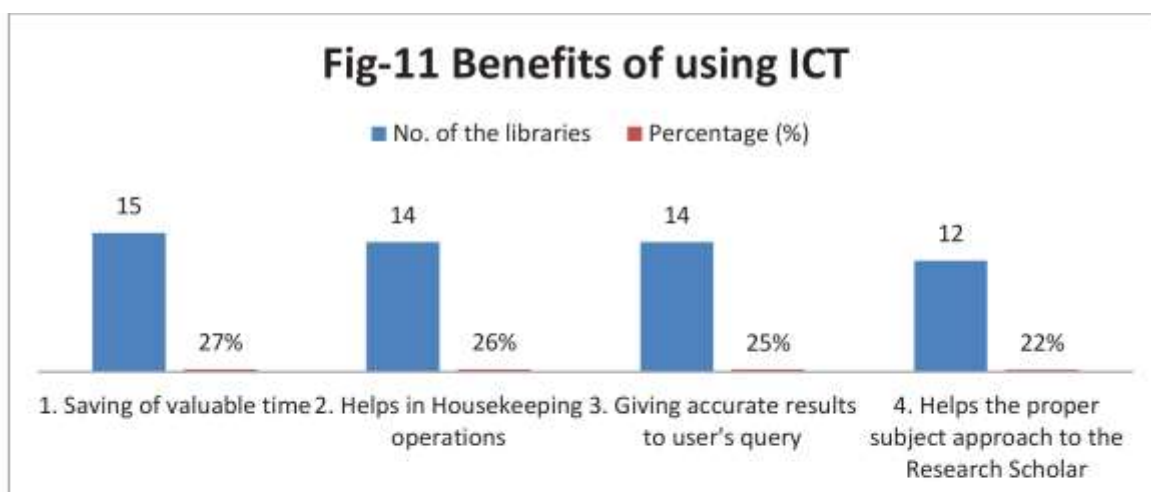


Benefits of using ICT:

Table number 13 and fig 11 stated that 27% of libraries have been benefited from ICT by saving the valuable time of reader as well as staff, 26% libraries benefited through helping in housekeeping operations, 25% libraries benefited from ICT by giving accurate results to user's query and 22% of libraries benefited by helping the proper subject approach to the research scholar.

Table-13: Benefits of using ICT:

Benefits	No. of the libraries	Percentage (%)
1. Saving of valuable time	15	27%
2. Helps in housekeeping operations	14	26%
3. Giving accurate results to user's query	14	25%
4. Helps the proper subject approach to the research scholar	12	22%

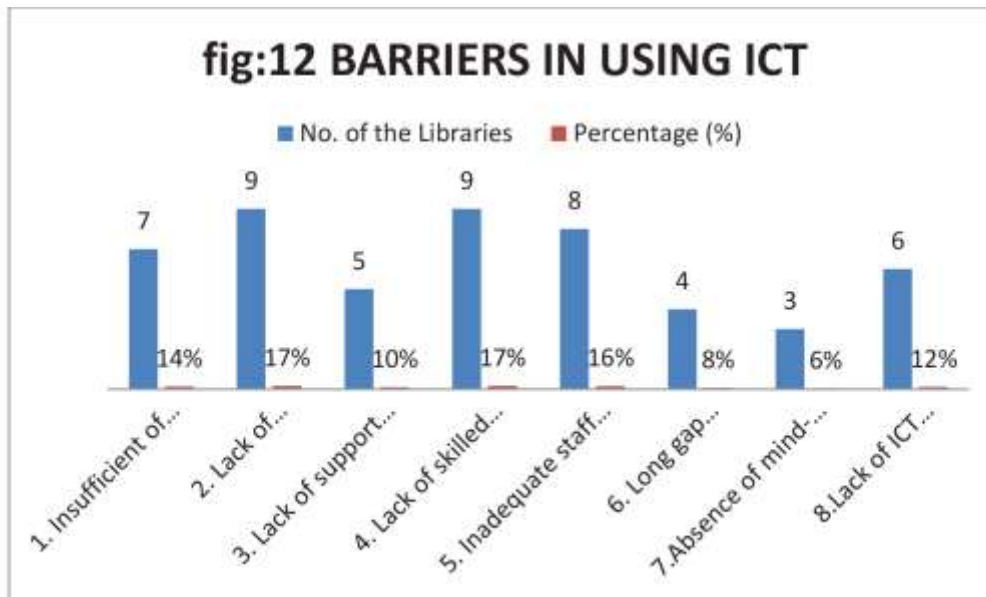


Barriers in using ICT:

Table number 14 and fig:12 shows that all surveyed libraries are facing several barriers in using ICT like 7 libraries (14%) are facing barrier in getting insufficient fund for ICT infrastructures followed by 9 libraries (17%) are facing problem of lack of proper infrastructures, 5 libraries (10%) are facing problems in lack of support from their concern authority, 9 libraries (17%) are facing lack of skilled manpower, 8 libraries (16%) are facing barrier in inadequate staff training, 4 libraries (8%) are facing problem in long gap orientation among users, 3 libraries (6%) are facing problem from the absence mindset of the professionals and 6 libraries (12%) are getting barriers from the lack of ICT knowledge of their staffs.

Table-14: Barriers of application of ICT

Aspects	No. of the Libraries	Percentage (%)
1. Insufficient of Funds	7	14%
2. Lack of infrastructure	9	17%
3. Lack of support from the concern authority	5	10%
4. Lack of skilled manpower	9	17%
5. Inadequate staff training	8	16%
6. Long gap oriented from time to time	4	8%
7. Absence of mind-set of the professional	3	6%
8. Lack of ICT Knowledge	6	12%



FINDINGS:

Through the present study, it is seen that the Special Libraries stresses mostly on recent information. As the e-resources have captured the world of information they are promptly switching over to e-resources. Users of Special libraries are generally belongs to some specific department. They don't get enough time to spend in the library. They are time crazy, so special libraries have no alternative than to choose ICT tools for management. Users of Special Libraries prefer to get the solution of the problem they are handling. A-state-of-the-art report, annotated bibliography made available by the library online is highly preferred.

SUGGESTIONS:

After analyzing the different areas of ICT application in the Special Libraries of Assam, the following suggestions are recommended:

- a. Up to date technologies must be applied to the libraries.
- b. In house orientation program must conduct in the libraries to make the staffs up to date with the recent trends take places in the libraries, so that they can provide current and effective services to the library users.
- c. In place of traditional print documents modern electronic documents must be adopted in the libraries.
- d. Number of skilled and trained manpower should increase in the libraries.
- e. Special fund provision should be implemented in the libraries for ICT applications.

CONCLUSION:

It is found from the study that the status of ICT application and its development on the library services not satisfactory. The libraries authority, Librarian and faculty share the responsibility of developing the services of library and application of ICT. They should adopt the knowledge about modern technologies and must apply to library functions to develop the library services.

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KNOWLEDGE MANAGEMENT AND DEVELOPMENT OF LIBRARIES

Abstract

The development of knowledge management in recent years has become the key concern for librarians and libraries. This paper will review how the library will play a very crucial role in the extension and modification of knowledge. The growing need for knowledge management has influenced every component and operation of a library. This paper is intended to be an overview to knowledge management in terms of its relevance for library and science professionals, the concept of document management has been changed to information management and again the entire scenario of information management has started its change to knowledge management (KM). This paper mainly focuses on the concept of knowledge management and its application towards developing of libraries. It also examines the role of librarians/libraries in knowledge management and suggests that librarians/libraries in the digital and knowledge age should be in charge of knowledge management in their respective organization in order to leverage the intellectual assets and to facilitate knowledge creation.

Key Words: Knowledge Management (KM), KM application, Development of Libraries, Information Management, Information and Communication Technology (ICT).



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1. Introduction

Knowledge management is the most powerful means for any organizational success. It is a management attitude, which unites streamline information management with a culture of organisational learning spirit. Knowledge management needs a systematic approach to develop the evolution of knowledge into a key organisational resource. Most importantly, effective knowledge management is now acknowledged as the key driver of new knowledge and new ideas. Therefore, knowledge management has become a significant issue in all types of organisations across the world irrespective of profit-making and not-for-profit organisation.

The management of information has long been regarded as the domain of librarians and libraries. Librarians and information professionals are trained to be experts in information searching, selecting, acquiring, organizing, preserving, repackaging, disseminating and serving. However, professionals in information technology and systems have also regarded information management as their domain because of the recent advances in information technology and systems which drive and underpin information management. With the growing interest in knowledge management, many questions have been raised in the minds of librarians regarding: the difference between information and knowledge; between information management and knowledge management; who should be in charge of information and knowledge management; would librarians and information professionals with appropriate education and training in library and information science be most suitable for the position of "Chief Knowledge Officer" (CKO) in their organizations; and what libraries can do in implementing knowledge management.

2. What is Knowledge?

Knowledge is part of the hierarchy made up of data, information and knowledge. Data are raw facts; information is data with context and perspective. Knowledge is information with guideline for action based upon insight and experience. Knowledge is generated in human mind. Knowledge is information evaluated and organised in human mind so that it can be used purposefully (Feather and Sturges, 1997). Knowledge has something to do with knowing. Knowing may be through acquaintance or through the description of the characteristics of certain things. The things with which we can be acquainted are the things of which we are directly aware. Direct awareness may come through perception and sensation. Most of our knowledge of things is by description. Knowledge includes what we know about matters of facts as well as the principles and process of inference. Knowledge has three elements: (i) there is a system of ideas, (ii) the ideas correspond to things actually existing, and (iii) there is belief in such correspondence. Knowledge covers an area where explanation is either not explicitly relevant or just not possible.

However, self-evidence is an essential condition for knowledge, but it is not a sufficient condition, because self-evidence is a matter of degree. The origin of knowledge is empiricism and experience. Fundamentally knowledge is indivisible; but limited powers of human assimilation and apprehension require that knowledge should be divided and separated. The most important factor in the growth of knowledge is the inherent human curiosity itself. Human knowledge with its application to growth and development leads to better life style. Knowledge is power to create and liberate from ignorance. It is the very fabric of civilisation and culture. In this knowledge acquiring process, Library played a very important role. Libraries have been established out of social necessities to enshrine recorded knowledge; to acquire, preserve and disseminate the record of human thought, feelings and action. Libraries have effectively played this role throughout their existence since antiquity. The main function of libraries is to identify, collect, organise and thus make accessible information to people. Starting from the clay tablet. Libraries of 7th century B.C. to the trendy virtual libraries in 21st century, libraries have had a smooth transition through clay tablet, papyrus, bhujpatra later on paper and audio visual multimedia. The advent of modern information technology has made drastic changes in libraries activities. We have slickly passed into desktop computers, optical discs OPAC and wireless network libraries. As a matter of fact today we are moving from information society to knowledge society. Hence the role of libraries must undergo similar changes of priority. Under such crucial juncture the entire affairs of knowledge management needs to be addressed effectively.

3. What is Knowledge Management About?

Knowledge management is the systematic management of an organisation's knowledge assets for purpose of creating value and meeting tactical and strategic requirement; it consists of the initiative, process, strategies and system that sustain and enhance the stores, assessment, sharing refinement and creation of knowledge. Alvin Toffler has given a unique characteristic of knowledge. He narrated that the force and wealth continue to be the property of strong and rich. But knowledge and information has a special characteristic. It can generate by wealthy and as well as poor. If one share someone wealth he has to lose a part of wealth. But knowledge can be shared without any lose. Both become equal without loss and get equal power to acquire other resources. Hence information is most democratic source of power. It is necessary to understand the concept of data, information and knowledge before entering in knowledge management level. All activities in a library centre on management of information and knowledge. Since the inception, Librarian's prime duty is effective retrieval and use of information and knowledge. However, the term Knowledge Management coined to Library and information science literature recently only.

In the present era of globalization, the concept of generation of knowledge used to be limited with limited output is considered as non-progressive. Now sharing of information become essential criteria for smooth the function our day to day activities. Today, there is no dearth of information and knowledge, instead knowledge creation is becoming faster day by day which is considered as most important and primary community; rich resource and valuable capital having potentiality to solve any problems and offering multiple choices to give solutions to comforting problems. In fact, it opens windows of options to perform certain action. Scientific discoveries and innovations are multiplying at accelerating rate. Realizing that knowledge is becoming unmanageable, and it's access and utilization in much below the average expectation, knowledge managers, knowledge workers, economist, industrialist and all others who are concerned with more production and output of knowledge started thinking about the knowledge management to derived maximum benefit and value from existing knowledge. Thus knowledge economy become the main objective particularly more in cooperate sector and educational and research institutions (chandel and Saikia, 2011)

Knowledge management is considered different from information management as it concern with sharing and mapping the information experience of many individual towards the betterment of an organization rather than information remaining with different individuals working separately towards the same goal. To sum up we can share the opinion of (Turban and Aronson, 2002) which define knowledge management is a process that helps the institute to identify, to select to organize, to disseminate to transfer important information and expertise that are part of the institutional memory that typically resides within the institute in a unstructured manner. Sharing and dissemination of knowledge is considered as most cardinal aspect of knowledge management process in organization Knowledge dissemination and responsiveness to knowledge are cited repeatedly as the most effective way to competitive advantage.

4. Development of Knowledge Management

The knowledge management is relatively a new concept and phenomenon viewed differently by different writers in the field of management and other fields. The concept of knowledge management was conceived during 1990 to explore the possibility of its application in all type of organization including libraries to increase productivity and efficiency. All though there is no universally accepted definition of Knowledge Management expert has put forwarded various definitions of the same. The Knowledge Management is asset of process that creates and share knowledge across an organization to optimize the use of judgement in the attainment of mission and goal (Townly 2001).

Knowledge management considered different from information management as it concern with sharing and mapping the information experience of many individual towards the betterment of an organization rather than information remaining with different individuals working separately towards the same goal. To sum up we can share the opinion of (Turban and Aronson, 2002) which define Knowledge management is a process that helps the institution to identify, to select to organize, to disseminate to transfer important information and expertise that are part of the institutional memory that typically resides within the institution in a unstructured manner. Sharing and dissemination of knowledge is considered as most cardinal aspect of knowledge management process in organization knowledge dissemination and responsiveness to knowledge are cited repeatedly as the most effective way to a competitive advantage (Oxbrow,2000).

"The thrust of knowledge management is to create a process of valuing the organization's intangible assets in order to best leverage knowledge internally and externally. Knowledge management, therefore, deals with creating, securing, and capturing, coordinating, combining, retrieving and distributing knowledge. The idea is to create a

knowledge sharing environment whereby sharing knowledge is power as opposed to the old adage that, simply Knowledge is power.”

5. Knowledge Management and its Application in Libraries

Lion share of knowledge comes from academic sector and knowledge creation is best performed by universities or higher academic institution. For many of us in the academic world, knowledge management is an old concept, a function historically performed by librarians. However in the digital information age this term has taken on new meanings. Knowledge management is the process of transforming information and intellectual assets into enduring value. It connects people with the knowledge that they need to take action, when they need it. The literature defines two different types of information necessary to accomplish this: explicit and tacit. Explicit information is packaged, easily codified, transferable, and communicable. Tacit knowledge, on the other hand, is personal, context-specific, difficult to formalize, and difficult to communicate and transfer. The core process of knowledge management in libraries includes the following:

5.1. Knowledge creation

Measurements and instruments that creation of knowledge in libraries are acquisition of external knowledge, setting up of interdisciplinary project teams for specific tasks and their findings, etc. In this step, management plans are formulated to coordinate all knowledge management related activities. Secondly, it requires establishment of special leading groups of knowledge flow for accomplishing all tasks relating to knowledge management activities. Electronic resources committees are established composed of various types of specialists to take charge of evaluating, procuring and creating the electronic resources on the one hand, and coordinating activities of business departments and spurring them on to close cooperation in such fields as procurement and organization of the electronic information resources as well as providing services.

5.2. Knowledge storing

The stored knowledge in manuals, Databases, case studies and even processes and rules of thumbs make up of for an important aspect of knowledge management. By capturing and storing the skills and knowledge of an employee, the deterrence to the processes when he leaves the organization can be minimized because these processes can be carried on by any other person.

5.3. Knowledge Distribution/ Dissemination

Provision of the right knowledge to the right person at the right time is core of knowledge management process. Therefore, libraries will have to use diverse media and channels to disseminate new knowledge created. There are several methods and tools like Internet and Intranet are available for dissemination. Other aspect of dissemination of knowledge is the transfer of experiences to new employees and others by training on-the-job, mentoring and other coaching techniques. The process of knowledge dissemination at libraries can be strengthened by_

- Continuous strengthening the creation of libraries' own document resources.
- Continuously raising the quality of libraries' staffs.
- Ensuring utilization of all IT applications such as Internet, Intranet and other KM tools like groupware, retrieval tools, data warehousing.
- Ensuring the security of KM operations.

5.4. Knowledge Application

The application of knowledge is the most essential task of knowledge management. Libraries are attaching importance to acquire knowledge and achieve maximum functions and efficiency of knowledge information. This is needed for providing value added services to the people. Therefore, knowledge services based on high speed information networks are of significance to the library users. These can be achieved by:

- Setting up virtual libraries or information centres for enterprises, governments public organizations and scientific research institutions.
- Setting up ICT enabled knowledge services which is actually a 24×7 anywhere anytime access model for information services.
- Digitizing all print resources into digital information and its integration with the mainstream digital information.

5.5. Human Resource Development for Knowledge Management

To run a complex process like knowledge management, library staff needs to have high quality specialized talents. They need to imbibe certain skills like information management using ICT skills and use of certain knowledge management tools. There has to be a complete paradigm shift from how things were managed to doing things in a completely different manner. In practice, there is a need to pay full attention to diversity and variation of library staffs' requirements in this knowledge environment.

5.6. Role of Information Technology

The information technology acts as an enabler for knowledge management. There are several technologies and each has got a significant role to play in building institutional knowledge repository.

World Wide Web

Internet offer new ways to manage and communicate data, information and knowledge. Intranets have emerged as one of the most effective information highways of sharing information and knowledge in a organised manner.

Groupware

Groupware provides a means for increased collaboration and information transfer through e-mail, calendaring, contacts, project management and scheduling capabilities. It is essentially information sharing. But with Institutional Knowledge Repository, groupware will be used for knowledge transfer through services like ask an expert, consult, etc. Some common groupware products are Microsoft's Exchange server, Lotus Notes and Group wise.

Intelligent Agents

The problem of information overload is becoming acute for many professionals. Intelligent agent can be trained to roam network to select and alert users of new relevant information. Additionally, they can be used to eliminate less information from information feeds

Mapping tools

There are an increasing number of tools develop cognitive maps or 'shared mental models'. Companies to develop future scenarios and resolved conflicting situation have used these cognitive maps. Mapping tools can represent conceptual linkages between different knowledge resources

Document management

Documents, and especially structured documents, are the form in which more explicit knowledge is shared. With proper annotations indexing, highlighting etc, the documents can become knowledge repositories. Application of mapping tools and intelligent agents will help in linking documents for knowledge mapping.

As a learning organization, libraries should provide a strong leadership in knowledge management. Unlike those business organizations whose goal for knowledge management is for competitive advantage, most public, academic, and research libraries, with the exception of company libraries (which may be known or called corporate libraries, special libraries, or knowledge centres), have a different orientation and value. Instead of competition, internal use only, and little sharing of knowledge with others outside, the most important mission of public, academic, and research libraries is to expand the access of knowledge for their users. Charged by this mission, libraries should aim their knowledge management goal high. Below are examples of what libraries can do to improve their knowledge management in all of the key areas of library services.

5.7. Knowledge resources management

Because of the exponential growth in human knowledge in a variety of formats, libraries need to develop their resources access and sharing strategies from printed to electronic and digital resources in concert with their mission and charges. Restricted by limited funding, technology, staff, and space, libraries must carefully analyse the needs of their users and seek to develop cooperative acquisition plans to meet these needs. The changing concept from "ownership" to "access" and from "just in case" to "just in time" should be the goal of a sound resources development strategy.

An integrated online public access catalogue (OPAC) with both internal and external resources as well as printed and other formats of knowledge should be developed and maintained. Useful websites and knowledge sources should be regularly searched and selected from the Internet and included in OPACs by hard links. A system for the reviewing and updating of these resources should be performed.

Going beyond explicit knowledge, libraries should also develop means to capture all that tacit knowledge that is of importance to their users, their organizations, and to the internal operation of libraries. The web site of each library should serve as a **portal** for all sources of selective and relevant knowledge and information whether explicit or tacit, whether on site or remote, and in all formats.

Universities and research organizations are themselves knowledge reservoirs. These highly valued intellectual assets, regardless of whether they are explicit or tacit, should be inventoried, archived, indexed, frequently updated, and made accessible in digital form. In addition, the traditional, time-honoured methods of cataloguing and classification are barely adequate to handle the finite number of books, journals, and documents, but are inadequate to deal with the almost infinite amount of digital information in large electronic databases and on the Internet. Using the Dublin Core metadata and the Cooperative Online Resources Catalogue (CORC) has been a new approach to capture Web information by cooperative efforts. Other new methods such as data mining, text mining, content management, search engines, spidering programs, natural language searching, linguistic analysis, semantic networks, knowledge extraction, concept yellow pages, and such techniques in information visualization as two-dimensional or three-dimensional knowledge mapping, etc. have been a part of recent developments in knowledge management systems.

5.8. Resources sharing and networking

Libraries have had a long tradition of resources sharing and networking. These have been greatly expanded by the rapid development of computer, telecommunication, networking, and digital technologies since the 1960s. In the U.S. it is very common for libraries to be a member of several consortia at the same time for various types of cooperative work and resources sharing. The best examples of these are the OCLC Online Computer Library Centre and Ohio LINK (Ohio Library and Information Network).

The CORC project of OCLC should be especially useful for libraries to cooperatively capture digital resources of all types, describe them in a standard format, and make them easily searchable by users.

The successes of most of these examples in resources sharing and networking are largely the result of the full cooperation and participation of all member libraries without selfishness. Large and major libraries must take the lead in such an endeavour. Supports in policies and funding from the government or parent organizations are also critically important. Experiences indicate that all libraries, regardless of size and specialties, have benefited by library cooperation and resources sharing.

5.9. Information technology development

To facilitate the implementation of knowledge management, a well-designed and operational knowledge management system should be in place. Latest information technology should be used as an enabler. In this regard, the library director should consider him/her self as the chief knowledge officer of the entire organization and should work together with the CIO, heads of the planning department, the computer and information technology centre, the human resources management department, the finance department, etc. to design and develop such a system. Such a knowledge management system should be built on existing computer and information technology infrastructures, including upgraded intranet, extranet, and Internet, and available software programs to facilitate the capture, analysis, organization, storage, and sharing of internal and external information resources for effective knowledge exchange among users, resource persons (faculty, researchers, and subjects specialists, etc.), publishers, government agencies, businesses and industries, and other organizations via multiple channels and layers. In recent years, many of the newly developed information technologies for database and information/document management can be utilized in knowledge management; such as, data warehousing, data mining, text mining, content management, knowledge extraction, knowledge mapping, groupware, and information visualization, etc. It was observed by Hsinchun Chen that "since the mid-1990s, the popularity of search engines and advances in web spidering, indexing, and link analysis have transformed IR systems into newer and more powerful search tools for content on the Internet."

5.10. User services

The utmost goal of knowledge management is to provide users with a variety of quality services in order to improve the communication, use and creation of knowledge. As much as possible these services should be tailored to the interest and needs of each user. Information about each user can be obtained by analyzing the records of user registration, surveys, circulation and interlibrary loans, frequently asked reference questions, and the use of e-journal and digital resources, etc. User satisfaction and needs should be collected through periodic users' surveys. The findings should be used for the planning and redesign of library services. It is very important, however, that user's privacy should always be protected.

Some of the manual services such as "new publication alert" and "selective dissemination of information," which libraries have been providing, can now be done automatically by employing the "**push technology**" with great efficiency and convenience. Each library user can also set up his/her virtual "**My Library**" enabled by library systems and networks for collecting and organizing resources for personal use and to stay informed of new resources provided by the library.

The Library and Information Technology Association (LITA) has defined My Library-like services as the number one trend "worth keeping an eye on." It further stated that "Library users who are Web users, a growing group, expect customization, interactivity, and customer support. Approaches that are library-focused instead of user-focused will be increasingly irrelevant."

5.11. Human resources management

A great amount of expert knowledge is possessed by library staff and users, both in and outside the libraries. In university and research communities such expertise is abundant and should be inventoried, indexed, and updated regularly and be made searchable and accessible through electronic databases created and maintained by libraries. The knowledge and accumulated experiences of library staff members form the intellectual assets of any library and should be valued and shared. An organizational culture for sharing of knowledge and expertise should be established with appropriate rewards and incentives. Those staff members who share their tacit knowledge and experiences through writing, publishing, lecturing, tutoring, or mentoring should be appropriately recognized and rewarded. An organizational culture which emphasizes cooperation, sharing, and innovation can only be established by strong leadership and commitment from the library director and a shared vision by the library staff. As a learning organization, libraries should allocate annual funding to provide continuing education and staff training to all staff members. Knowledge must be renewed and expanded to prevent it from becoming stagnant.

Libraries should also encourage the transfer of knowledge and experience from experienced staff to new staff members. A mentoring system should be in place to help newcomers to learn from experienced library staff. Informal seminars and brownbag sessions where staff can interact and exchange "**lessons learned**", "**best practices**" and other specific experience and knowledge should be scheduled at regular intervals and at convenient times. Special interest groups and chat rooms can be created through intranet. Since many valuable experiences have been accumulated over time, libraries should pay attention to favourable working conditions and environment, which will contribute to better staff retention.

6. Conclusion

Knowledge management needs to be accepted as the key factor of the overall library strategy. Knowledge management plays an important role in the development of Library. Libraries take care of tacit knowledge in a better way for their successful working and to satisfy the users. The knowledge is formed and nurtured by people of the organization. As far as manpower is concern, it is not necessary that person involved in knowledge management must technically sound or with fare knowledge of IT. Management must be handling with utmost care. Scientific principle should be followed while formulating the policy of knowledge management with special emphasis on cost effective to make it economically viable. Library and information professionals developed appropriate knowledge management system in the organizations or libraries. The library and information professionals are the best creators of knowledge.

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Users' Satisfaction among the University Libraries and Special Libraries of Assam: A Comparative Study

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Abstract: The aim of this paper is to show the users' satisfaction in context of library collection in some selected university libraries and special libraries of Assam. The study also covers the purpose of visiting the library by the users. This study will be beneficial for library professionals and library authority of university and special library in Assam. Use of library collection and users' satisfaction is a multifaceted conceit. In the present study both the library collection and towards this, its user's satisfaction considered as independent and dependent to each other. Users' satisfaction has been the primary factor for all types of libraries and library professionals. So from this present study it has been trying to show that how the users of the Special libraries and University Libraries of Assam are satisfied with the present status, collections and services of the respected libraries.

Keywords: Users satisfaction, University libraries, Special libraries, Assam.

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I. INTRODUCTION

Users are the important part of any library. The description and achievement of their requirements and to meet up with their satisfaction level are the ambition of any library. Knowing about the users' requirement from library and to reach up to their satisfaction level is very essential to provide advance library services and resources. The development and growth of a library is basically depending upon the satisfaction level of users' towards its collections and services. To achieve this goal library authority should be aware about the needs and requirements of its users at first. Academic libraries must determine a focus on proper collection development to satisfy the users need. Library personal should identify the need of users and acquire the collection and improve the services accordingly. A university library is attached to its parent institute i.e. university to serve its teaching, research, publication and other educational needs. A library whether it is academic or special can stand on its own, but a university cannot stand on its own because the library represents the heart of the university. In a university, library is an important part which contains rich and balanced information resources consisting of the staffs which can support the teaching, learning and research work. It is a general purpose for the development of a library to conduct users' satisfaction survey to improve the status and quality of services provided to the users. The survey helps in evaluating the strengths and weakness of libraries and provides an opportunity to the library personnel to increase the users' satisfaction level. Satisfying users' requirements in the institution whether it is academic or special is crucial goal of a library.

Zeithman and Bitmar (2000) defined users' satisfaction as the means which users determine that a product or service meet the required needs and expectations. If the product or services do not meet their needs or expectations, it is therefore assumed that they are dissatisfied with the product or services. Similarly, Iwhiwhu and Okorodudu (2012) stated that users satisfaction of library information resources and services is away in which users judge the adequacy of the library information resources and services rendered to them and also if their expectations are provided to them. Library user satisfaction implies how users feel after using the information resources and services and their willingness to return to the library when next they need information (Ikenwe and Adegbilero-Iwari, 2014). According to Ijiekhuamhen, Aghojare and Lerdinand (2015) the level of using the library depends on users' satisfaction with the available information resources and services rendered to them.

So the users' satisfaction is considered as the level of satisfaction of users' which they retrieve from library by using the various types of resources for acquiring knowledge and services which fulfill their appropriate needs. Hence, the quality and availability of the resources and services in the libraries have a significant impact on users' satisfaction. If the library meets the need of users' satisfaction then the library will be well known among new users too. So it is an important work for the library to keep an eye on users' satisfaction with library collections or resources and services.

AREA OF THE STUDY

Twelve university libraries and seventeen special libraries, which maketotal are 29 libraries, of the state of Assam are selected for the present study.

OBJECTIVE

Libraries offer various types of services to its clientele. It is intended to find out theusers' satisfactionon library collection among the university libraries and special libraries of Assam. So the objectives of the study are:

- To find out theuser satisfactionregarding library collection among the university libraries and special libraries of Assam.
- To find out the users' satisfaction with library services towards growing of library collections.

II. METHODOLOGY

Following methodologies were adopted to collect data and necessary information for the study:

- By providing Questionnaire
- Through interview of the library user and
- Using e-mail or telephone.

In order to collect the required information and data a set ofstructured questionnaire was designed and distributed to the users of selected libraries.

Sample size

Fifty (50) users from each university and 10 users from each special library were selected for the study altogether which is 770 users from both type of institute libraries. As the number of total library users in special libraries are less in comparison to that of university librariesit is decided to select 10 numbers from each special library. The studyanalyzed the data as percentage (%) and Weighted Mean Score and Rank (WMS&R) to get the findings.

III. DATA ANALYSIS TOOLS AND TECHNIQUES

The raw data is tabulated and accessed the results through both SPSS and Microsoft Excel. Weighted Mean Score and Rank method (WMS&R) is used to extract the result from user's priority.

Data Analysis:

The study used some short form like AU, TU, GU, DU, AAU, BU, KKHSOU, ADBUAZ, ADBUSO, ADBUKH, ADTU, KU, ALA, ACA, KRC IASST, NIRDP, TISS, IIBM, NIPCCD RCG, IIE, DHAS, ASTEC, CIPET, AIR ST & SC, RFRI, KRC NEIST, TTRC means Assam University, Tezpur University, Gauhati University, Dibrugarh University, Assam Agricultural University, Bodoland University, Krishna KantaHandiqui State Open University, Assam Don Bosco University Azara campus, Assam Don Bosco University Sonapur campus, Assam Don Bosco University Kharghuli campus, Assam Down Town University, Kaziranga University, Assam Legislative Assembly, Ananda Chandra Agarwala Library (Assam State Museum), Knowledge Resource Centre The Institute of Advanced Study in Science & Technology, National Institute of Rural Development & Panchayati Raj, Tata Institute of Social Science, Indian Institute of Bank Management, National Institute of Public Co-Operation & Child Development, Indian Institute of Entrepreneurship, Department of Historical & Antiquarian Studies, Assam Science Technology and Environment Council, Central Institute of Plastic Engineering and Technology, Assam Institute of Research for ST & Sc, Indian Council of Forestry Research and Education, North East Institute of Science & Technology and Tocklai Tea Research Centre respectively.

The collected data are analyzed below.

User Response:

Table 1A User's Response from University library						
University	Total Questionnaire Distributed	No Response	Faculty	Research Scholar	Student	Total Response
AU	50	2	38	9	1	48
	100%	4%	76%	18%	2%	96%
TU	50	2	18	17	13	48
	100%	4%	36%	34%	26%	96%
GU	50	2	16	19	13	48
	100%	4%	32%	38%	26%	96%
DU	50	2	22	13	13	48
	100%	4%	44%	26%	26%	96%
AAU	50	6	37	3	4	44
	100%	12%	74%	6%	8%	88%
BU	50	3	27	6	14	47
	100%	6%	54%	12%	28%	94%
KKHSOU	50	10	24	16	0	40
	100%	20%	48%	32%	0%	80%
ADBUAZ	50	9	19	14	8	41
	100%	18%	38%	28%	16%	82%
ADBUSO	50	6	19	20	5	44
	100%	12%	38%	40%	10%	88%
ADBUKH	50	10	6	0	34	40
	100%	20%	12%	0%	68%	80%
ADTU	50	2	12	10	26	48
	100%	4%	24%	20%	52%	96%
KU	50	8	32	1	9	42
	100%	16%	64%	2%	18%	84%
Total	600	62	270	128	140	538
	100%	10.33%	45%	21.33%	23.33%	89.67%

Table 1B User's Response from Special library							
Libraries	Total Questionnaire Distributed	No Response	Faculty	Research Scholar	Scientist	Students	Total Response
ALA Library	10	6	4	0	0	0	4
	100%	60%	40.00%	0.00%	0.00%	0.00%	40.00%
ACA Library	10	7	2	0	0	1	3
	100%	70%	20.00%	0.00%	0.00%	10.00%	30.00%
Judges' Library	10	6	4	0	0	0	4
	100%	60%	40.00%	0.00%	0.00%	0.00%	40.00%
KRC (IASST)	10	3	2	5	0	0	7
	100%	30%	20.00%	50.00%	0.00%	0.00%	70.00%
NIRDP Library	10	6	4	0	0	0	4
	100%	60%	40.00%	0.00%	0.00%	0.00%	40.00%
TISS Library	10	7	0	0	0	3	3
	100%	70%	0.00%	0.00%	0.00%	30.00%	30.00%
IIBM Library	10	5	5	0	0	0	5

	100%	50%	50.00%	0.00%	0.00%	0.00%	50.00%
NIPCCD RCG Library	10	6	4	0	0	0	4
	100%	60%	40.00%	0.00%	0.00%	0.00%	40.00%
IIE Library	10	6	4	0	0	0	4
	100%	60%	40.00%	0.00%	0.00%	0.00%	40.00%
DHAS Library	10	5	3	2	0	0	5
	100%	50%	30.00%	20.00%	0.00%	0.00%	50.00%
ASTEC/AEDA	10	7	1	0	2	0	3
	100%	70%	10.00%	0.00%	20.00%	0.00%	30.00%
CIPET Digital Library	10	5	0	0	0	5	5
	100%	50%	0.00%	0.00%	0.00%	50.00%	50.00%
PLASMA Physics Library	10	6	1	3	0	0	4
	100%	60%	10.00%	30.00%	0.00%	0.00%	40.00%
AIR ST & SC Library	10	7	3	0	0	0	3
	100%	70%	30.00%	0.00%	0.00%	0.00%	30.00%
RFRI Library	10	6	0	4	0	0	4
	100%	60%	0.00%	40.00%	0.00%	0.00%	40.00%
KRC (NEIST)	10	4	2	0	4	0	6
	100%	40%	20.00%	0.00%	40.00%	0.00%	60.00%
TTRC Library	10	8	1	1	0	0	2
	100%	80%	10.00%	10.00%	0.00%	0.00%	20.00%
Total	170	100	40	15	6	9	70
	100%	58.82%	23.50%	8.80%	3.50%	5.30%	41.10%

Table number 1A represents that out of 600 distributed questionnaire in which percentage of non-respondent are 10.33% and out of 89.67% collected questionnaires 45% from faculty members, 21.33% from research scholars 23.33% from student community of the university.

Table number 1B stated that out of 170 distributed questionnaires only 41.10% responded from all surveyed special libraries. Among the respondents it is found that 23.50% are faculty, research scholars 8.80%, scientists 3.50% and students 5.30% from special libraries.

Libraries	No Response	Faculty	Research Scholar	Students	Scientist	Total Response
University Libraries	10.33%	45%	21.33%	23.33%	NA	89.67%
Special Libraries	58.82%	23.50%	8.80%	5.30%	3.50%	41.10%

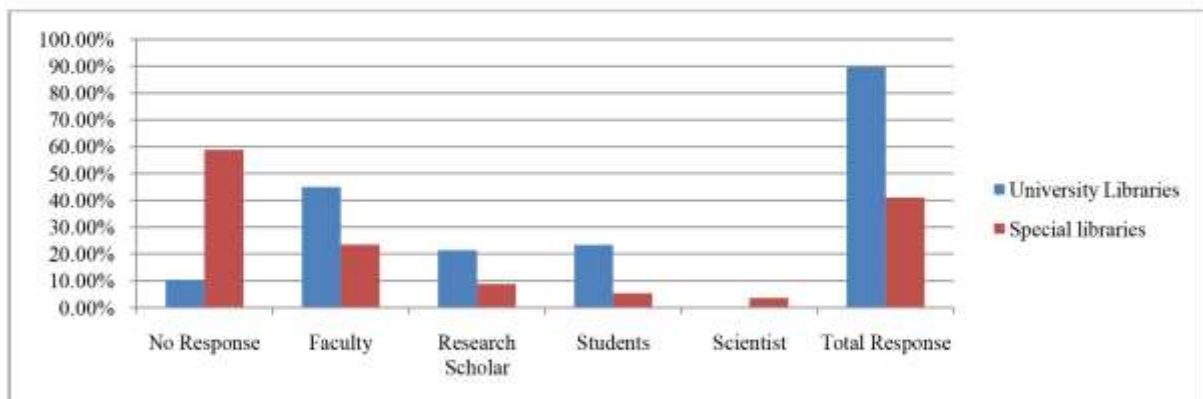


Figure 1 Users response from University and Special library

User's Gender

University	Male	Female	Total
AU	33	15	48
	68.8%	31.3%	100.0%
TU	36	12	48
	75.0%	25.0%	100.0%
GU	35	13	48
	72.9%	27.1%	100.0%
DU	37	11	48
	77.1%	22.9%	100.0%
AAU	30	14	44
	68.2%	31.8%	100.0%
BU	27	20	47
	57.4%	42.6%	100.0%
KKHSOU	17	23	40
	42.5%	57.5%	100.0%
ADBUAZ	22	19	41
	53.7%	46.3%	100.0%
ADBUSO	24	20	44
	54.5%	45.5%	100.0%
ADBUKH	23	17	40
	57.5%	42.5%	100.0%
ADTU	28	20	48
	58.3%	41.7%	100.0%
KU	30	12	42
	71.4%	28.6%	100.0%
Total	342	196	538
	63.6%	36.4%	100.0%

Libraries	Male	Female	Total
ALA Library	4	0	4
	100.0%	0.0%	100.0%
ACA Library	2	1	3
	66.7%	33.3%	100.0%
Judges' Library	3	1	4
	75.0%	25.0%	100.0%
KRC (IASST)	2	5	7
	28.6%	71.4%	100.0%
NIRDLP Library	4	0	4
	100.0%	0.0%	100.0%
TISS Library	1	2	3
	33.3%	66.7%	100.0%
IIBM Library	4	1	5
	80.0%	20.0%	100.0%
NIPCCD RCG Library	3	1	4
	75.0%	25.0%	100.0%
IIE Library	3	1	4
	75.0%	25.0%	100.0%
DHAS Library	4	1	5
	80.0%	20.0%	100.0%
ASTEC/AEDA	2	1	3
	66.7%	33.3%	100.0%
CIPET Digital Library	4	1	5
	80.0%	20.0%	100.0%
PLASMA Physics	4	0	4

Library	100.0%	0.0%	100.0%
AIR ST & SC Library	2 66.7%	1 33.3%	3 100.0%
RFRI Library	2 50.0%	2 50.0%	4 100.0%
KRC (NEIST)	4 66.7%	2 33.3%	6 100.0%
TTRC Library	1 50.0%	1 50.0%	2 100.0%
Total	49 70.0%	21 30.0%	70 100.0%

Table number 2A stated that in totality highest number of respondent is male (63.6%) and lowest are female (36.4%) among the responses receives from selected universities of Assam. It is seen from table 2B that the respondent found 70% as male and 30% as female from all special libraries.

University	Male	Female	Total
University Libraries	63.60%	36.40%	100.00%
Special Libraries	70.00%	30.00%	100.00%

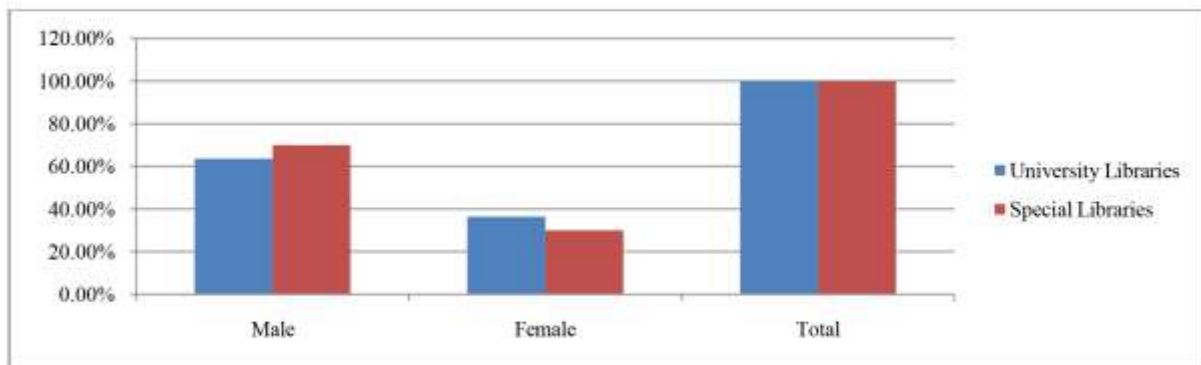


Figure 2 Users Gender from University and Special library

It is seen that highest number of respondent as male found in special libraries and highest number of female respondent found in university libraries.

Gender wise category of users:

Libraries	Gender	User Category				Total
		Faculty	Research Scholar	Students	Scientist	
University Libraries	Male	54.70%	20.20%	25.10%	NA	100.00%
	Female	42.30%	30.10%	27.60%	NA	100.00%
Special Libraries	Male	65.30%	16.30%	10.20%	8.20%	100.00%
	Female	38.10%	33.30%	19.00%	9.50%	100.00%

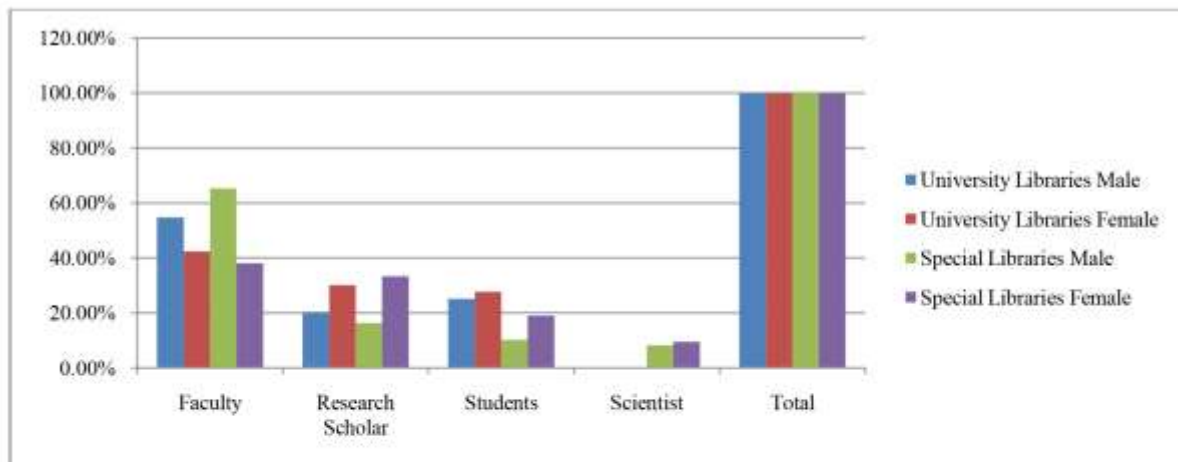


Figure 3 Gender wise User Category of University and Special library

Highest male user represented by faculty is 54.7% followed by student is 25.1% and research scholar is 20.2%. Highest female user represented by faculty is 42.3% followed by research scholar is 30.1% and student is 27.6% among the universities. Total male users as faculty 65.3%, research scholar 16.3%, scientist 8.2% and student 10.2%; and total female users as faculty 38.1%, research scholar 33.3%, scientist 9.5% and student 19% found from all special libraries.

It is found that highest number of user as male faculty found in special libraries as well as university libraries both.

Library Use:

Libraries	Yes	No	Total
University Libraries	99.60%	0.40%	100.00%
Special Libraries	100.00%	0.00%	100.00%

It is seen from table number 4 that almost all the users use the library for their day to day activities and research need from both the category, only 0.40% user from university library do not use the library due to their own satisfactory collection and using the internet.

Purpose of visit to the library:

It is seen that the purpose of visit to the library is found as for research, publication, teaching, 'to study and borrow books' and 'to keep update with recent information' in all University and Special libraries. The main purpose of using the library is for research and 'to study and borrow books' in all university libraries. The basic purpose to use the special library is research.

User Satisfaction to Library Collections:

Library Collection	User Satisfaction	AU	TU	GU	DU	AU	BU	KKHSO	ADB UAZ	ADBUSO	ADUKH	ADTU	KU	Total
Printed Books	Very Good	18	17	23	20	19	7	13	10	6	6	11	8	158
	Good	16	16	17	18	16	1	12	15	12	15	12	8	168
	Satisfactor y	12	9	5	7	4	7	8	10	14	9	12	14	121
	Poor	2	5	2	3	5	2	7	6	12	10	13	12	89
E-Books	Very Good	15	1	19	1	1	0	10	0	5	4	6	5	111

			4		7	6								
	Good	12	1 1	14	1 2	1 3	1	10	2	7	6	7	6	101
	Satisfactor y	6	6	4	6	4	1	5	1	5	6	6	7	57
	Poor	2	4	2	3	5	2	4	3	4	3	3	4	39
Printed Reference Books	Very Good	11	1 0	19	1 8	1 6	2	8	6	6	5	8	5	114
	Good	16	1 4	12	1 3	1 4	1 0	13	14	18	14	16	14	168
	Satisfactor y	10	1 5	12	1 3	8 3	1 6	13	10	13	13	11	12	146
	Poor	9	8	3	4	6	1 9	6	11	7	8	13	11	105
Printed Current Journals	Very Good	12	1 3	17	1 6	1 5	4	4	4	3	2	6	5	101
	Good	15	1 7	14	1 7	1 8	1 2	17	15	16	15	14	13	183
	Satisfactor y	12	1 1	9	8	6	1 0	14	12	11	11	15	13	132
	Poor	7	5	6	7	5	1 8	5	10	14	12	12	11	112
E- Journals	Very Good	12	1 1	15	1 4	1 3	0	6	0	5	4	5	4	89
	Good	11	1 1	13	1 2	1 2	1	9	2	7	6	5	7	96
	Satisfactor y	11	1 2	9	8	1 0	1	11	1	11	8	10	9	101
	Poor	8	7	8	9	9	2	6	2	5	4	6	7	73
Printed Back Volume - Journals	Very Good	13	1 2	18	1 7	1 5	6	7	6	5	4	6	7	116
	Good	13	1 4	14	1 3	1 2	1	14	12	13	14	17	17	164
	Satisfactor y	12	1 1	9	1 2	1 0	1 4	13	13	14	15	15	13	151
	Poor	10	8	5	6	7	1 2	6	10	12	7	9	5	97
Printed Research Reports	Very Good	13	1 2	16	1 5	1 4	7	8	6	3	2	6	5	107
	Good	15	1 6	14	1 2	1 3	9	10	9	12	12	15	16	153
	Satisfactor y	10	1 1	11	1 1	1 1	1 6	9	16	14	14	15	14	152
	Poor	8	5	5	7	5	1 1	8	9	15	12	12	7	104
Printed Conferen ce Proceedin gs	Very Good	10	1 1	12	1 1	1 0	5	3	4	3	2	3	5	79
	Good	14	1 1	11	1 2	1 1	1 2	13	11	15	9	13	12	144
	Satisfactor y	12	1 7	12	1 5	1 2	1 3	15	14	15	16	15	13	169
	Poor	10	6	11	7	1 0	1 3	9	12	9	13	15	12	127
Printed Govt. Publicatio ns	Very Good	8	1 0	11	1 0	8	4	3	3	2	1	4	2	66
	Good	12	1 3	13	1 3	1 0	1 0	10	9	14	11	17	10	142
	Satisfactor	9	1	12	1	1	1	13	13	12	11	16	12	154

	y		4		4	6	2							
	Poor	15	8	9	10	11	12	14	16	14	17	9	18	157
Printed Research Monographs	Very Good	9	10	10	9	9	3	2	2	3	2	3	4	66
	Good	13	18	18	15	11	11	14	12	10	11	15	9	151
	Satisfactory	10	11	11	11	11	11	11	15	18	12	18	16	173
	Poor	9	5	5	6	7	1	4	10	11	15	10	13	107
Printed Thesis and Dissertations	Very Good	18	21	21	20	19	8	6	8	8	2	6	3	138
	Good	15	15	15	15	13	11	12	17	17	13	15	16	174
	Satisfactory	12	8	8	8	9	1	14	11	12	16	13	11	135
	Poor	3	2	3	4	3	1	8	5	7	9	13	12	82
Printed Patents/Standards	Very Good	8	9	10	9	9	6	5	2	3	1	4	3	69
	Good	8	11	11	11	10	8	10	7	13	6	10	5	113
	Satisfactory	9	11	11	11	9	9	4	15	17	10	20	15	150
	Poor	11	8	9	7	9	1	12	14	9	17	12	19	146
Traditional Non Book Materials	Very Good	8	9	11	10	8	5	3	3	4	1	1	2	65
	Good	14	10	10	11	9	9	11	11	8	9	10	16	139
	Satisfactory	10	14	14	11	11	4	6	10	13	12	16	11	141
	Poor	16	8	9	6	7	1	11	14	17	12	19	13	149
Traditional Abstracting/Indexing Databases	Very Good	8	9	13	12	9	2	2	1	2	1	2	2	63
	Good	14	14	14	13	9	9	12	11	14	8	10	11	140
	Satisfactory	12	12	12	11	11	1	8	18	15	8	16	10	153
	Poor	10	5	5	6	1	1	9	8	11	17	18	19	139
Total	Very Good	163	215	215	198	159	50	80	55	58	37	71	60	1342
	Good	188	190	190	175	117	116	167	147	176	149	176	160	2036
	Satisfactory	147	139	139	117	116	113	144	159	184	161	198	170	1935
	Poor	120	82	82	85	98	104	109	130	147	156	164	163	1526

Table 5B User's Satisfaction regarding the library collection (WMS&R) in university library															
Universities	WMS & R	PB K	EB K	PR B	PC J	EJ NL	PB VJ	PR R	PC P	PG P	PR M	PT D	PP S	TN B	TA I
AU	W. M. S.	3.042	2.292	2.521	2.583	2.313	2.604	2.604	2.417	2.104	2.167	3.0	1.771	2.292	2.25
	R	1	9	6	5	8	3	3	7	13	12	2	14	9	11
TU	W. M. S.	2.896	2.188	2.5	2.708	2.25	2.5	2.563	2.438	2.396	2.229	3.021	2.146	2.313	2.25
	R	2	13	5	3	10	5	4	7	8	12	1	14	9	10
GU	W. M. S.	3.229	2.667	2.896	2.792	2.604	2.854	2.771	2.417	2.417	2.521	3.083	2.167	2.313	2.563
	R	1	7	3	5	8	4	6	11	11	10	2	14	13	9
DU	W. M. S.	3.146	2.479	2.938	2.875	2.438	2.854	2.604	2.438	2.438	2.438	3.021	2.396	2.583	2.521
	R	1	9	3	4	10	5	6	10	10	10	2	14	7	8
AAU	W. M. S.	3.114	2.636	2.909	2.977	2.659	2.795	2.773	2.432	2.364	2.477	3.091	2.25	1.977	2.432
	R	1	8	4	3	7	5	6	10	12	9	2	13	14	10
BU	W. M. S.	2.277	0.149	1.894	1.915	0.149	2.064	2.085	2.021	1.851	1.957	2.085	1.809	1.957	1.702
	R	1	13	9	8	13	4	2	5	10	6	2	11	6	12
KKHSO U	W. M. S.	2.775	2.1	2.575	2.5	1.975	2.55	2.2	2.25	2.05	1.9	2.4	1.75	1.7	1.725
	R	1	8	2	4	10	3	7	6	9	11	5	12	14	13
ADBU AZ	W. M. S.	2.707	0.268	2.366	2.317	0.244	2.341	2.244	2.171	1.976	2.049	2.683	1.78	1.927	1.976
	R	1	13	3	5	14	4	6	7	9	8	2	12	11	9
ADBUS O	W. M. S.	2.273	1.25	2.523	2.182	1.545	2.25	2.068	2.182	2	2.023	2.591	2.136	1.886	2.068
	R	3	14	2	5	13	4	8	5	11	10	1	7	12	8
ADBU KH	W. M. S.	2.425	1.225	2.4	2.175	1.35	2.375	2.15	2	1.9	2	2.2	1.475	1.675	1.525
	R	1	14	2	5	13	3	6	7	9	7	4	12	10	11
ADTU	W. M. S.	2.438	1.25	2.396	2.25	1.271	2.375	2.313	2	2.25	2.146	2.25	2.042	1.771	1.833
	R	1	14	2	5	13	3	4	10	5	8	5	9	12	11
KU	W. M. S.	2.286	1.333	2.31	2.286	1.476	2.619	2.452	2.238	1.905	2.095	2.238	1.81	2.167	1.905
	R	4	14	3	4	13	1	2	6	10	9	6	12	8	10
Total	W. M. S.	2.727	1.673	2.522	2.47	1.708	2.519	2.407	2.255	2.147	2.175	2.651	1.972	2.059	2.076
	R	1	14	3	5	13	4	6	7	9	8	2	12	11	10

Collection	Satisfaction	ALA	ACA	Judges	KRC(IASST)	NIRDP	TISS	IIBM	NIPCCD	IEE	DHAS	ASTEC	CIPET	PLASMA	AIRST	RFRI	KRC(NEIST)	TEA	Total
Printed Books	v	0	0	1	1	1	0	5	3	1	0	0	1	1	0	1	4	0	19
	g	3	2	1	3	1	1	0	0	2	3	1	2	1	0	3	2	1	26
	s	1	1	2	3	2	1	0	1	1	2	2	2	2	3	0	0	0	24
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
E-Books	v	0	0	2	1	2	0	3	3	2	1	1	1	1	0	2	4	1	24
	g	3	2	1	5	0	1	2	0	1	2	1	3	2	0	2	2	1	28
	s	1	1	1	1	2	1	0	1	1	2	1	1	1	3	0	0	0	17
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Printed Reference Books	v	2	1	3	2	2	0	3	3	1	0	0	1	1	0	0	3	1	23
	g	1	1	1	1	0	0	0	0	1	2	1	1	1	1	4	1	0	16
	s	1	1	0	4	2	2	2	1	2	3	2	3	2	2	0	2	1	30
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Printed Current Journals	v	2	1	1	2	1	0	3	4	0	1	0	1	0	1	1	3	1	22
	g	2	2	2	4	1	0	2	0	3	2	1	2	3	0	3	3	1	31
	s	0	0	1	1	2	2	0	0	1	2	2	2	1	2	0	0	0	16
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
E-Journals	v	1	1	2	2	2	0	2	3	2	1	0	2	2	1	1	3	0	25
	g	2	1	0	2	1	1	3	0	1	3	1	1	1	0	3	3	0	23
	s	1	1	2	3	1	1	0	1	1	1	2	2	1	2	0	0	2	21
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Printed Back Volume - Journals	v	2	0	2	2	1	0	4	2	2	0	1	1	1	1	1	2	1	23
	g	1	1	0	1	1	1	0	0	2	2	1	1	1	0	2	2	1	17
	s	1	2	2	4	2	1	1	2	0	3	1	3	2	2	1	2	0	29
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Printed Research Reports	v	1	0	2	2	2	0	5	1	0	2	0	1	2	2	1	3	1	25
	g	2	1	1	3	0	0	0	0	2	2	1	1	0	0	3	1	0	17
	s	1	2	1	2	2	2	0	3	2	1	2	3	2	1	0	2	1	27
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Printed Conference Proceedings	v	1	0	1	0	1	0	3	2	1	0	0	1	1	2	1	2	1	17
	g	2	1	2	3	1	1	0	0	2	2	1	1	0	0	1	3	1	21
	s	1	2	1	4	2	1	2	2	1	3	2	3	3	1	2	1	0	31
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1

Printed Govt Publications	v	2	0	0	1	1	0	3	2	0	0	0	1	1	0	1	2	1	15
	g	1	1	1	3	0	1	0	0	2	2	1	2	2	1	2	1	0	20
	s	1	2	3	3	3	1	2	2	2	3	2	2	1	2	1	3	1	34
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Printed Research Monographs	v	1	0	2	1	1	0	4	3	1	1	1	0	1	0	1	2	1	20
	g	1	1	1	3	1	1	1	0	2	3	0	2	1	1	3	4	0	25
	s	2	2	1	3	2	1	0	1	1	1	1	3	2	2	0	0	1	23
	p	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
Printed Thesis and Dissertations	v	2	1	1	3	2	0	3	2	2	1	0	1	1	1	1	3	0	24
	g	2	2	1	3	1	1	2	1	1	4	1	3	1	1	3	2	2	31
	s	0	0	2	1	1	1	0	1	1	0	2	1	2	1	0	1	0	14
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Printed Patents/Standards	v	0	0	1	0	1	0	3	1	1	0	0	1	1	0	2	2	0	13
	g	1	2	1	4	1	0	1	1	2	3	1	2	1	1	2	3	0	26
	s	3	1	2	3	2	2	1	2	1	2	2	2	2	2	0	1	2	30
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Traditional Non Book Materials	v	0	0	1	1	1	0	3	2	1	0	0	1	1	0	1	3	0	15
	g	2	2	1	3	2	1	1	0	1	3	0	2	1	2	2	2	1	26
	s	2	1	2	3	1	1	1	2	2	2	3	2	2	1	1	1	1	28
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Traditional Abstracting/Indexing Databases	v	0	0	1	1	3	0	3	2	1	1	0	1	1	0	1	2	0	17
	g	1	1	3	5	0	1	0	0	1	2	2	3	3	0	2	1	0	25
	s	3	2	0	1	1	1	2	2	2	2	1	1	0	3	1	3	2	27
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1

(v) denotes Very Good, (g) denotes Good, (s) denotes Satisfactory, (p) denotes Poor.

Table 5D User Satisfaction to Library Collections (Weighted Mean Score and Rank) in Special libraries

Libraries	WMSR	PBK	EBK	PRB	PCJ	EJNL	PBVJ	PRR	PCP	PGP	PRM	PTD	PPS	TNB	TAI
ALA	WMS	2.75	2.75	3.3	3.5	3	3.3	3	3	3.3	2.8	3.5	2.3	2.5	2.25
	Rank	9	9	3	1	6	3	6	6	3	9	1	13	12	13
ACA	WMS	2.67	2.67	3	3.3	3	2.3	2.3	2.3	2.3	2.3	3.3	2.7	2.7	2.33
	Rank	5	5	3	1	3	9	9	9	9	9	1	5	5	9
Judges	WMS	2.75	3.25	3.8	3	3	3	3.3	3	2.3	3.3	2.8	2.8	2.8	3.25
	Rank	10	2	1	6	6	6	2	6	14	2	10	10	10	2
KRC(IASST)	WMS	2.71	3	2.7	3.1	2.9	2.7	3	2.4	2.7	2.7	3.3	2.6	2.7	3
	Rank	7	3	7	2	6	7	3	14	7	7	1	13	7	3
NIRDP	WMS	2.75	3	3	2.8	3.3	2.8	3	2.8	2.5	2.8	3.3	2.8	3	3.5
	Rank	8	4	4	8	2	8	4	8	14	8	2	8	4	1
TISS	WMS	2	2	1.7	1.7	2	2	1.7	2	2	2	2	1.7	2	2
	Rank	1	1	11	11	1	1	11	1	1	1	1	11	1	1
IIBM	WMS	4	3.6	3.2	3.6	3.4	3.6	4	3.2	3.2	3.8	3.6	3.4	3.4	3.2
	Rank	1	4	11	4	8	4	1	11	11	3	4	8	8	11
NIPCCD	WMS	3.5	3.5	3.5	4	3.5	3	2.5	3	3	3.5	3.3	2.8	3	3
	Rank	2	2	2	1	2	8	14	8	8	2	7	13	8	8
IIE	WMS	3	3.25	2.8	2.8	3.3	3.5	2.5	3	2.5	3	3.3	3	2.8	2.75
	Rank	5	2	9	9	2	1	13	5	13	5	2	5	9	9
DHAS	WMS	2.6	2.8	2.4	2.8	3	2.4	3.2	2.4	2.4	3	3.2	2.6	2.6	2.8
	Rank	8	5	11	5	3	11	1	11	11	3	1	8	8	5
ASTECC	WMS	2.33	3	2.3	2.3	2.3	3	2.3	2.3	2.3	2.3	2.3	2.3	2	2.67
	Rank	4	1	4	4	4	1	4	4	4	4	4	4	14	3
CIPET	WMS	2.8	3	2.6	2.8	3	2.6	2.6	2.6	2.8	2.4	3	2.8	2.8	3
	Rank	5	1	10	5	1	10	10	10	5	14	1	5	5	1
PLASMA	WMS	2.75	3	2.8	2.8	3.3	2.8	3	2.5	3	2.8	2.8	2.8	2.8	3.25
	Rank	6	3	6	6	1	6	3	14	3	6	6	6	6	1
AIR ST	WMS	2	2	2.3	2.7	2.7	2.7	3.3	3.3	2.3	2.3	3	2.3	2.7	2
	Rank	12	12	8	4	4	4	1	1	8	8	3	8	4	12
RFRI	WMS	3.25	3.5	3	3.3	3.3	3	3.3	2.8	3	3.3	3.3	3.5	3	3
	Rank	3	1	9	3	3	9	3	14	9	3	3	1	9	9
KRC (NEIST)	WMS	3.67	3.67	3.2	3.5	3.5	3	3.2	3.2	2.8	3.3	3.3	3.2	3.3	2.83
	Rank	1	1	8	3	3	12	8	8	13	5	5	8	5	13
TTEA	WMS	2.5	3.5	3	3.5	2	3.5	3	3.5	3	3	3	2	2.5	2
	Rank	10	1	5	1	12	1	5	1	5	5	5	12	10	12
Total	WMS	2.9	3.07	2.9	3.1	3	2.9	2.9	2.8	2.7	2.9	3.1	2.7	2.8	2.83
	Rank	6	2	9	3	4	8	5	12	14	6	1	13	11	10

Table 5E User Satisfaction to Library Collections in University and Special libraries (Weighted Mean Score and Rank)

Libraries	WMS & R	PBK	EBK	PRB	PCJ	EJNL	PBVJ	PRR	PCP	PGP	PRM	PTD	PPS	TNB	TAI
University Libraries	WMS	2.72	1.67	2.52	2.4	1.70	2.51	2.40	2.25	2.14	2.17	2.65	1.97	2.05	2.07
	Rank	7	3	2	7	8	9	7	5	7	5	1	2	9	6
Special Libraries	WMS	2.9	3.07	2.9	3.1	3	2.9	2.9	2.8	2.7	2.9	3.1	2.7	2.8	2.83
	Rank	6	2	9	3	4	8	5	12	14	6	1	13	11	10

(WMS&R) denotes Weighted Mean Score and Rank, (WMS) denotes Weighted Mean Score, (R) denotes Rank, (PBK) denotes Printed Books, (EBK) denotes E-books, (PRB) denotes Printed Reference books, (PCJ) denotes Printed Current journals, (EJNL) denotes E-journals, (PBVJ) denotes Printed Back-volume journal, (PRR) denotes Printed Research reports, (PCP) denotes Printed Conference proceedings, (PGP) denotes Printed Govt. Publications, (PRM) denotes Printed Research Monographs, (PTD) denotes Printed Thesis/ Dissertations, (PPS) denotes Printed Patents/Standards, (TNB) denotes Traditional Non-book materials (Audio Visual), (TAI) denotes Traditional Abstracting/Indexing databases.

It is seen that user satisfaction is highest with printed books which scored 2.727, followed by printed thesis/ dissertations as second with 2.651 and printed reference books as third priority with 2.522. User satisfaction on e-books and e-journals is lowest by scoring 1.673 and 1.708 respectively among the universities (Table 5B). It is stated that highest user satisfaction goes to printed thesis and dissertations by scoring 3.11 followed by e-books as second by scoring 3.07 and current journals as third by scoring 3.06 in all special libraries (Table 5D).

It can be stated that university libraries are enrich with printed books and special libraries are with printed thesis and dissertations to satisfy the users (Table 5E).

Library	Very good	Good	Satisfactory	Poor	Total
University Library	1342	2036	1935	1526	6839
	20%	30%	28%	22%	100%
Special Library	282	332	351	15	980
	29%	34%	36%	1%	100%

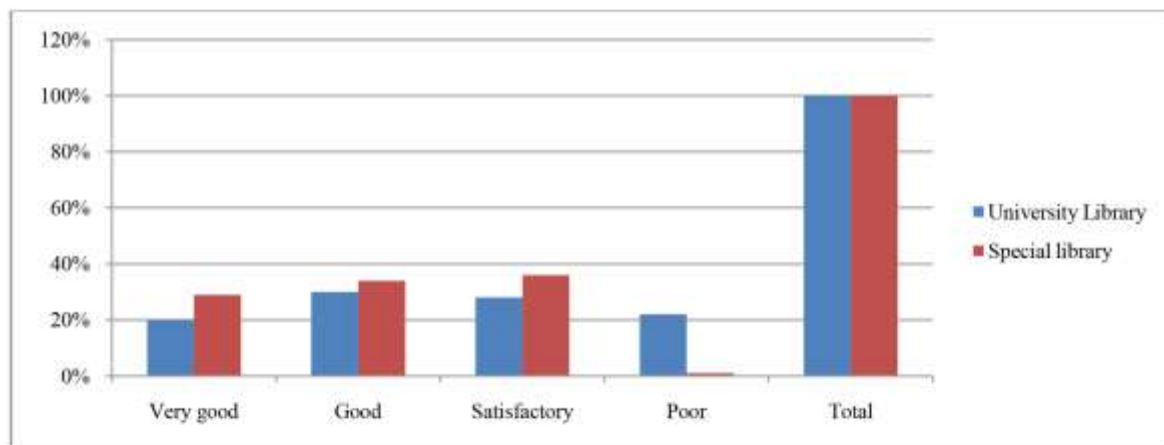


Figure 5 Total Users Satisfaction to library collection among the University and Special libraries

Table number 5F and figure 5 stated that total user satisfaction to library collection is voted by highest number of users as good 30% followed by satisfactory 28% as second, poor 22% as third and very good 20% as lowest among the university libraries. In case of special library total user satisfaction to library collection is voted by highest number of users as satisfactory 36% followed by good 34% as second, very good 29% as third and poor 1% as lowest.

It is seen that highest number of users voted university library collection as good, on the other hand maximum number of users recognized special library collection as satisfactory.

IV. FINDINGS

1. A good number of responses found from the university library users. Non-response is highest in special libraries the reason of which may be due to their busyness.
2. Highest number of male respondent found in special libraries and highest number of respondent as female found in university libraries. In both the category of libraries highest number of user found as male faculty.
3. Almost all the users use the library.
4. The basic purpose of using the library is for research and 'to study and borrow books' in all universities. Research is the main purpose to use the special library.
5. University libraries are wealthy with printed books and special libraries are with printed thesis and dissertations to satisfy the users.

6. University library collection is considered as good while special library collection is considered as satisfactory from user's point of view, thus it is stated that user satisfaction is higher in university library than special library.

V. SUGGESTIONS

University library should improve the collection and services in the form of e-books, e-journals and library services. Special library could also be suggested to improve collection of e-books, e-journals, printed books and library services (based on user's suggestion).

VI. CONCLUSION

As the university libraries and special libraries provide teaching, learning and research support service to their users. These libraries should improve their collection to increase the level of satisfaction of their users. The library should purchase and subscribe the study materials required by the users. Library professionals should update skill for new ICT based services to provide better and faster services.

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Users' Satisfaction among the University Libraries and Special Libraries of Assam: A Comparative Study

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Abstract: The aim of this paper is to show the users' satisfaction in context of library collection in some selected university libraries and special libraries of Assam. The study also covers the purpose of visiting the library by the users. This study will be beneficial for library professionals and library authority of university and special library in Assam. Use of library collection and users' satisfaction is a multifaceted conceit. In the present study both the library collection and towards this, its user's satisfaction considered as independent and dependent to each other. Users' satisfaction has been the primary factor for all types of libraries and library professionals. So from this present study it has been trying to show that how the users of the Special libraries and University Libraries of Assam are satisfied with the present status, collections and services of the respected libraries.

Keywords: Users satisfaction, University libraries, Special libraries, Assam.

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I. INTRODUCTION

Users are the important part of any library. The description and achievement of their requirements and to meet up with their satisfaction level are the ambition of any library. Knowing about the users' requirement from library and to reach up to their satisfaction level is very essential to provide advance library services and resources. The development and growth of a library is basically depending upon the satisfaction level of users' towards its collections and services. To achieve this goal library authority should be aware about the needs and requirements of its users at first. Academic libraries must determine a focus on proper collection development to satisfy the users need. Library personal should identify the need of users and acquire the collection and improve the services accordingly. A university library is attached to its parent institute i.e. university to serve its teaching, research, publication and other educational needs. A library whether it is academic or special can stand on its own, but a university cannot stand on its own because the library represents the heart of the university. In a university, library is an important part which contains rich and balanced information resources consisting of the staffs which can support the teaching, learning and research work. It is a general purpose for the development of a library to conduct users' satisfaction survey to improve the status and quality of services provided to the users. The survey helps in evaluating the strengths and weakness of libraries and provides an opportunity to the library personnel to increase the users' satisfaction level. Satisfying users' requirements in the institution whether it is academic or special is crucial goal of a library.

Zeithman and Bitmar (2000) defined users' satisfaction as the means which users determine that a product or service meet the required needs and expectations. If the product or services do not meet their needs or expectations, it is therefore assumed that they are dissatisfied with the product or services. Similarly, Iwhiwhu and Okorodudu (2012) stated that users satisfaction of library information resources and services is away in which users judge the adequacy of the library information resources and services rendered to them and also if their expectations are provided to them. Library user satisfaction implies how users feel after using the information resources and services and their willingness to return to the library when next they need information (Ikenwe and Adegbilero-Iwari, 2014). According to Ijiekhuamben, Aghojare and Lerdinand (2015) the level of using the library depends on users' satisfaction with the available information resources and services rendered to them.

So the users' satisfaction is considered as the level of satisfaction of users' which they retrieve from library by using the various types of resources for acquiring knowledge and services which fulfill their appropriate needs. Hence, the quality and availability of the resources and services in the libraries have a significant impact on users' satisfaction. If the library meets the need of users' satisfaction then the library will be well known among new users too. So it is an important work for the library to keep an eye on users' satisfaction with library collections or resources and services.

AREA OF THE STUDY

Twelve university libraries and seventeen special libraries, which maketotal are 29 libraries, of the state of Assam are selected for the present study.

OBJECTIVE

Libraries offer various types of services to its clientele. It is intended to find out theusers' satisfactionon library collection among the university libraries and special libraries of Assam. So the objectives of the study are:

- To find out theuser satisfactionregarding library collection among the university libraries and special libraries of Assam.
- To find out the users' satisfaction with library services towards growing of library collections.

II. METHODOLOGY

Following methodologies were adopted to collect data and necessary information for the study:

- By providing Questionnaire
- Through interview of the library user and
- Using e-mail or telephone.

In order to collect the required information and data a set ofstructured questionnaire was designed and distributed to the users of selected libraries.

Sample size

Fifty (50) users from each university and 10 users from each special library were selected for the study altogether which is 770 users from both type of institute libraries. As the number of total library users in special libraries are less in comparison to that of university librariesit is decided to select 10 numbers from each special library. The studyanalyzed the data as percentage (%) and Weighted Mean Score and Rank (WMS&R) to get the findings.

III. DATA ANALYSIS TOOLS AND TECHNIQUES

The raw data is tabulated and accessed the results through both SPSS and Microsoft Excel. Weighted Mean Score and Rank method (WMS&R) is used to extract the result from user's priority.

Data Analysis:

The study used some short form like AU, TU, GU, DU, AAU, BU, KKHSOU, ADBUAZ, ADBUSO, ADBUKH, ADTU, KU, ALA, ACA, KRC IASST, NIRDP, TISS, IIBM, NIPCCD RCG, IIE, DHAS, ASTEC, CIPET, AIR ST & SC, RFRI, KRC NEIST, TTRC means Assam University, Tezpur University, Gauhati University, Dibrugarh University, Assam Agricultural University, Bodoland University, Krishna KantaHandiqui State Open University, Assam Don Bosco University Azara campus, Assam Don Bosco University Sonapur campus, Assam Don Bosco University Kharghuli campus, Assam Down Town University, Kaziranga University, Assam Legislative Assembly, Ananda Chandra Agarwala Library (Assam State Museum), Knowledge Resource Centre The Institute of Advanced Study in Science & Technology, National Institute of Rural Development & Panchayati Raj, Tata Institute of Social Science, Indian Institute of Bank Management, National Institute of Public Co-Operation & Child Development, Indian Institute of Entrepreneurship, Department of Historical & Antiquarian Studies, Assam Science Technology and Environment Council, Central Institute of Plastic Engineering and Technology, Assam Institute of Research for ST & Sc, Indian Council of Forestry Research and Education, North East Institute of Science & Technology and Tocklai Tea Research Centre respectively.

The collected data are analyzed below.

User Response:

Table 1A User's Response from University library						
University	Total Questionnaire Distributed	No Response	Faculty	Research Scholar	Student	Total Response
AU	50	2	38	9	1	48
	100%	4%	76%	18%	2%	96%
TU	50	2	18	17	13	48
	100%	4%	36%	34%	26%	96%
GU	50	2	16	19	13	48
	100%	4%	32%	38%	26%	96%
DU	50	2	22	13	13	48
	100%	4%	44%	26%	26%	96%
AAU	50	6	37	3	4	44
	100%	12%	74%	6%	8%	88%
BU	50	3	27	6	14	47
	100%	6%	54%	12%	28%	94%
KKHSOU	50	10	24	16	0	40
	100%	20%	48%	32%	0%	80%
ADBUAZ	50	9	19	14	8	41
	100%	18%	38%	28%	16%	82%
ADBUSO	50	6	19	20	5	44
	100%	12%	38%	40%	10%	88%
ADBUKH	50	10	6	0	34	40
	100%	20%	12%	0%	68%	80%
ADTU	50	2	12	10	26	48
	100%	4%	24%	20%	52%	96%
KU	50	8	32	1	9	42
	100%	16%	64%	2%	18%	84%
Total	600	62	270	128	140	538
	100%	10.33%	45%	21.33%	23.33%	89.67%

Table 1B User's Response from Special library							
Libraries	Total Questionnaire Distributed	No Response	Faculty	Research Scholar	Scientist	Students	Total Response
ALA Library	10	6	4	0	0	0	4
	100%	60%	40.00%	0.00%	0.00%	0.00%	40.00%
ACA Library	10	7	2	0	0	1	3
	100%	70%	20.00%	0.00%	0.00%	10.00%	30.00%
Judges' Library	10	6	4	0	0	0	4
	100%	60%	40.00%	0.00%	0.00%	0.00%	40.00%
KRC (IASST)	10	3	2	5	0	0	7
	100%	30%	20.00%	50.00%	0.00%	0.00%	70.00%
NIRDP Library	10	6	4	0	0	0	4
	100%	60%	40.00%	0.00%	0.00%	0.00%	40.00%
TISS Library	10	7	0	0	0	3	3
	100%	70%	0.00%	0.00%	0.00%	30.00%	30.00%
IIBM Library	10	5	5	0	0	0	5

	100%	50%	50.00%	0.00%	0.00%	0.00%	50.00%
NIPCCD RCG Library	10	6	4	0	0	0	4
	100%	60%	40.00%	0.00%	0.00%	0.00%	40.00%
IIE Library	10	6	4	0	0	0	4
	100%	60%	40.00%	0.00%	0.00%	0.00%	40.00%
DHAS Library	10	5	3	2	0	0	5
	100%	50%	30.00%	20.00%	0.00%	0.00%	50.00%
ASTEC/AEDA	10	7	1	0	2	0	3
	100%	70%	10.00%	0.00%	20.00%	0.00%	30.00%
CIPET Digital Library	10	5	0	0	0	5	5
	100%	50%	0.00%	0.00%	0.00%	50.00%	50.00%
PLASMA Physics Library	10	6	1	3	0	0	4
	100%	60%	10.00%	30.00%	0.00%	0.00%	40.00%
AIR ST & SC Library	10	7	3	0	0	0	3
	100%	70%	30.00%	0.00%	0.00%	0.00%	30.00%
RFRI Library	10	6	0	4	0	0	4
	100%	60%	0.00%	40.00%	0.00%	0.00%	40.00%
KRC (NEIST)	10	4	2	0	4	0	6
	100%	40%	20.00%	0.00%	40.00%	0.00%	60.00%
TTRC Library	10	8	1	1	0	0	2
	100%	80%	10.00%	10.00%	0.00%	0.00%	20.00%
Total	170	100	40	15	6	9	70
	100%	58.82%	23.50%	8.80%	3.50%	5.30%	41.10%

Table number 1A represents that out of 600 distributed questionnaire in which percentage of non-respondent are 10.33% and out of 89.67% collected questionnaires 45% from faculty members, 21.33% from research scholars 23.33% from student community of the university.

Table number 1B stated that out of 170 distributed questionnaires only 41.10% responded from all surveyed special libraries. Among the respondents it is found that 23.50% are faculty, research scholars 8.80%, scientists 3.50% and students 5.30% from special libraries.

Libraries	No Response	Faculty	Research Scholar	Students	Scientist	Total Response
University Libraries	10.33%	45%	21.33%	23.33%	NA	89.67%
Special Libraries	58.82%	23.50%	8.80%	5.30%	3.50%	41.10%

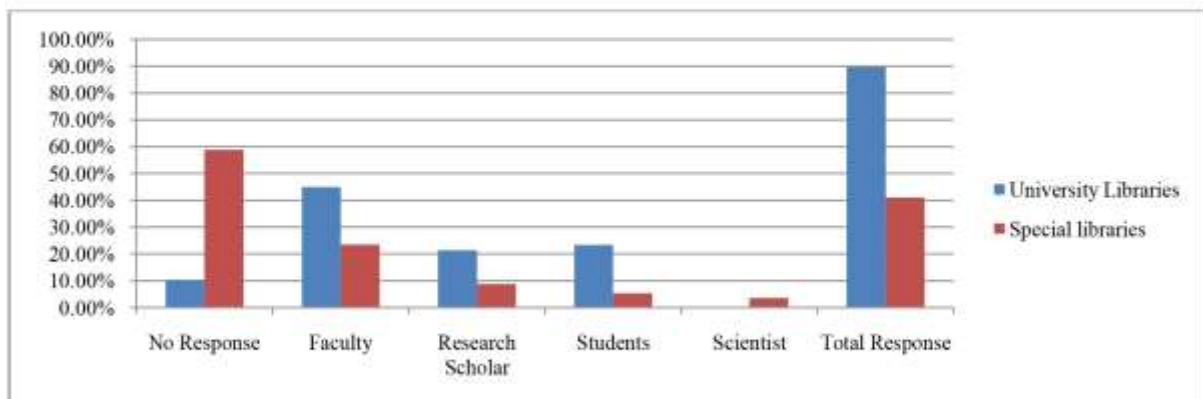


Figure 1 Users response from University and Special library

User's Gender

University	Male	Female	Total
AU	33	15	48
	68.8%	31.3%	100.0%
TU	36	12	48
	75.0%	25.0%	100.0%
GU	35	13	48
	72.9%	27.1%	100.0%
DU	37	11	48
	77.1%	22.9%	100.0%
AAU	30	14	44
	68.2%	31.8%	100.0%
BU	27	20	47
	57.4%	42.6%	100.0%
KKHSOU	17	23	40
	42.5%	57.5%	100.0%
ADBUAZ	22	19	41
	53.7%	46.3%	100.0%
ADBUSO	24	20	44
	54.5%	45.5%	100.0%
ADBUKH	23	17	40
	57.5%	42.5%	100.0%
ADTU	28	20	48
	58.3%	41.7%	100.0%
KU	30	12	42
	71.4%	28.6%	100.0%
Total	342	196	538
	63.6%	36.4%	100.0%

Libraries	Male	Female	Total
ALA Library	4	0	4
	100.0%	0.0%	100.0%
ACA Library	2	1	3
	66.7%	33.3%	100.0%
Judges' Library	3	1	4
	75.0%	25.0%	100.0%
KRC (IASST)	2	5	7
	28.6%	71.4%	100.0%
NIRDLP Library	4	0	4
	100.0%	0.0%	100.0%
TISS Library	1	2	3
	33.3%	66.7%	100.0%
IIBM Library	4	1	5
	80.0%	20.0%	100.0%
NIPCCD RCG Library	3	1	4
	75.0%	25.0%	100.0%
IIE Library	3	1	4
	75.0%	25.0%	100.0%
DHAS Library	4	1	5
	80.0%	20.0%	100.0%
ASTEC/AEDA	2	1	3
	66.7%	33.3%	100.0%
CIPET Digital Library	4	1	5
	80.0%	20.0%	100.0%
PLASMA Physics	4	0	4

Library	100.0%	0.0%	100.0%
AIR ST & SC Library	2 66.7%	1 33.3%	3 100.0%
RFRI Library	2 50.0%	2 50.0%	4 100.0%
KRC (NEIST)	4 66.7%	2 33.3%	6 100.0%
TTRC Library	1 50.0%	1 50.0%	2 100.0%
Total	49 70.0%	21 30.0%	70 100.0%

Table number 2A stated that in totality highest number of respondent is male (63.6%) and lowest are female (36.4%) among the responses received from selected universities of Assam. It is seen from table 2B that the respondent found 70% as male and 30% as female from all special libraries.

University	Male	Female	Total
University Libraries	63.60%	36.40%	100.00%
Special Libraries	70.00%	30.00%	100.00%

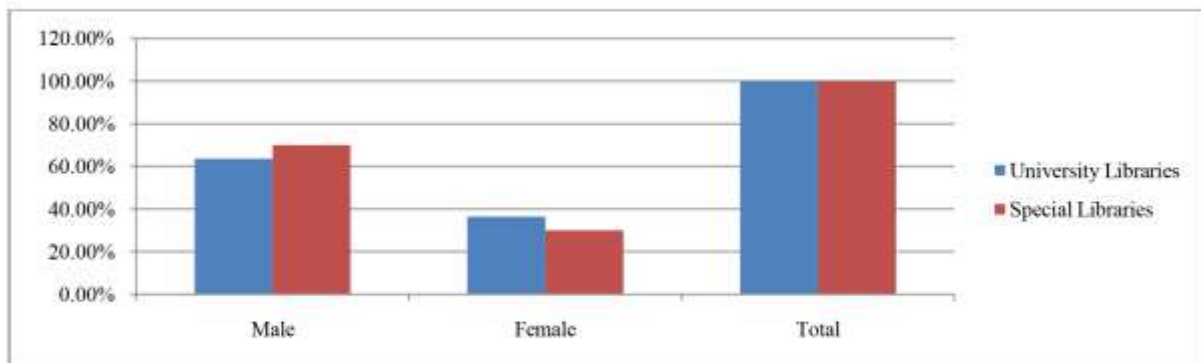


Figure 2 Users Gender from University and Special library

It is seen that highest number of respondent as male found in special libraries and highest number of female respondent found in university libraries.

Gender wise category of users:

Libraries	Gender	User Category				Total
		Faculty	Research Scholar	Students	Scientist	
University Libraries	Male	54.70%	20.20%	25.10%	NA	100.00%
	Female	42.30%	30.10%	27.60%	NA	100.00%
Special Libraries	Male	65.30%	16.30%	10.20%	8.20%	100.00%
	Female	38.10%	33.30%	19.00%	9.50%	100.00%

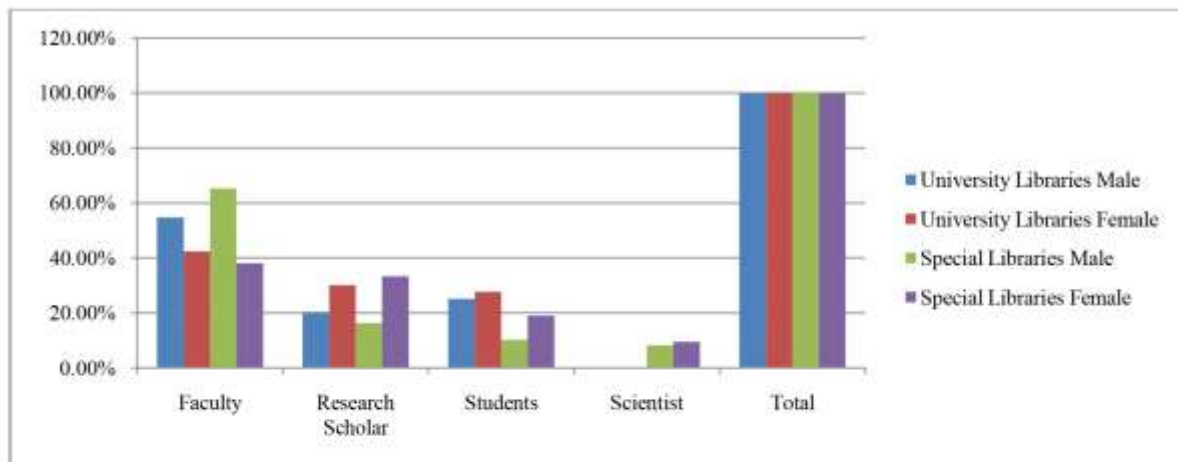


Figure 3 Gender wise User Category of University and Special library

Highest male user represented by faculty is 54.7% followed by student is 25.1% and research scholar is 20.2%. Highest female user represented by faculty is 42.3% followed by research scholar is 30.1% and student is 27.6% among the universities. Total male users as faculty 65.3%, research scholar 16.3%, scientist 8.2% and student 10.2%; and total female users as faculty 38.1%, research scholar 33.3%, scientist 9.5% and student 19% found from all special libraries.

It is found that highest number of user as male faculty found in special libraries as well as university libraries both.

Library Use:

Libraries	Yes	No	Total
University Libraries	99.60%	0.40%	100.00%
Special Libraries	100.00%	0.00%	100.00%

It is seen from table number 4 that almost all the users use the library for their day to day activities and research need from both the category, only 0.40% user from university library do not use the library due to their own satisfactory collection and using the internet.

Purpose of visit to the library:

It is seen that the purpose of visit to the library is found as for research, publication, teaching, 'to study and borrow books' and 'to keep update with recent information' in all University and Special libraries. The main purpose of using the library is for research and 'to study and borrow books' in all university libraries. The basic purpose to use the special library is research.

User Satisfaction to Library Collections:

Library Collection	User Satisfaction	AU	TU	GU	DU	AU	BU	KKHSO	ADB UAZ	ADBUSO	ADBUKH	ADTU	KU	Total
Printed Books	Very Good	18	17	23	20	19	7	13	10	6	6	11	8	158
	Good	16	16	17	18	16	1	12	15	12	15	12	8	168
	Satisfactor y	12	9	5	7	4	7	8	10	14	9	12	14	121
	Poor	2	5	2	3	5	2	7	6	12	10	13	12	89
E-Books	Very Good	15	1	19	1	1	0	10	0	5	4	6	5	111

			4		7	6								
	Good	12	1 1	14	1 2	1 3	1	10	2	7	6	7	6	101
	Satisfactor y	6	6	4	6	4	1	5	1	5	6	6	7	57
	Poor	2	4	2	3	5	2	4	3	4	3	3	4	39
Printed Reference Books	Very Good	11	1 0	19	1 8	1 6	2	8	6	6	5	8	5	114
	Good	16	1 4	12	1 3	1 4	1 0	13	14	18	14	16	14	168
	Satisfactor y	10	1 5	12	1 3	8 3	1 6	13	10	13	13	11	12	146
	Poor	9	8	3	4	6	1 9	6	11	7	8	13	11	105
Printed Current Journals	Very Good	12	1 3	17	1 6	1 5	4	4	4	3	2	6	5	101
	Good	15	1 7	14	1 7	1 8	1 2	17	15	16	15	14	13	183
	Satisfactor y	12	1 1	9	8	6	1 0	14	12	11	11	15	13	132
	Poor	7	5	6	7	5	1 8	5	10	14	12	12	11	112
E- Journals	Very Good	12	1 1	15	1 4	1 3	0	6	0	5	4	5	4	89
	Good	11	1 1	13	1 2	1 2	1	9	2	7	6	5	7	96
	Satisfactor y	11	1 2	9	8	1 0	1	11	1	11	8	10	9	101
	Poor	8	7	8	9	9	2	6	2	5	4	6	7	73
Printed Back Volume - Journals	Very Good	13	1 2	18	1 7	1 5	6	7	6	5	4	6	7	116
	Good	13	1 4	14	1 3	1 2	1	14	12	13	14	17	17	164
	Satisfactor y	12	1 1	9	1 2	1 0	1 4	13	13	14	15	15	13	151
	Poor	10	8	5	6	7	1 2	6	10	12	7	9	5	97
Printed Research Reports	Very Good	13	1 2	16	1 5	1 4	7	8	6	3	2	6	5	107
	Good	15	1 6	14	1 2	1 3	9	10	9	12	12	15	16	153
	Satisfactor y	10	1 1	11	1 1	1 1	1 6	9	16	14	14	15	14	152
	Poor	8	5	5	7	5	1 1	8	9	15	12	12	7	104
Printed Conferen ce Proceedin gs	Very Good	10	1 1	12	1 1	1 0	5	3	4	3	2	3	5	79
	Good	14	1 1	11	1 2	1 1	1 2	13	11	15	9	13	12	144
	Satisfactor y	12	1 7	12	1 5	1 2	1 3	15	14	15	16	15	13	169
	Poor	10	6	11	7	1 0	1 3	9	12	9	13	15	12	127
Printed Govt. Publicatio ns	Very Good	8	1 0	11	1 0	8	4	3	3	2	1	4	2	66
	Good	12	1 3	13	1 3	1 0	1 0	10	9	14	11	17	10	142
	Satisfactor	9	1	12	1	1	1	13	13	12	11	16	12	154

	y		4		4	6	2							
	Poor	15	8	9	10	11	12	14	16	14	17	9	18	157
Printed Research Monographs	Very Good	9	10	10	9	9	3	2	2	3	2	3	4	66
	Good	13	18	18	15	11	11	14	12	10	11	15	9	151
	Satisfactory	10	11	11	11	11	11	11	15	18	12	18	16	173
	Poor	9	5	5	6	7	1	4	10	11	15	10	13	107
Printed Thesis and Dissertations	Very Good	18	21	21	20	18	8	6	8	8	2	6	3	138
	Good	15	15	15	15	13	11	12	17	17	13	15	16	174
	Satisfactory	12	8	8	8	9	1	14	11	12	16	13	11	135
	Poor	3	2	3	4	3	1	8	5	7	9	13	12	82
Printed Patents/Standards	Very Good	8	9	10	9	9	6	5	2	3	1	4	3	69
	Good	8	11	11	11	11	8	10	7	13	6	10	5	113
	Satisfactory	9	11	11	11	11	9	4	15	17	10	20	15	150
	Poor	11	8	9	7	9	1	12	14	9	17	12	19	146
Traditional Non Book Materials	Very Good	8	9	11	10	8	5	3	3	4	1	1	2	65
	Good	14	10	10	11	11	9	11	11	8	9	10	16	139
	Satisfactory	10	14	14	14	14	1	6	10	13	12	16	11	141
	Poor	16	8	9	6	7	1	11	14	17	12	19	13	149
Traditional Abstracting/Indexing Databases	Very Good	8	9	13	12	9	2	2	1	2	1	2	2	63
	Good	14	14	14	14	14	9	12	11	14	8	10	11	140
	Satisfactory	12	12	12	12	12	1	8	18	15	8	16	10	153
	Poor	10	5	5	6	1	1	9	8	11	17	18	19	139
Total	Very Good	163	215	215	215	189	59	80	55	58	37	71	60	1342
	Good	188	190	190	190	176	116	167	147	176	149	176	160	2036
	Satisfactory	147	139	139	139	147	116	144	159	184	161	198	170	1935
	Poor	120	82	82	82	98	116	109	130	147	156	164	163	1526

Table 5B User's Satisfaction regarding the library collection (WMS&R) in university library															
Universities	WMS & R	PB K	EB K	PR B	PC J	EJ NL	PB VJ	PR R	PC P	PG P	PR M	PT D	PP S	TN B	TA I
AU	W. M. S.	3.042	2.292	2.521	2.583	2.313	2.604	2.604	2.417	2.104	2.167	3.0	1.771	2.292	2.25
	R	1	9	6	5	8	3	3	7	13	12	2	14	9	11
TU	W. M. S.	2.896	2.188	2.5	2.708	2.25	2.5	2.563	2.438	2.396	2.229	3.021	2.146	2.313	2.25
	R	2	13	5	3	10	5	4	7	8	12	1	14	9	10
GU	W. M. S.	3.229	2.667	2.896	2.792	2.604	2.854	2.771	2.417	2.417	2.521	3.083	2.167	2.313	2.563
	R	1	7	3	5	8	4	6	11	11	10	2	14	13	9
DU	W. M. S.	3.146	2.479	2.938	2.875	2.438	2.854	2.604	2.438	2.438	2.438	3.021	2.396	2.583	2.521
	R	1	9	3	4	10	5	6	10	10	10	2	14	7	8
AAU	W. M. S.	3.114	2.636	2.909	2.977	2.659	2.795	2.773	2.432	2.364	2.477	3.091	2.25	1.977	2.432
	R	1	8	4	3	7	5	6	10	12	9	2	13	14	10
BU	W. M. S.	2.277	0.149	1.894	1.915	0.149	2.064	2.085	2.021	1.851	1.957	2.085	1.809	1.957	1.702
	R	1	13	9	8	13	4	2	5	10	6	2	11	6	12
KKHSOU	W. M. S.	2.775	2.1	2.575	2.5	1.975	2.55	2.2	2.25	2.05	1.9	2.4	1.75	1.7	1.725
	R	1	8	2	4	10	3	7	6	9	11	5	12	14	13
ADBUAZ	W. M. S.	2.707	0.268	2.366	2.317	0.244	2.341	2.244	2.171	1.976	2.049	2.683	1.78	1.927	1.976
	R	1	13	3	5	14	4	6	7	9	8	2	12	11	9
ADBUSO	W. M. S.	2.273	1.25	2.523	2.182	1.545	2.25	2.068	2.182	2	2.023	2.591	2.136	1.886	2.068
	R	3	14	2	5	13	4	8	5	11	10	1	7	12	8
ADBUKH	W. M. S.	2.425	1.225	2.4	2.175	1.35	2.375	2.1	2	1.9	2	2.2	1.475	1.675	1.525
	R	1	14	2	5	13	3	6	7	9	7	4	12	10	11
ADTU	W. M. S.	2.438	1.25	2.396	2.25	1.271	2.375	2.313	2	2.25	2.146	2.25	2.042	1.771	1.833
	R	1	14	2	5	13	3	4	10	5	8	5	9	12	11
KU	W. M. S.	2.286	1.333	2.31	2.286	1.476	2.619	2.452	2.238	1.905	2.095	2.238	1.81	2.167	1.905
	R	4	14	3	4	13	1	2	6	10	9	6	12	8	10
Total	W. M. S.	2.727	1.673	2.522	2.47	1.708	2.519	2.407	2.255	2.147	2.175	2.651	1.972	2.059	2.076
	R	1	14	3	5	13	4	6	7	9	8	2	12	11	10

Collection	Satisfaction	ALA	ACA	Judges	KRC(IASST)	NIRDP	TISS	IIBM	NIPCCD	IEE	DHAS	ASTEC	CIPET	PLASMA	AIRST	RFRI	KRC(NEIST)	TEA	Total
Printed Books	v	0	0	1	1	1	0	5	3	1	0	0	1	1	0	1	4	0	19
	g	3	2	1	3	1	1	0	0	2	3	1	2	1	0	3	2	1	26
	s	1	1	2	3	2	1	0	1	1	2	2	2	2	3	0	0	1	24
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
E-Books	v	0	0	2	1	2	0	3	3	2	1	1	1	1	0	2	4	1	24
	g	3	2	1	5	0	1	2	0	1	2	1	3	2	0	2	2	1	28
	s	1	1	1	1	2	1	0	1	1	2	1	1	1	3	0	0	0	17
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Printed Reference Books	v	2	1	3	2	2	0	3	3	1	0	0	1	1	0	0	3	1	23
	g	1	1	1	1	0	0	0	0	1	2	1	1	1	1	4	1	0	16
	s	1	1	0	4	2	2	2	1	2	3	2	3	2	2	0	2	1	30
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Printed Current Journals	v	2	1	1	2	1	0	3	4	0	1	0	1	0	1	1	3	1	22
	g	2	2	2	4	1	0	2	0	3	2	1	2	3	0	3	3	1	31
	s	0	0	1	1	2	2	0	0	1	2	2	2	1	2	0	0	0	16
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
E-Journals	v	1	1	2	2	2	0	2	3	2	1	0	2	2	1	1	3	0	25
	g	2	1	0	2	1	1	3	0	1	3	1	1	1	0	3	3	0	23
	s	1	1	2	3	1	1	0	1	1	1	2	2	1	2	0	0	2	21
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Printed Back Volume - Journals	v	2	0	2	2	1	0	4	2	2	0	1	1	1	1	1	2	1	23
	g	1	1	0	1	1	1	0	0	2	2	1	1	1	0	2	2	1	17
	s	1	2	2	4	2	1	1	2	0	3	1	3	2	2	1	2	0	29
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Printed Research Reports	v	1	0	2	2	2	0	5	1	0	2	0	1	2	2	1	3	1	25
	g	2	1	1	3	0	0	0	0	2	2	1	1	0	0	3	1	0	17
	s	1	2	1	2	2	2	0	3	2	1	2	3	2	1	0	2	1	27
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Printed Conference Proceedings	v	1	0	1	0	1	0	3	2	1	0	0	1	1	2	1	2	1	17
	g	2	1	2	3	1	1	0	0	2	2	1	1	0	0	1	3	1	21
	s	1	2	1	4	2	1	2	2	1	3	2	3	3	1	2	1	0	31
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1

Printed Govt Publications	v	2	0	0	1	1	0	3	2	0	0	0	1	1	0	1	2	1	15
	g	1	1	1	3	0	1	0	0	2	2	1	2	2	1	2	1	0	20
	s	1	2	3	3	3	1	2	2	2	3	2	2	1	2	1	3	1	34
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Printed Research Monographs	v	1	0	2	1	1	0	4	3	1	1	1	0	1	0	1	2	1	20
	g	1	1	1	3	1	1	1	0	2	3	0	2	1	1	3	4	0	25
	s	2	2	1	3	2	1	0	1	1	1	1	3	2	2	0	0	1	23
	p	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
Printed Thesis and Dissertations	v	2	1	1	3	2	0	3	2	2	1	0	1	1	1	1	3	0	24
	g	2	2	1	3	1	1	2	1	1	4	1	3	1	1	3	2	2	31
	s	0	0	2	1	1	1	0	1	1	0	2	1	2	1	0	1	0	14
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Printed Patents/Standards	v	0	0	1	0	1	0	3	1	1	0	0	1	1	0	2	2	0	13
	g	1	2	1	4	1	0	1	1	2	3	1	2	1	1	2	3	0	26
	s	3	1	2	3	2	2	1	2	1	2	2	2	2	2	0	1	2	30
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Traditional Non Book Materials	v	0	0	1	1	1	0	3	2	1	0	0	1	1	0	1	3	0	15
	g	2	2	1	3	2	1	1	0	1	3	0	2	1	2	2	2	1	26
	s	2	1	2	3	1	1	1	2	2	2	3	2	2	1	1	1	1	28
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Traditional Abstracting/Indexing Databases	v	0	0	1	1	3	0	3	2	1	1	0	1	1	0	1	2	0	17
	g	1	1	3	5	0	1	0	0	1	2	2	3	3	0	2	1	0	25
	s	3	2	0	1	1	1	2	2	2	2	1	1	0	3	1	3	2	27
	p	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1

(v) denotes Very Good, (g) denotes Good, (s) denotes Satisfactory, (p) denotes Poor.

Table 5D User Satisfaction to Library Collections (Weighted Mean Score and Rank) in Special libraries

Libraries	WMSR	PBK	EBK	PRB	PCJ	EJNL	PBVJ	PRR	PCP	PGP	PRM	PTD	PPS	TNB	TAI
ALA	WMS	2.75	2.75	3.3	3.5	3	3.3	3	3	3.3	2.8	3.5	2.3	2.5	2.25
	Rank	9	9	3	1	6	3	6	6	3	9	1	13	12	13
ACA	WMS	2.67	2.67	3	3.3	3	2.3	2.3	2.3	2.3	2.3	3.3	2.7	2.7	2.33
	Rank	5	5	3	1	3	9	9	9	9	9	1	5	5	9
Judges	WMS	2.75	3.25	3.8	3	3	3	3.3	3	2.3	3.3	2.8	2.8	2.8	3.25
	Rank	10	2	1	6	6	6	2	6	14	2	10	10	10	2
KRC(IASST)	WMS	2.71	3	2.7	3.1	2.9	2.7	3	2.4	2.7	2.7	3.3	2.6	2.7	3
	Rank	7	3	7	2	6	7	3	14	7	7	1	13	7	3
NIRDP	WMS	2.75	3	3	2.8	3.3	2.8	3	2.8	2.5	2.8	3.3	2.8	3	3.5
	Rank	8	4	4	8	2	8	4	8	14	8	2	8	4	1
TISS	WMS	2	2	1.7	1.7	2	2	1.7	2	2	2	2	1.7	2	2
	Rank	1	1	11	11	1	1	11	1	1	1	1	11	1	1
IIBM	WMS	4	3.6	3.2	3.6	3.4	3.6	4	3.2	3.2	3.8	3.6	3.4	3.4	3.2
	Rank	1	4	11	4	8	4	1	11	11	3	4	8	8	11
NIPCCD	WMS	3.5	3.5	3.5	4	3.5	3	2.5	3	3	3.5	3.3	2.8	3	3
	Rank	2	2	2	1	2	8	14	8	8	2	7	13	8	8
IIE	WMS	3	3.25	2.8	2.8	3.3	3.5	2.5	3	2.5	3	3.3	3	2.8	2.75
	Rank	5	2	9	9	2	1	13	5	13	5	2	5	9	9
DHAS	WMS	2.6	2.8	2.4	2.8	3	2.4	3.2	2.4	2.4	3	3.2	2.6	2.6	2.8
	Rank	8	5	11	5	3	11	1	11	11	3	1	8	8	5
ASTECC	WMS	2.33	3	2.3	2.3	2.3	3	2.3	2.3	2.3	2.3	2.3	2.3	2	2.67
	Rank	4	1	4	4	4	1	4	4	4	4	4	4	14	3
CIPET	WMS	2.8	3	2.6	2.8	3	2.6	2.6	2.6	2.8	2.4	3	2.8	2.8	3
	Rank	5	1	10	5	1	10	10	10	5	14	1	5	5	1
PLASMA	WMS	2.75	3	2.8	2.8	3.3	2.8	3	2.5	3	2.8	2.8	2.8	2.8	3.25
	Rank	6	3	6	6	1	6	3	14	3	6	6	6	6	1
AIR ST	WMS	2	2	2.3	2.7	2.7	2.7	3.3	3.3	2.3	2.3	3	2.3	2.7	2
	Rank	12	12	8	4	4	4	1	1	8	8	3	8	4	12
RFRI	WMS	3.25	3.5	3	3.3	3.3	3	3.3	2.8	3	3.3	3.3	3.5	3	3
	Rank	3	1	9	3	3	9	3	14	9	3	3	1	9	9
KRC (NEIST)	WMS	3.67	3.67	3.2	3.5	3.5	3	3.2	3.2	2.8	3.3	3.3	3.2	3.3	2.83
	Rank	1	1	8	3	3	12	8	8	13	5	5	8	5	13
TTEA	WMS	2.5	3.5	3	3.5	2	3.5	3	3.5	3	3	3	2	2.5	2
	Rank	10	1	5	1	12	1	5	1	5	5	5	12	10	12
Total	WMS	2.9	3.07	2.9	3.1	3	2.9	2.9	2.8	2.7	2.9	3.1	2.7	2.8	2.83
	Rank	6	2	9	3	4	8	5	12	14	6	1	13	11	10

Table 5E User Satisfaction to Library Collections in University and Special libraries (Weighted Mean Score and Rank)

Libraries	WMS & R	PBK	EBK	PRB	PCJ	EJNL	PBVJ	PRR	PCP	PGP	PRM	PTD	PPS	TNB	TAI
University Libraries	WMS	2.72	1.67	2.52	2.4	1.70	2.51	2.40	2.25	2.14	2.17	2.65	1.97	2.05	2.07
	Rank	7	3	2	7	8	9	7	5	7	5	1	2	9	6
Special Libraries	WMS	2.9	3.07	2.9	3.1	3	2.9	2.9	2.8	2.7	2.9	3.1	2.7	2.8	2.83
	Rank	6	2	9	3	4	8	5	12	14	6	1	13	11	10

(WMS&R) denotes Weighted Mean Score and Rank, (WMS) denotes Weighted Mean Score, (R) denotes Rank, (PBK) denotes Printed Books, (EBK) denotes E-books, (PRB) denotes Printed Reference books, (PCJ) denotes Printed Current journals, (EJNL) denotes E-journals, (PBVJ) denotes Printed Back-volume journal, (PRR) denotes Printed Research reports, (PCP) denotes Printed Conference proceedings, (PGP) denotes Printed Govt. Publications, (PRM) denotes Printed Research Monographs, (PTD) denotes Printed Thesis/ Dissertations, (PPS) denotes Printed Patents/Standards, (TNB) denotes Traditional Non-book materials (Audio Visual), (TAI) denotes Traditional Abstracting/Indexing databases.

It is seen that user satisfaction is highest with printed books which scored 2.727, followed by printed thesis/ dissertations as second with 2.651 and printed reference books as third priority with 2.522. User satisfaction on e-books and e-journals is lowest by scoring 1.673 and 1.708 respectively among the universities (Table 5B). It is stated that highest user satisfaction goes to printed thesis and dissertations by scoring 3.11 followed by e-books as second by scoring 3.07 and current journals as third by scoring 3.06 in all special libraries (Table 5D).

It can be stated that university libraries are enrich with printed books and special libraries are with printed thesis and dissertations to satisfy the users (Table 5E).

Library	Very good	Good	Satisfactory	Poor	Total
University Library	1342	2036	1935	1526	6839
	20%	30%	28%	22%	100%
Special Library	282	332	351	15	980
	29%	34%	36%	1%	100%

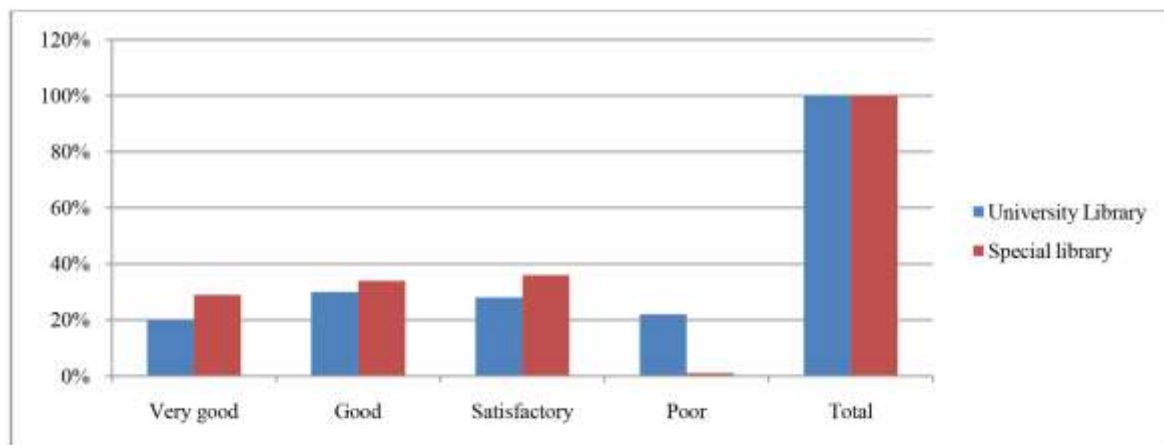


Figure 5 Total Users Satisfaction to library collection among the University and Special libraries

Table number 5F and figure 5 stated that total user satisfaction to library collection is voted by highest number of users as good 30% followed by satisfactory 28% as second, poor 22% as third and very good 20% as lowest among the university libraries. In case of special library total user satisfaction to library collection is voted by highest number of users as satisfactory 36% followed by good 34% as second, very good 29% as third and poor 1% as lowest.

It is seen that highest number of users voted university library collection as good, on the other hand maximum number of users recognized special library collection as satisfactory.

IV. FINDINGS

1. A good number of responses found from the university library users. Non-response is highest in special libraries the reason of which may be due to their busyness.
2. Highest number of male respondent found in special libraries and highest number of respondent as female found in university libraries. In both the category of libraries highest number of user found as male faculty.
3. Almost all the users use the library.
4. The basic purpose of using the library is for research and 'to study and borrow books' in all universities. Research is the main purpose to use the special library.
5. University libraries are wealthy with printed books and special libraries are with printed thesis and dissertations to satisfy the users.

6. University library collection is considered as good while special library collection is considered as satisfactory from user's point of view, thus it is stated that user satisfaction is higher in university library than special library.

V. SUGGESTIONS

University library should improve the collection and services in the form of e-books, e-journals and library services. Special library could also be suggested to improve collection of e-books, e-journals, printed books and library services (based on user's suggestion).

VI. CONCLUSION

As the university libraries and special libraries provide teaching, learning and research support service to their users. These libraries should improve their collection to increase the level of satisfaction of their users. The library should purchase and subscribe the study materials required by the users. Library professionals should update skill for new ICT based services to provide better and faster services.

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MANAGEMENT OF COLLECTION IN UNIVERSITY LIBRARIES OF ASSAM IN ICT ENVIRONMENT: A STUDY.

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MANAGEMENT OF COLLECTION IN UNIVERSITY LIBRARIES OF ASSAM IN ICT ENVIRONMENT: A STUDY.

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***ABSTRACT:** The present study investigated about the management of collection in university libraries of Assam, in ICT environment. The study covered the main criteria like library organizational structures, collection development policy, document selection, supplier selection, book order, resource collection, licensing policy, technical processing, organization of resources, access to collection, library services, collection maintenance, user strength etc. data collected from the library professional.*

The study investigates and elaborates the primary way to learn about the collection management, collection development in accordance to today's information exploitation age of ICT. Findings and suggestions have been given to make the service more beneficial in the university libraries of Assam.

Though the e-resources considered as the vital components of university library collection, till now some of the reputed university library not in a position to purchase the e-resources and though some of the university library have their e-collection till now that are not fully organized, it is due to various factors like insufficient funds, inadequate trained staff in handling computers and software packages, and administrative concerns etc. Automation has been initiated in all university libraries of Assam and they are enjoying the ICT in almost all aspects such as user, resources and staff management and services. It is important to evaluate whether the progress in ICT has any impact on the library profession in these highest educational institutions or not. The study carried out through questionnaire method for collection of data and supplemented by interviews of librarians to gather additional information required.

Keywords: Management of Collection, collection management, University Libraries, Information and Communication Technologies, Assam.

1. Introduction:

Library is the essential centre for any academic setting. Libraries supplement the instructional work of classrooms and carry forward the ideals of education thus real education can only be achieved through the libraries.

Dr S Radhakrishnan, Chairman of University Education Commission (1949) described the role of university library as “the library is the heart of all university’s work, directly so as regards its research work, and indirectly as regards its educational work, which derives its life from research work. Scientific research needs a library as well as laboratories, while for humanities research the library is both library and laboratory.”

Library collection is considered as the sum total of library materials like books, serials, thesis and dissertations, conference proceedings, manuscripts, computer tapes, government documents, CD, DVD, standards/ specifications, patents and digital resources, which makes up the holdings of a particular library. Collection development is a process of building up and improving the collection of a library. User need, collection development policy, book selection, acquisition, management evaluation, resource sharing, weeding policy, storage and preservation of collection are the important area of collection development and management. The most troubling problem faced by the libraries in collection development are explosion of literature, literature scatter, rising price of documents, widening gap and cost between hard bound and paper bound edition, inelastic budget, book selection, weeding out, delay in release of book grants and technological evaluation. Collection Management for better service to the user is the most important and primary objective of any library. A University library deals with file information, often semi published or unpublished and emphasizes unit of information rather than entire document. A university library may have to deal with specific, current and up to date information in a variety of forms including unconventional forms like technical reports, reprints, off prints, pre-prints, conference papers and proceedings, trade catalogue, instruction manuals, equipment manuals, code of practice, data handbook, data sheets, Engineering drawing, newspaper, market surveys, slides, cassettes, records, motion pictures, photographs etc.

The prior purpose of the collection development policy is to establish operating guidelines for the pre-planned development of a quality collection of materials to meet the educational needs of students, research scholar and faculty members of the university. The policy provides general guidelines for allocating funds and formulating objective selection criteria. The goals are to ensure consistency among those who have responsibility for developing the collection and to provide a tool for evaluating and improving collections for all relevant subject disciplines. The objective of the university library is to provide information resources and facilitate information access in support to scholarly activity and research, student learning, teaching excellence and curricular development.

2. University Libraries and ICT:

University libraries with implementation of ICT has reaching a new forms of library service to get more user satisfaction and hence comes the concept of digital library and information centers.

University Libraries are now greatly pretentious by the impact of ICT. Such libraries are immensely interest in incorporating the latest ICT in their administrative functions, technical works and user services. UGC liberally contributes the grants to the University and other affiliated colleges to install the ICT facilities and generate a digital environment. INFLIBNET is actively involved in the automation and digitization of university libraries. The encouragement and cooperation given by the INFLIBNET by its various activities like funding, training, orientation, workshop and publication made the university libraries equipped with all the ICT tools for providing better services to the students, research scholar and teachers.

The concept of digital library service has evolved after the implementation of ICT in the library and information centers. The implementation of ICT in the libraries is has demanded new forms of library services to get more user satisfaction. It is the advancement of information technology which people are taking the advantage in the modern knowledge society. Now anyone can access the information within a second from anywhere of the globe by a single mouse click or by a single touch in our mobile screen thus the concept of a library became library in a pocket.

3. Literature Review:

A number of relevant studies have been carried out for the study is as follows-

3.1 Krishan Kumar, (1982). *"Library Organization"* in this book the author discussed about the functions of management like planning, organizing, staffing, direction and leading, controlling, reporting and budgeting in relation to library management and organization also he discussed the principles of management in context of library organization and management.

3.2 Mahapatra,P.K. (1999). *"Collection Management in Libraries"*, New Delhi. Ess Ess Publication. The author discussed briefly about collection development and collection management in his book. Author further discussed the issues and problem related to collection development and management.

3.3 Barooah, P. K, (2008). *"Internet Service – Usage in Academic Library"*. In Souvenir- Tranning cum Workshop on Automation in Academic Libraries of North East India. The author discussed brief introduction about Internet, levels of use and requirement of e-mail, services by e-mail, remote information resources available via internet,pushed based services, housekeeping operation like book acquisition, cataloging , classification, serial control, other services like FAQs, feedback etc. the author discuss the use of internet in NEIST library, Jorhat.

3.4 Dharani, A (2013) *"Collection Management of Electronic Information Resources: An Analytical study of selected University Libraries in Andhra Pradesh"*. In this study the author stated the important aspects of collection management of e-resources as well as print resources and its impact on

the overall economy of university libraries collections to reap the benefit of electronic resources. The study primarily aims to know about preferred collection management activities carried out in selected university libraries of Andhra Pradesh.

3.5 Patra, N. K. (2016). *“Electronic Resources Management (ERM) in Libraries of Management Institutes in India.”* In this study the author states the status and differences in different components of e-resources management of business or management school libraries in India. The author further discussed the factors responsible for criteria and methods used in the life cycle of e-resources and e-resource management (ERM) system.

3.6 Patel, S. (2016). *“Collection development in Academic libraries”.* The study covers the importance of collection development, various factors relating to the qualitative collection rather than quantity for the benefit of the user, study covers factors like policy, principles, techniques, and procedures, problem associated with collection development as well as weeding out.

3.7 Pathak, A. K. (2017). *“Impact of information Technology on the collection development in the university libraries of Assam: a study”.* The author discussed different types of collection in university libraries of Assam, factors affecting the collection development of Assam, expenditure for collection development in the university libraries etc. The author studied the selection criteria, acquisition process and weeding out policy of documents in the university libraries of Assam and also studied the used of information technology in university libraries of Assam.

3.8 Deepa, R. (2018). *“A Study on Library Collection Development in University of Kerela in the Information Technology Environment”.* The author stated that university is being the hub of the higher education and learning, the main objective of the university library is to support the educational and research need of the institution, so it needs a comprehensive, qualitative and well balanced resource collection with ICT facility. The author discussed the cost effectiveness of library collection university libraries of Kerela.

3.9 Choudhury, T.A., Rahman, Mukutor & Barooah, P. K. (2018). *“Knowledge Management and Development of Libraries”.* The authors attempt to state that the development of knowledge management in recent years has become the key concern for librarians and libraries. The authors discussed how the library will play a very crucial role in the extension and modification of knowledge. The authors also highlighted an overview to knowledge management in terms of its relevance for library and science professionals. The authors focused on the concept of knowledge management and its application towards development of libraries.

4. Study Area:

The study has done in different universities of Assam. Though there are eighteen university libraries functioning in Assam with establishing valid reason out of them eight university libraries are excluded from the study. Due to, some of the libraries are newly established which have lack of infrastructure and resources. Some of them are established before but lack of resources. The ten selected university libraries have covered the study are as follows:

(As the Assam Don Bosco University have their three separate university campus libraries such Assam Don Bosco University, Azara campus, Assam Don Bosco University, Sonapur campus and Assam Don Bosco University, Kharghuli campus the study collected and analyzed the data separately as separate unit thus the study carries twelve libraries in all.)

Table A: Selected university libraries for the study			
Sl no.	Name of the University	Place	Year of established
A. Central Universities of Assam			
1	Assam University	Silchar	1994
2	Tezpur University	Tezpur	1994
B. State Universities of Assam			
3	Assam Agricultural University	Jorhat	1969
4	Bodoland University	Kokrajhar	2009
5	Dibrugarh University	Dibrugarh	1965
6	Gauhati University	Guwahati	1948
C. Open University of Assam			
7	Krishna Kanta Handique State Open University	Dispur, Guwahati	2006
D. Private Universities of Assam			
8	Assam Don Bosco University	Azara, Guwahati	2008
9	Assam Don Bosco University	Sonapur, Guwahati	2008
10	Assam Don Bosco University	Kharghuli, Guwahati	2010
11	Assam Down Town University	Panikhaiti, Guwahati	2010
12	Kaziranga University	Jorhat	2012

5. Objectives of the study:

The purpose of this study is to analyze the collection development and management of collection in university libraries of Assam. The objective of the study is also taken into consideration of importance of both printed and E – resources for the university libraries. The objectives of the study are as follows:

1. To find out the resources and services available in university libraries of Assam.
2. To find out the use of ICT applications in university libraries of Assam.

6. Methodology:

This study involves analysis of data relating to resource expenditure, resources collection, library services and user population etc collected from library.

Survey method is employed to collect the information from the libraries. Information was collected through structured questionnaire. Questionnaires were distributed among selected university libraries. Interview method was also considered in some special cases. The responses were analyzed for frequencies, relevance and cross tabulation has made to organize the data for further analysis.

7. Data Analysis:

In this study data analysis is based on the survey using schedule, questionnaire, and observation and conducting interview. The responses in all the libraries visited were found to be impressive and all the librarians and library professional, library staff found very cooperative. The study used some abbreviation like AU, TU, GU, DU, AAU, BU, KKHSOU, ADBUAZ, ADBUSO, ADBUKH, ADTU and KU means Assam University, Tezpur University, Gauhati University, Dibrugarh University, Assam Agricultural University, Bodoland University, Krishna Kanta Handique State Open University, Assam Don Bosco University Azara campus, Assam Don Bosco University Sonapur campus, Assam Don Bosco University Kharghuli campus, Assam Down Town University and Kaziranga University respectively for the convenience. The data collected from different university libraries in the form of questionnaire and interview are organized in a tabular form and analyzed below.

7.1 General information:

Table 1 General information of libraries up to 2018												
University	AU	TU	GU	DU	AAU	BU	KKHSOU	ADBUAZ	ADBUSO	ADBUKH	ADTU	KU
Collection	128449	86004	271861	231226	175000	16000	18113	15917	4817	4082	20461	10745
Age of Library	24	24	70	51	49	9	10	10	10	8	8	6

Year of Establish	1994	1994	1948	1967	1969	2009	2008	2008	2008	2010	2010	2012
Librarians gender	Male	Male	Male	Male	Male	Male	Male	Male	Male	Female	Male	Male
Working in position	less than 5	5 to 10	5 to 10	5 to 10	5 to 10	5 to 10	5 to 10	less than 5	less than 5	less than 5	less than 5	5 to 10

Table number 1 shows the general information about library and librarian where it found out of 12 libraries 11 numbers (91.66%) are male and 1 number (8.33%) of female librarian which found in Assam Don Bosco University Kharghuli. It is seen that GU is the oldest one having highest number of books is 271861 and KU is the youngest among all is having 10745 collections. Librarians working in current position less than 5 years are 41.66% and 5 to ten years are 58.33%. Collection is highest in GU, followed by DU and AAU as second and third respectively.

7.2 Library Timings:

University	AU	TU	GU	DU	AAU	BU	KKHSOU	ADBUAZ	ADBUSO	ADBUKH	ADTU	KU
Working days	300	350	250	365	335	240	265	313	313	285	280	220
Opening hours	9:30am - 8:30pm	9:00am-12:00mid night	10am - 8:00pm	9:30am - 9:00pm	8am - 8pm	10am-4:30pm	10am-5:00pm	9am-5:00pm	9am-5:00pm	9am-7:00pm	9am-5:00pm	NA

Chart 1

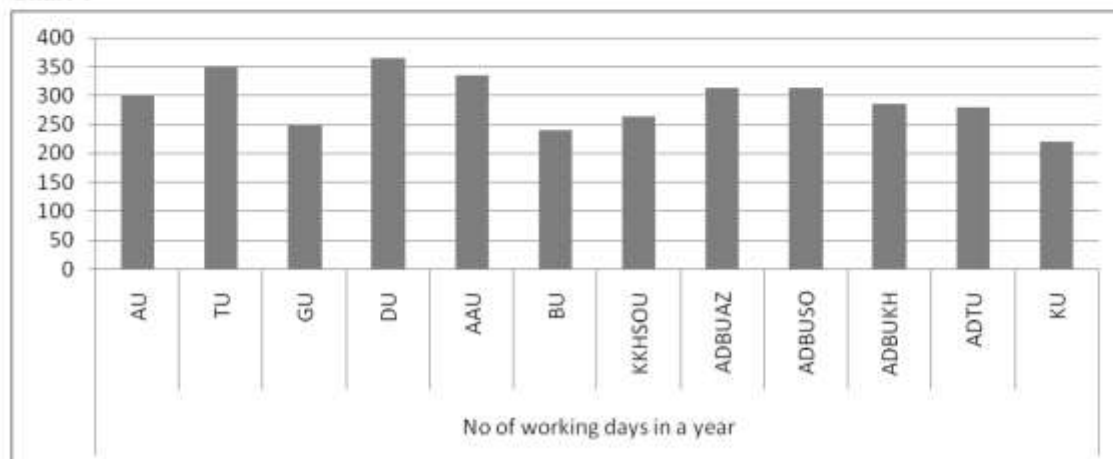


Table number 2 Shows number of working days in a year where highest working days having with Dibrugarh University opened each day in a year followed by TU 350 days as second and lowest with Kaziranga University 120 days in a year.

It is seen that among the libraries 58.33% are closed on Sundays and 41.66% is opened on Sundays also are TU, GU, DU, AAU and KKHSOU.

7.3 Library user:

Table 3 User Category												
User Category	AU	TU	GU	DU	AAU	BU	KKHSOU	ADBUAZ	ADBUSO	ADBUKH	ADTU	KU
Faculty	333	283	1104	253	523	70	44	70	150	7	300	120
Research Scholar	287	503	6146	533	1581	64	30	30	30	2	14	35
PG/UG Students	1280	3940	1328	5908	NA	1500	Nil	1000	509	378	1191	1869
Others	318	267	100	315	540	50	150	50	150	29	NA	105
Total	2218	4993	8678	7009	2644	1684	224	1150	839	416	1505	2129

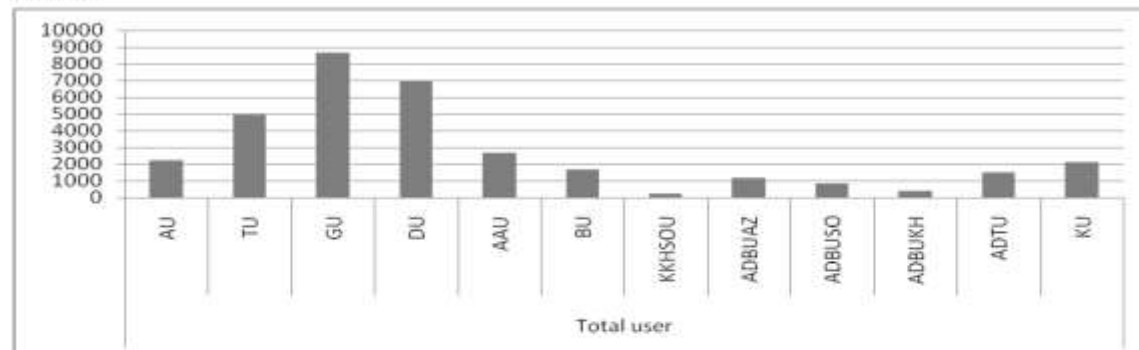
Table 3 shows highest number of faculty found in Gauhati University followed by AAU and AU as second and third respectively and lowest in Assam Don Bosco University Kharghuli.

It is seen that highest number of research scholar found in Gauhati University, followed by AAU is 1581 as second which include students also and lowest in Assam Don Bosco University Kharghuli.

It is seen that highest number of post graduate, under graduate user found in Dibrugarh University, followed by Tezpur University as second and lowest in Assam Don Bosco University Kharghuli.

It is seen that number of library users as others is highest in AAU, followed by AU and DU as second and third respectively and lowest in ADBUKH.

Chart 2



It is seen that total library user is highest in GU having with 8678 numbers followed by DU having with 7009 numbers as second and TU having with 4993 numbers as third position and KKHSOU is lowest having with 224 numbers.

7.4 Organizational Structure:

7.4.1 Library Committee:

Table 4 Library Committee

University	AU	TU	GU	DU	AAU	BU	KKHSOU	ADBUAZ	ADBUSO	ADBUKH	ADTU	KU
Library Committee	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nature of the committee	-	NA	-	-	-	Executive	-	Executive	-	-	-	-
	-	NA	-	-	-	-	-	-	Recommendatory	-	-	Recommendatory
	Advisory	NA	Advisory	Advisory	Advisory	-	Advisory	-	-	Advisory	Advisory	-
Frequency of meeting	NA	six months	six months	six months	-	-	-	six months	-	six months	six months	six months
	NA	-	-	-	one year	one year	-	-	one year	-	-	-
	NA	-	-	-	-	-	Three months	-	-	-	-	-
Member of committee	Librarian	Librarian	Librarian	Librarian	Librarian	Librarian	Librarian	Librarian	Librarian	Librarian		
	-	Deputy Librarian	-	Deputy Librarian	Deputy Librarian	Deputy Librarian	Deputy Librarian	Deputy Librarian	-	-	-	-
	-	-	-	-	-	Assistant Librarian	Assistant Librarian	Assistant Librarian	-	-	Assistant Librarian	Assistant Librarian

Table number 4 stated that all the university libraries have their library committee.

The nature of the library committee as executive found 16.66% they are BU and ADBUAZ. Library committee with recommendatory in nature found 16.66% they are ADBUSO and KU. The advisory natured committee found in AU, GU, DU, AAU, KKHSOU, ADBUKH and ADTU as 58.33%.

The frequency of organizing a meeting by the library committee is found that within six month 58.33% they are TU, GU, DU, ADBUAZ, ADBUKH, ADTU and KU. The university library AAU, BU and ADBUSO organize the library committee meeting within one year that is of 25%. The KKHSOU library organizes library committee meeting within three month which is of 8.33%.

7.4.2 Library professional from the library as member of the library committee:

Almost all the university librarians are the member of their own library committee which is 83.33%, except ADTU and KU that is 16.66%. The deputy librarians of TU, DU, AAU, BU, KKHSOU and ADBUAZ are the member of library committee is 50%. The assistant librarians of the BU, KKHSOU, ADBUAZ, ADTU and KU are also the member of library committee is of 41.66%.

7.4.3 Library personnel:

Table 5 Library Personnel													
Library personnel	AU	TU	GU	DU	AAU	BU	KKHSOU	ADBUAZ	ADBUSO	ADBUKH	ADTU	KU	
Professional staff	15	11	15	9	7	1	2	1	1	1	2	2	
Semi professional staff	NA	2	10	8	7	1	1	2	Nil	Nil	Nil	3	
Administrative staff	2	2	6	7	2	1	Nil	Nil	Nil	Nil	Nil	Nil	
Working staff	5	3	19	14	NA	3	Nil	Nil	1	1	3	4	
Total	22	18	50	38	16	6	3	3	2	2	5	9	

Table 5 shows Number of Professional Staff is highest in Assam University and Gauhati University is 15 each followed by Tezpur University is 11 as second and Dibrugarh University is 9 as third position and Bodoland University, Assam Don Bosco University Azara, Assam Don Bosco University Sonapur and Assam Don Bosco University Kharghuli is 1 as lowest in number.

Semi Professional Staff where Gauhati University is highest in number followed by Dibrugarh University as second, Assam Agricultural University as third and Bodoland University and Don Bosco University Sonapur is lowest in number.

It is stated that number of administrative staff is highest in Dibrugarh University followed by Gauhati University and lowest in number as in Bodoland University.

Working staff is highest in Gauhati University, followed by Dibrugarh University as second and Assam Don Bosco University Sonapur and Assam Assam Don Bosco University Kharghuli is lowest in number.

Chart 3

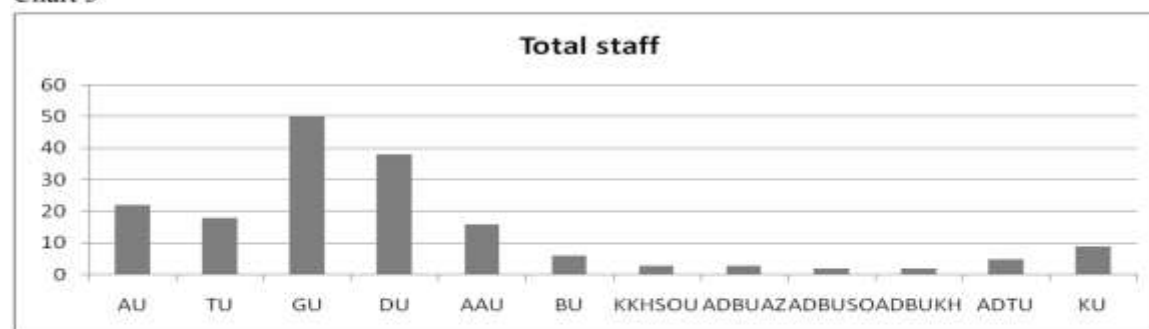


Table 5 stated that total number of library staff found highest in GU is having with 50 numbers followed by DU is having with 38 numbers as second and AU as third in position is having with 22 numbers.

7.4.3.1 Pay Structure:

Table 6 Pay structure, deploying staff and Engage Professional Trainee				
University	Pay structure for Professional	Pay structure for non professional	Deploy Staff Contractual basis	Engage Professional Trainee
AU	UGC	Central Govt. of India	Yes	Yes
TU	UGC	NA	Yes	Yes

GU	UGC	State govt.	Yes	Yes
DU	UGC	State govt.	Yes	Yes
AAU	UGC	State govt.	Yes	Yes
BU	UGC	State govt.	No	No
KKHSOU	UGC	NA	No	No
ADBUAZ	UGC	NA	Yes	Yes
ADBUSO	UGC	NA	Yes	No
ADBUKH	UGC	NA	No	No
ADTU	Private/own	Private/own	No	No
KU	UGC	NA	No	No

Table number 6 stated that the university that follows UGC pay structure for library professional is AU, TU, GU, DU, AAU, BU, KKHSOU, ADBUAZ, ADBUSO, ADBUKH and KU. Pay structure as state government for the non professional staff is followed by GU, DU, AAU and BU. Government of India (central) pay structure for non professional is followed by Assam University, Silchar. ADTU is only university which followed its own private standard pay structure for professional and non professional.

7.4.3.2 Deploying Sub Staff:

Table number 6 stated that the university library deploy sub staff for library work under contractual basis are AU, TU, GU, DU, AAU, ADBUAZ and ADBUSO.

7.4.3.3 Engaging professionally qualified fresher's as trainee:

Table number 6 stated that the AU, TU, GU, DU, AAU and ADBUAZ library engage professionally qualified fresher as trainee.

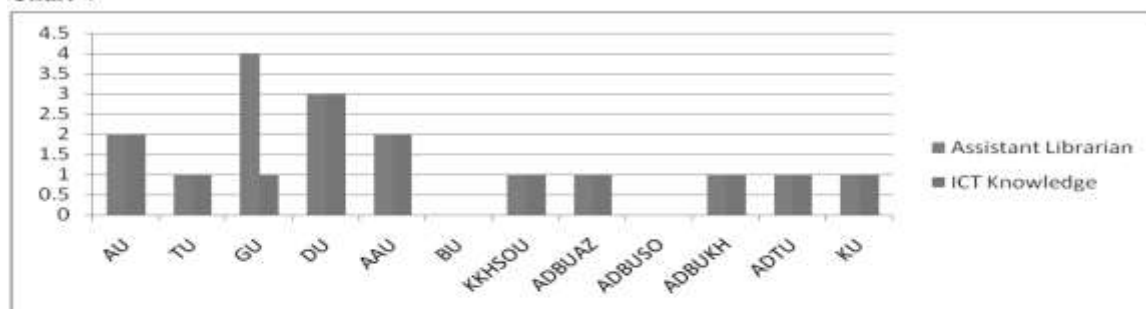
7.4.4 Library Professional with practical knowledge of ICT:

Table 7 Library Professional with Practical knowledge of ICT												
Description	AU	TU	GU	DU	AAU	BU	KKHSOU	ADBUAZ	ADBUSO	ADBUKH	ADTU	KU
Deputy Librarian	1	1	Vacant	1	1	1	NA	NA	NA	NA	NA	NA
ICT Knowledge	1	1	NA	1	1	1	NA	NA	NA	NA	NA	NA
Assistant Librarian	2	1	4	3	2	NA	1	1	NA	1	1	1
ICT Knowledge	2	1	1	3	2	NA	1	1	NA	1	1	1
Library Assistant	4	3	15	5	4	1	1	NA	2	1	1	1
ICT Knowledge	3	3	4	5	4	1	1	NA	1	1	1	1
Technical Assistant	NA	1	NA	Nil	NA	NA	NA	1	NA	NA	2	NA
ICT Knowledge	NA	1	NA	NA	NA	NA	NA	1	NA	NA	2	NA

7.4.4.1 Table number 7 stated that the deputy librarian of AU, TU, DU, AAU and BU each has practical knowledge of ICT.

7.4.4.2 Assistant Librarian with practical knowledge of ICT:

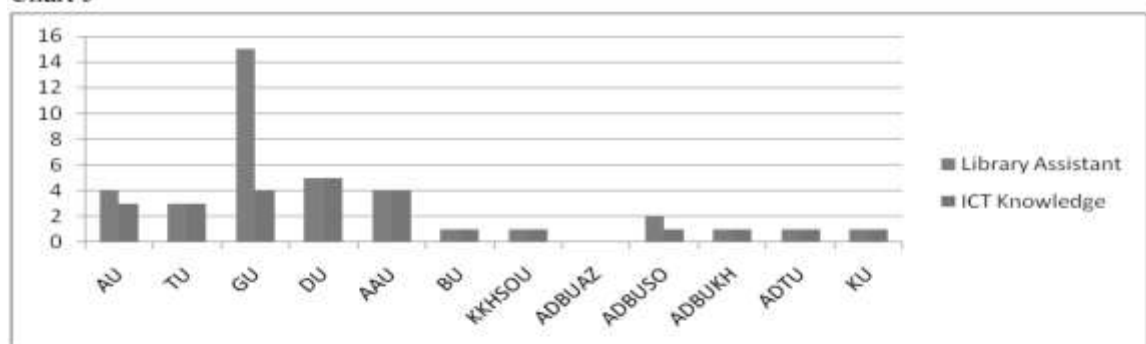
Chart 4



Assistant Librarian with practical knowledge of ICT shows in Table 7 where ratio of professional and practical knowledge of ICT in all universities is equal except Gauhati University where ratio is 4:1 i.e 25% Assistant Librarian have practical knowledge of ICT and other 75% do not have.

7.4.4.3 Library Assistant with practical knowledge of ICT:

Chart 5



Library Assistant with Practical knowledge of ICT showed in Table 7 where ratio of professional and practical knowledge of ICT in all universities is equal except Assam Agricultural University, Gauhati University and Assam Don Bosco University Sonapur where ratio is 4:3, 15:4 and 2:1 respectively. Table number 7 represents the Technical Assistant of TU, ADBUAZ and ADTU have the practical knowledge of ICT is 100% which ratio shows 1:1, 1:1 and 2:2 respectively.

7.4.5 Conducting training programme for professional staff:

Table 8 Library conduct training programme for professional staff					
University	Conduct Training	Programme conducted as-			
AU	Yes	Special Refresher/orientation/workshop	In house	Out site	NA
TU	Yes	Special Refresher/orientation/workshop	In house	NA	NA
GU	Yes	NA	In house	NA	NA

DU	Yes	Special Refresher/orientation/workshop	In house	Out site	On site
AAU	Yes	NA	In house	NA	NA
BU	Yes	NA	In house	NA	NA
KKHSOU	Yes	Special Refresher/orientation/workshop	In house	Out site	On site
ADBUAZ	yes	NA	In house	NA	NA
ADBUSO	No	NA	NA	NA	NA
ADBUKH	No	NA	NA	NA	NA
ADTU	No	NA	NA	NA	NA
KU	Yes	NA	In house	NA	On site

Table number 8 stated that seventy five percent university libraries conducting training programme for professional staff they are AU, TU, GU, DU, AAU, BU, KKHSOU, ADBUAZ and KU. University libraries are not conducting training programme for professional staff they are ADBUSO, ADBUKH and ADTU which is of 25%. The training programme conducted as workshop/ orientation/ specialized refresher course is adopted by AU, TU, DU and KKHSOU. In house method of training programme adopted to train the professional by the university library are AU, TU, GU, DU, AAU, BU, KKHSOU, ADBUAZ and KU. Training programme as out site adopted by AU and DU and KKHSOU where as training programme as onsite adopted by DU, KKHSOU and KU.

7.5 Collection Development Policy:

University	Written Collection Development Policy	Regularly implemented	Revised and updated	Include the electronic resources
AU	Yes	Yes	Yes	No
TU	No	NA	NA	NA
GU	Yes	Yes	Yes	Yes
DU	Yes	Yes	Yes	Yes
AAU	Yes	Yes	NA	Yes
BU	Yes	Yes	Yes	No
KKHSOU	Yes	Yes	No	Yes
ADBUAZ	No	NA	NA	NA
ADBUSO	Yes	Yes	Yes	No
ADBUKH	No	No	No	No
ADTU	No	NA	NA	Yes
KU	No	NA	NA	NA

Table number 9 stated that about 58% university libraries have their written collection development policy they are AU, GU, DU, AAU, BU, KKHSOU and ADBUSO and other 41.66% do not have their written Collection Development policy they are AU, ADBUAZ, ADBUKH, ADTU and KU. All the

libraries which having written collection development policy are regularly implemented by the university library authorities. The revised and updated collection development policy is with AU, GU, DU, BU and ADBUSO. Collection development policy of KKHSOU is not an updated one. The collection development policy of GU, DU, AAU and KKHSOU include the electronic resources.

7.6 Operating Expenditure of library for preceding five years 2012 to 2017:

AU	TU	GU	DU	AAU	BU	KKHSOU	ADBUAZ	ADBUSO	ADBUKH	ADTU	KU
NA	NA	6.19	82.0	NA	4.5	NA	NA	NA	NA	NA	NA

Table 10 stated that operating expenditure of library for last five years (2012-2017) is highest in Dibrugarh University expends 82.0 lakhs followed by Gauhati University expends 4.51 lakhs and Bodoland University expend 4.5 lakhs as lowest.

7.7. Document Selection:

University	User who plays major role in the Doc selection				Resource selection tools
AU	Faculty	-	-	-	Publishers catalogue
TU	Faculty	-	-	-	Publishers catalogue
GU	Faculty	Students	-	-	Publishers catalogue
DU	Faculty	Students	Library Staff	VC & library committee	Publishers catalogue, Book quotations etc.
AAU	Faculty	-	-	-	Publishers catalogue, Book quotations etc.
BU	Faculty	-	-	-	Publishers catalogue, Book quotations etc.
KKHSOU	Faculty	-	-	-	Publishers catalogue, Reference list etc.
ADBUAZ	Faculty	-	Library Staff	-	Publishers catalogue, Book quotations etc.
ADBUSO	Faculty	-	Library Staff	-	Publishers catalogue, Book quotations etc.
ADBUKH	Faculty	Students	-	-	Publishers catalogue, Book quotations etc.
ADTU	Faculty	-	Library Staff	-	Publishers catalogue, Book quotations etc.
KU	Faculty	-	Library Staff	-	Publishers catalogue, Book quotations etc.

Table number 11 stated that regarding the document selection faculty plays the major role in all libraries they are AU, TU, GU, DU, AAU, BU, KKHSOU, ADBUAZ, ADBUSO, ADBUKH, ADTU and KU which is of 100%. Scholars and students also play a major role in GU, DU and ADBUKH. In DU, ADBUAZ, ADBUSO, ADTU and KU the library staff also play a vital role in document selection. In Dibrugarh University VC and library committee member also plays a vital role in document selection.

Libraries using important resources selection tools as publisher's catalogue are AU, TU and GU. The selection tool Publishers catalogue, book quotations etc. are using by DU, AAU, BU, ADBUAZ, ADBUSO, ADBUKH, ADTU and KU. KKHSOU is using publishers catalogue, Reference list etc. as document selection tools. Moreover the DU use stock list, book revised in news paper, Internet revision etc, KKHSOU use reference lists, social science resources etc. ADBUSO use core list and reference of various packages etc also.

7.8. Vendor Selection and Book Order:

University	Criteria for selecting the book vendors						Procedure for place an order		
	On offer	Quick Service	Multi Stocks	Timely procurement	Regular Communications	Accepting delayed payment	From publisher	Online purchase	Quotations
AU	-	√	√	-	-	-	-	-	-
TU	√	√	√	√	√	√	-	√	-
GU	-	√	-	√	√	-	-	-	-
DU	-		√	√	-	√	√	-	-
AAU	√	√	√	-	-	-	√	-	-
BU	√	√	√	√	√	√	-	√	-
KKHSOU	√	-	-	-	√	-	√	-	-
ADBUAZ	√	√	√	√	√	√	-	-	√
ADBUSO	√	√	√	√	√	√	√	-	√
ADBUKH	√	√	√	√	√	-	√	-	√
ADTU	-	-	√	√	-	-	√	-	-
KU	√	√	√	√	√	√	-	-	√

Table 12 regarding vendor selection stated that on offer as main criteria for selecting the book suppliers followed by the University library of TU, AAU, BU, KKHSOU, ADBUAZ, ADBUSO, ADBUKH and KU. Quick service is another main criteria followed by the University library of AU, TU, GU, AAU, BU, ADBUAZ, ADBUSO, ADBUKH and KU. Regarding Supplier selection the criteria multi stocks is followed by the University library of AU, TU, DU, AAU, BU, ADBUAZ, ADBUSO, ADBUKH, ADTU and KU. Timely procurement of orders is followed by the University library of TU, GU, DU, BU, ADBUAZ, ADBUSO, ADBUKH, ADTU and KU as one of the main criteria for supplier selection. The criteria regular communications is followed by the university libraries of TU, GU, BU, KKHSOU, ADBUAZ, ADBUSO, ADBUKH and KU. Accepting delay payment as criteria to selecting suppliers is followed by the University library of TU, DU, BU, ADBUAZ, ADBUSO and KU. The KKHSOU library preferred the local supplier for ordering documents. The Library of KU follows one of the criteria for selecting the suppliers on basis of supplier who provide proper document in regard of billing.

Table 12 regarding book orders stated that the Assam university library places an order for purchasing a document to the registered vendor only. The Tezpur University places an order for purchasing a document by online purchase. The Gauhati university library places an order for purchasing a document to a vendor. The DU place an order for purchasing a document from publisher. Purchase from publisher process is being used by AAU to place an order for purchasing a document. The BU place an order for purchasing a document by online purchase. KKHSOU place an order for purchasing a document by from publisher. ADBUAZ place an order for purchasing a document by quotations. The process purchase from publisher and quotations are being used by ADBUSO and ADBUKH. ADTU purchase documents from publisher. The process quotations are used by KU library to place an order for purchasing a document.

7.9 Collection of resources:

Collections	AU	TU	GU	DU	AAU	BU	KKHSO U	ADBUA Z	ADBUS O	ADBUK H	ADT U	KU
Print Books	12844 9	8600 4	27186 1	23122 6	17500 0	1600 0	18113	15917	4817	4082	2046 1	1074 5
E-Books	Nil	500	500	370	1370	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Print Journals in current list of subscription	268	177	352	143	50	24	35	63	108	25	245	38
E-Journal in current list of subscription	16000	1060 0	48000	10500	5000	Nil	3000	Nil	42032	1200	1960 0	2473 0

7.9.1 Collection of Print Books:

Chart 6

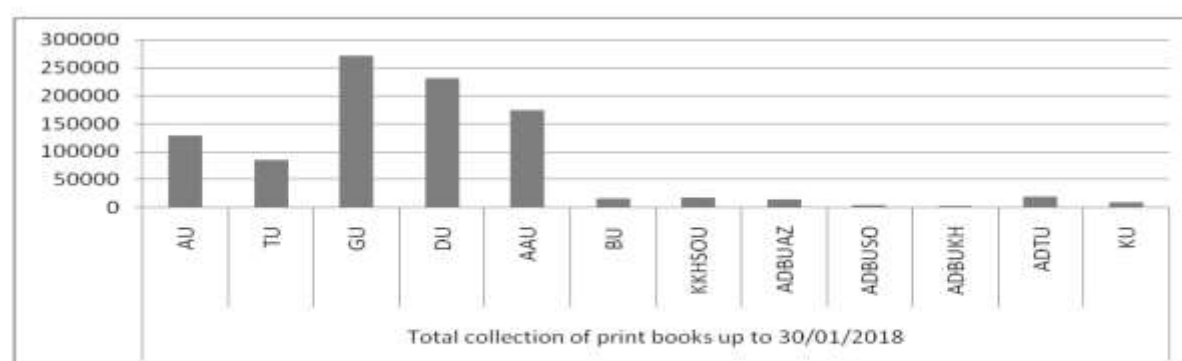


Table number 13 shows that the collection of print books is highest with Gauhati University having 271861 followed by Dibrugarh university having 231226 as second and Assam Agricultural

University is in third position having 175000 and Assam Don Bosco University Kharghuli is in lowest position having with 4082 numbers.

7.9.2 Collection of E-books:

Table number 13 stated that the 33.33% university libraries having e-books they are TU, GU, DU and AAU has 500, 500, 370 and 1370 number of books respectively. The university library of AAU is highest and DU is lowest in number regarding e-books.

7.9.3 Number of Print journals in current list of periodical subscription:

Table 13 indicates the collection of print journal where highest collection is having with Gauhati University is 352 numbers, followed by AU 268 numbers as second and lowest collection is having with Bodoland University. Assam University having out of 268 numbers of print journal which 186 numbers are national and 82 numbers are international journals. Tezpur University having out of 177 print journals 85 is national and 92 are international journals. Out of 24 all 24 are national print journal with BU. ADBUKH is having 25 print journals which 23 is national and 2 is international journals. ADTU is having 245 print journals where all are national.

7.9.4 Number of Online journals in current list of periodical subscription:

Chart 7

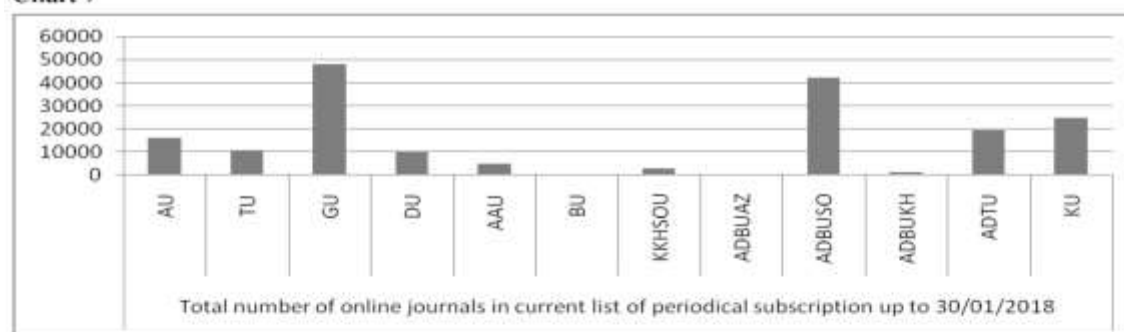


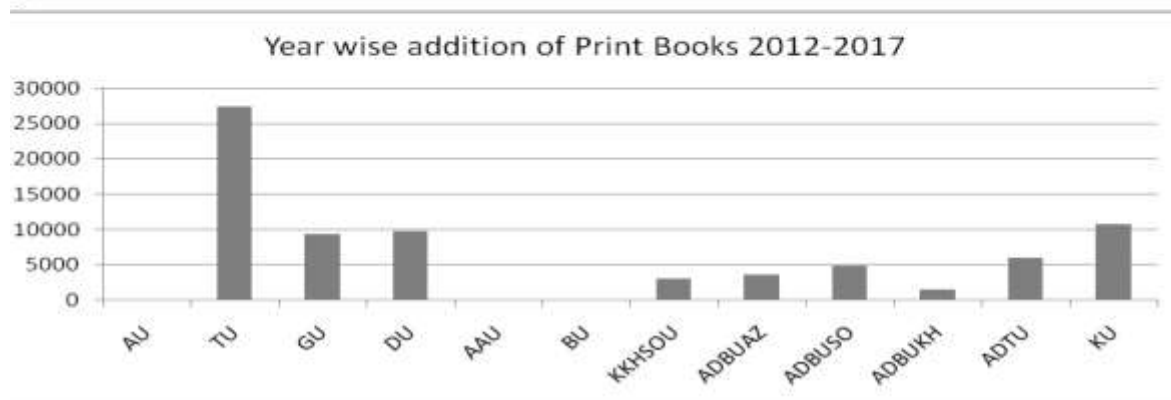
Table 13 states the collection of online journal where highest collection is having with Gauhati University is 48000 numbers followed by ADBUSO 42032 numbers as second and lowest collection is having with Assam Don Bosco University Kharghuli.

7.9.5 Addition of Print Books during five years (2012 to 2017):

Year	AU	TU	GU	DU	AAU	BU	KKHSOU	ADBUAZ	ADBUSO	ADBUKH	ADTU	KU
2012-						NA			NA			
2013	NA	3147	1483	1957	NA		215	580		369	699	1469
2013-	NA				NA	NA			NA			
2014		4721	3475	2812			41	654		292	737	2550

NA	4203	1293	1855	NA	NA	446	743	NA	109	268	2430
NA	12067	983	2606	NA	NA	1715	886	1865	144	3708	2069
NA	3197	2154	558	NA	NA	604	700	2952	566	560	2227
NA	27335	9388	9788	NA	NA	3021	3563	4817	1480	5972	10745

8



14 stated that year wise addition of print books from 2012 to 2013 is highest in TU is 3147 numbers is followed by DU is 1957 numbers as second and GU is 1483 numbers as third in position. Year wise addition of print books from 2013 to 2014 is highest in TU is 4721 numbers is followed by GU is 3475 numbers as second and DU is 2812 numbers as third in position. Year wise addition of print books from 2014 to 2015 is highest in TU is 4203 numbers is followed by GU is 2430 numbers as second and DU is 1855 numbers as third in position. Year wise addition of print books from 2015 to 2016 is highest in TU is 12067 numbers is followed by GU is 3708 numbers as second and DU is 2606 numbers as third in position. Year wise addition of print books from 2016 to 2017 is highest in TU is 3197 numbers is followed by GU is 2154 numbers as second and KU is 2227 numbers as third in position.

It is evident that the total addition of print books from 2012 to 2017 is highest in Tezpur University is 27335 numbers is followed by Kaziranga University is 10745 numbers as second and Don Bosco University Kharghuli is 1480 as lowest in position in five conjugative years.

Print Journals acquired during five years (2012 to 2017):

2016-2017	NA	489	NA	105	NA	5	NA	13	4	NA	4	128
Total	NA	942	4285	418	3000	5	NA	13	4	NA	4	217

Collection of print thesis 2012 to 2017 shows in Table 16 where Gauhati University is highest having with 4285 numbers followed by Assam Agricultural University as second is having with 3000 numbers Tezpur University as third is having with 942 numbers and Assam Don Bosco University Sonapur and Assam Down Town University is lowest in position is having with 4 numbers each.

7.9.8 Subscribing e-resources:

University	Mode of subscription		from whom the library subscribe	
AU	-	Consortia	NA	NA
TU	NA	NA	NA	NA
GU	Independently	Consortia	NA	NA
DU	Independently	Consortia	From publisher	-
AAU	Independently	Consortia	-	From vendor
BU	NA	NA	NA	NA
KKHSOU	Independently	-	From publisher	-
ADBUAZ	Independently	Consortia	NA	NA
ADBUSO	Independently	-	From publisher	From vendor
ADBUKH	Independently	-	-	From vendor
ADTU	Independently	-	-	From vendor
KU	Independently	-	-	From vendor

Table number 17 stated that the university libraries of GU, DU, AAU and ADBUAZ are subscribing e-resources both independently and through consortia. Assam university library is subscribing e-resources by consortia only. KKHSOU, ADBUSO, ADBUKH, ADTU and KU are subscribing e-resources independently.

The libraries subscribing e-resources from publisher are DU, KKHSOU and ADBUSO. The libraries subscribing e-resources through vendor are AAU, ADBUSO, ADBUKH, ADTU and KU.

7.10 Policies for Licensing:

University	licensing policies in practice	Type of access		Renewal of license	Authentication of user		Library member of any Indian Consortia				Use statistics of the consortium
		Archival access	Back up copy		IP address	Login password	UGC INFONE T	INDEST	CeR A	Any other	
AU	-	-	-	-	-	-	-	-	-	-	Yes
TU	-	-	-	-	√	-	√	-	-	-	Yes

GU	-	√	-	Notice issued	√	√	√	-	-	-	Yes
DU	Depends	√		Notice issued	√		√	√		DelCon	Yes
AAU	ICAR	-	-	-	√	-	-	-	√	DELNET	Yes
BU	-	-	-	-	-	-	-	-	-	DELNET	-
KKHSOU	-	-	-	Notice issued	√	√	No	-	-	-	-
ADBUAZ	-	√	√	Notice issued	√	√	-	-	-	A/F	No
ADBUSO	IP based	√	√	Notice issued	√	-	-	-	-	A/F	-
ADBUKH	-	-	-	Notice issued	-	√	-	-	-	-	-
ADTU	-	-	-	Notice issued	-	√	-	-	-	Z Gate	Yes
KU	-	√	-	Notice issued	√	-	No	-	-	-	-

Table 18 stated that Dibrugarh University library mention that their licensing policy in practice depends on organization and product. AAU library follow the complete policy as per ICAR guidelines for licensing. ADBUSO is using the IP based licensing policy in practice.

The archival type of access provide by the licensor of GU, DU, ADBUAZ, ADBUSO and KU. Back up copy type of access provide by the licensor of ADBUAZ and ADBUSO.

The nature of renewal of licensing agreement in GU, DU, KKHSOU, ADBUAZ, ADBUSO, ADBUKH, ADTU and KU is notice issued for renewal.

No bargaining as one of the major barrier is facing while dealing with the licensor found in DU, ADBUAZ and ADBUSO. The strictness of vendor as major barrier is facing while dealing with the licensor found in DU, ADBUAZ and KU. The major barrier as adjust license agreements to the need of the library is facing while dealing with the licensor found in GU and DU.

The IP address is the process by which the library of TU, GU, DU, AAU, KKHSOU, ADBUAZ, ADBUSO and KU identified and authenticated the use of e-resource to authorized users. The library of GU, KKHSOU, ADBUAZ, ADBUKH and ADTU use the process of login password to identify and authenticate the use of e-resource to authorized users.

Anti plagiarism software is used by GU, DU, KKHSOU, ADBUAZ, ADBUSO and ADBUKH to control the copyright of e-resources. In DU, as access is all IP based the publisher detects and take measures by themselves. Some special security measure is applied to control the copyright of e-resources in ADTU.

Block from accessing as the limitation is imposed by the library for copying portions of licensed material is by ADBUAZ. Cancel membership as the limitation is imposed by the library for

Source of Copy cataloguing	-	World Cat	-	-	-	-	-	World Cat	-	-	-	World Cat
	-	Ind Cat	Ind Cat	-	-	-	Ind Cat	-	-	-	-	-
	-	Web Opac	Web Opac	Web Opac	Web Opac	Web Opac	-	-	Web Opac	Web Opac	-	Web Opac
	-	-	-	-	-	-	Library of congress	-	-	-	As per convenience	-
Cataloguing e-resources	-	AACR 2	-	AACR 2	-	AACR 2	-	AACR2	AACR2	AACR2	-	AACR 2
	-	-	MARC	-	MARC	-	MARC	MARC	-	-	MARC	-
	-	-	Metadata	-	-	-	Metadata	-	-	-	-	-
Separate technical cell	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
Number of manpower engaged	6	7	8	8	6	2	3	2	2	2	3	3
Average time (days) required for processing 100 books	3	2	2	2	3	2	2	3	10	7	3	2
Engage any more staff to speed up	No	Yes	Yes	No	No	No	No	No	No	No	No	No

Table 19 shows technical processing where the classification procedure adopted in the library of TU, GU, DU, AAU, KKHSOU, ADBUAZ, ADBUSO, ADBUKH, ADTU and KU is manual. The web based classification procedure is adopted in the library of AU, TU, BU, KKHSOU, ADBUAZ and KU.

Classification scheme used by all university libraries are DDC.

Manual cataloguing procedure used by libraries like TU, DU, AAU, KKHSOU, ADBUAZ, ADBUSO, ADTU and KU. Libraries using web OPAC source of copy cataloguing by KKHSOU and ADBUAZ. Web base cataloguing is used by libraries like AAU, BU, ADBUAZ, ADBUSO and KU. GU library using inbuilt software generated cataloging procedure in practice.

World Cat is used as a source of copy cataloging by the library of TU, ADBUAZ and KU. TU, GU and KKHSOU library is using Ind Cat as a source of copy cataloging. Web OPAC is used as a source of copy cataloging by the library of TU, GU, DU, AAU, BU, ADBUSO, ADBUKH, and KU. Library of Congress Catalogue is used as a source of copy cataloging by the KKHSOU library. ADTU library used any other sources as per their own convenient to copy cataloging.

Libraries using standard to cataloguing e-resources AACR2 by TU, DU, BU, ADBUAZ, ADBUSO, ADBUKH, and KU and MARC by GU, AAU, KKHSOU, ADBUAZ and ADTU. Libraries using Metadata to cataloguing e-resources are GU and KKHSOU.

7.11.1 Separate cell for technical processing:

AU, TU, GU, DU, AAU, BU, KKHSOU, ADBUAZ and KU have their separate technical processing cell in their library. The libraries of ADBUSO, ADBUKH and ADTU do not have their separate technical processing cell.

Chart 10

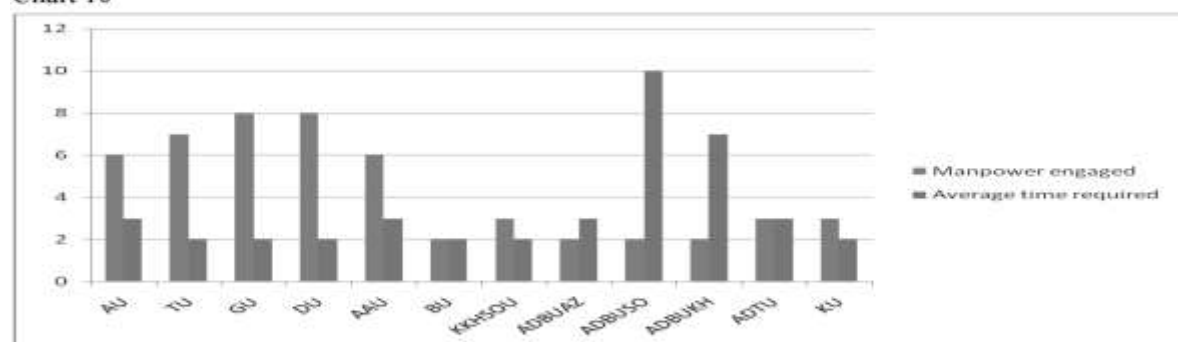


Table number 19 shows that the libraries of AU, TU, GU, DU, AAU, BU, KKHSOU, ADBUAZ, ADBUSO, ADBUKH, ADTU and KU have engaged manpower in the separate technical cell are 6,7,8,8,6,2,3,2,2,2,3 and 3 numbers respectively. The average time required for processing per 100 books by the technical cell are 3,2,2,2,3,2,2,3,10,7,3 and 2 days respectively. It is seen that library staff do technical operation in less time is highest in BU which manpower and time ratio is 2:2 and lowest in ADBUSO which manpower and time ratio is 2:10. In case of bulk purchase of books the libraries of TU and GU engaged more staff to speed up the process. AU, DU, AAU, BU, KKHSOU, ADBUAZ, ADBUSO, ADBUKH, ADTU and KU libraries no more engaged any staff to speed up the process.

7.12 Organization of Resources:

University	AU	TU	GU	DU	AAU	BU	KKHSOU	ADBUAZ	ADBUSO	ADBUKH	ADTU	KU
Software used for library automation	KOHA	LIBSYS	SOUL	SOUL	KOHA	SOUL	SOUL	KOHA	KOHA	KOHA	Own software	KOHA
Other software to manage e-resources	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No
Name of the software using	NA	NA	URKUN	URKUN	No	URKUN	URKUN	Gramm	Gramm	Gramm	No	No
Digital library of e-collection	NA	Yes	Yes	on Process	Yes	No	Yes	Yes	Yes	Yes	Yes	No
Digital library software using	D Space	D Space	D Space	D Space	D Space	No	D Space	D Space	D Space	D Space	NA	NO
Using Barcode/RFID technology	Barcode	Barcode	Barcode	Barcode	Barcode & RFID	Barcode	RFID	no	no	Barcode	Barcode	Barcode

7.12.1 Software using for library automation:

Table 20 shows organization of resources where Library software LIBSYS is used by TU is 8.33%, Library software SOUL is being used by GU, DU, BU and KKHSOU is 33.33% and KOHA is being used by AU, AAU, ADBUAZ, ADBUSO, ADBUKH and KU is 50%. ADTU is the only library which is using its own Library software is 8.33% for library automation and management.

7.12.2 Software to manage e-resources:

Table 20 shows about other software to manage e-resources where all libraries using except AAU, ADTU and KU. Anti Plagiarism Software URKUND is being used by GU, DU, BU and KKHSOU and the software Grammarly is using by ADBUAZ, ADBUSO and ADBUKH to manage e-resources. Libraries of AU, DU, AAU, BU, KKHSOU and ADBUKH have done retro conversion. GU, ADBUAZ, ADBUSO and ADTU libraries till now not did the retro conversion.

The DU library organizes CD ROM collection according to accession number. AAU library organizes CD ROM collection in Cirs. KKHSOU library do not organize the CD ROM collection. The ADBUAZ library organizes CD ROM collection according to subject wise. Alphanumeric method is being used by the library of ADBUSO. ADTU library organizes CD ROM collection according to its own convenience.

TU, GU, AAU, KKHSOU, ADBUAZ, ADBUSO, ADBUKH and ADTU library have their digital library of e-collection. DU library is on process of its digital library of e-collection. BU and KU library do not have their digital library of e-collection till now.

The digital library software D-Space is being used by the library of AU, TU, GU, DU, AAU, KKHSOU, ADBUAZ, ADBUSO and ADBUKH.

Libraries using bar coding technology are AU, TU, GU, DU, AAU, BU, ADBUKH, ADTU and KU. ADBUAZ and ADBUSO library do not used bar coding technology. RFID technology is being used by libraries of AAU and KKHSOU. ADBUAZ and ADBUSO library do not used RFID technology.

Alphabetical arrangement used by the libraries of DU, AAU, ADBUKH and KU to organize the print journal. The libraries of TU, GU, ADBUAZ and ADTU used classified arrangement to organize the print journal.

The libraries of GU, DU, ADBUSO, ADTU and KU organized the electronic resources. AAU, BU, KKHSOU, ADBUAZ and ADBUKH libraries do not organized the electronic resources till now. DU, ADBUSO and KU libraries follow an integrated OPAC for print and e-resources. ADTU library do

not follow an integrated OPAC for print and e-resources. ADBUAZ and ADTU library used classified methods to organized electronic resources.

7.13 Access to Library Collection:

Table 21 Access to Library Collection									
University	Method of providing access to print resources			Way of providing access to e-resources			Access technologies in use		
			Web OPAC						
AU	-	-	Web OPAC	NA	NA	NA	NA	NA	NA
TU	-	OPAC	Web OPAC	Inside the library	Through campus network	-	IP address	-	-
GU	-	OPAC	Web OPAC	Inside the library	Through campus network	Internet	IP address	Proxy Server	Access through cloud
DU	-	-	Web OPAC	Inside the library	Through campus network	-	IP address	Proxy Server	-
AAU	Library catalogue	OPAC	Web OPAC	Inside the library	Through campus network	-	IP address	-	EzProxy
BU	-	OPAC	-	NA	NA	NA	NA	NA	NA
KKHSOU	Library catalogue	OPAC	-	Inside the library	-	Internet	IP address	-	-
ADBUAZ	-	-	Web OPAC	Inside the library	Through campus network	Internet	IP address	Proxy Server	-
ADBUSO	-	-	Web OPAC	Inside the library	Through campus network	Internet	IP address	-	-
ADBUKH	-	-	Web OPAC	-	Through campus network	Internet	-	Proxy Server	-
ADTU	-	OPAC	-	-	-	Internet	-	Proxy Server	-
KU	-	-	Web OPAC	-	Through campus network	-	IP address	-	-

Table number 21 stated that the library catalogue is used by of AAU and KKHSOU library to provide access to print resources. OPAC is used by TU, GU, AAU, BU, KKHSOU and ADTU library to provide access to print resources. AU, TU, GU, DU, AAU, ADBUAZ, ADBUSO, ADBUKH and KU library is using Web OPAC for providing access to print resources.

TU, GU, DU, AAU, KKHSOU, ADBUAZ, ADBUSO library provide access to e-resources by access inside the library. TU, GU, DU, AAU, ADBUAZ, ADBUSO, ADBUKH and KU library provide access to e-resources by accessing through campus network. GU, KKHSOU, ADBUAZ, ADBUSO, ADBUKH and ADTU library provide access to e-resources by internet.

TU, GU, DU, AAU, KKHSOU, ADBUAZ, ADBUSO and KU library give access to databases through IP address. GU, DU, ADBUAZ, ADBUKH and ADTU library give proxy server based access to the databases. GU library give access to databases by remote access through cloud also. AAU library give access to databases by EzProxy also.

7.14 Library Services:

Table 22 Library Services													
Library Services	Type	AU	TU	GU	DU	AAU	BU	KKHSOU	ADBUAZ	ADBUSO	ADBUKH	ADTU	KU
Inter Library Loan	Manual	No	-	√	-	√	No	No	No	No	No	No	No
	Online	No	√	√	√	√	No	No	No	No	No	No	No
Reference Service	Manual	√		√	√	√	√	√	√	√	-	√	√
	Online	-	√	-	-	√	-	√	-	-	-	√	-
Referral Service	Manual	-	-	-	√	-	√	-	-	√	-	√	√
	Online	-	√	√	√	-	-	-	-	√	-	-	√
Selective Dissemination of Information	Manual	-	-	√	-	-	√	√	√	-	-	√	√
	Online	-	-	-	-	-	-	√	-	-	-	√	√
Document Delivery Service	Manual	-	-	-	-	√	-	-	√	-	-	√	-
	Online	-	√	√	√	√	-	-	-	-	-	√	-
Bibliography Service	Manual	-	-	-	-	√	-	-	√	√		√	√
	Online	-	√	√	√	-	-	-	-	√	-	√	-
Indexing/ Abstracting service	Manual	-	-	-	-	√	-	-	√	√		√	
	Online	-	√	√	-	-	-	-	-	-	-	-	-
Aggregator Service	Manual	-	-	-	-	-	-	-	-	-	-	√	-
	Online	-	-	-	√	-	-	-	-	-	-	-	-
Current Awareness Service	Manual	-	-	√	-	√	√	√	√	√	-	√	√
	Online	√	√	-	√	√	-	√	-	√	-	√	√
Library Portal base service	Manual	-	-	-	-	-	-	-	-	√	-	√	√
	Online	√	√	-	√	-	-	√	√	√	-	√	-
Reprographic Service	Manual	-	√	√	√	√	√	√	-	-	-	√	√

Table number 22 stated that the university libraries are having online inter library loan facility for library collection with other libraries are TU, GU, DU and AAU among them GU and AAU library offer manual inter library loan facility along with online. It is seen that libraries like AU, BU, KKHSOU, ADBUAZ, ADBUSO, ADBUKH, ADTU and KU do not have their interlibrary loan facility.

It is seen that AU, GU, DU, AAU, BU, KKHSOU, ADBUAZ, ADBUSO, ADTU and KU libraries offering manual reference service. Online reference service is being offered by TU, AAU, KKHSOU and ADTU.

Manual referral service is provided by libraries of DU, BU, ADBUSO, ADTU and KU. Online referral service is provided by libraries of TU, GU, DU, ADBUSO and KU.

Manual selective dissemination of information service provide by the library of GU, BU, KKHSOU, ADBUAZ, ADTU and KU. KKHSOU, ADTU and KU provide online selective dissemination of information service.

Manual document delivery service provide by the libraries of AAU, ADBUAZ and ADTU. Online document delivery service provide by the libraries of TU, GU, DU, AAU and ADTU.

Manual bibliography services provide by AAU, ADBUAZ, ADBUSO, ADTU and KU libraries. Online bibliography services or web bibliography services provide by the libraries of TU, GU, DU, ADBUSO and ADTU.

Manual indexing and abstracting service provide by AAU, ADBUAZ, ADBUSO and ADTU libraries. Online indexing and abstracting service provide by the libraries of TU and GU.

Manual aggregator service is provided by library of ADTU. Online aggregator service is provided by library of DU.

Manual current awareness service is offered by GU, AAU, BU, KKHSOU, ADBUAZ, ADBUSO, ADTU and KU libraries. Online current awareness service is being offered by AU, TU, DU, AAU, KKHSOU, ADBUSO, ADTU and KU libraries.

Manual library portal base services are provided by the libraries of ADBUSO, ADTU and KU. Online library portal base services are provided by the libraries of AU, TU, DU, KKHSOU, ADBUAZ, ADBUSO and ADTU.

Reprographic service is provided by the libraries of TU, GU, DU, AAU, BU, KKHSOU, ADTU and KU.

It is seen that TU, GU, DU and AAU which is 33.33% have their Inter Library Loan and Resource Sharing facilities, among them Tezpur university library is sharing their resources with DELNET and American Centre. Gauhati university library is sharing their resources with INFLIBNET through JCCC. Dibrugarh university library is sharing their resources electronically with INFLIBNET by IndCat and JCCC. Assam University library is sharing its resources with all AAU libraries. The libraries do not have their Inter Library Loan and Resource Sharing facilities are AU, BU, KKHSOU, ADBUAZ, ADBUSO, ADBUKH, ADTU and KU is 66.66%.

7.15 Maintenance of Collection:

University	Stock verification method used	Frequency of stock verification	Weeding policy	Frequency of weeding out
AU	NA	Yearly	Yes	NA

TU	Accession Register & Shelf list	3 years	No	No
GU	Accession Register	4 years	Yes	More than 5 years
DU	Accession Register	3 years	Yes	Need base
AAU	Accession Register	3 years	No	No
BU	Accession Register	1-2 years	No	No
KKHSOU	RFID Technology in future	No	No	No
ADBUAZ	Accession Register & Shelf list	1-2 years	Yes	3 years
ADBUSO	Accession Register & Shelf list	1-2 years	Yes	More than 5 years
ADBUKH	Shelf list	1-2 years	Yes	5 years
ADTU	Accession Register	1-2 years	No	No
KU	Accession Register	1-2 years	No	No

7.15.1 Stock Verification:

Table 23 is evident that shelf list as a method adopted for stock verification in the libraries of TU, ADBUAZ, ADBUSO and ADBUKH. The libraries of TU, GU, DU, AAU, BU, ADBUAZ, ADBUSO, ADTU and KU using the method for stock verification is accession register. KKHSOU library planning to adopt the method for stock verification is RFID technology in future.

AU, BU, ADBUAZ, ADBUSO, ADBUKH, ADTU and KU library implement the stock verification in one to two years. Libraries of TU, DU and AAU implement the stock verification in three years. GU library implement the stock verification in four years. KKHSOU library is not implemented the stock verification till now.

7.15.2 Weeding Policy:

Table 23 shows that the AU, GU, DU, ADBUAZ, ADBUSO and ADBUKH library have their weeding out policy. The TU, AAU, BU, KKHSOU, ADTU and KU library do not have their weeding out policy.

Three years of frequency for weeding out is implemented by ADBUAZ library. Frequency for weeding out implemented by ADBUKH library is five years. GU and ADBUSO library implemented weeding out in more than five years. The DU library implemented weeding out on a need base requirement.

8. Findings:

8.1 It is seen that GU library is the oldest one having highest number of books. Number of working days in a year is highest with DU. (Table 1 and 2).

8.2 It is evident that library user is highest in GU. University library users are generally belong to higher education like university faculty members, research scholars, PG and UG students and the staff. (Table 3).

8.3 It is found that all the university libraries have their library committee. Regarding the nature executive committee, recommendatory and advisory committee found in the universities. (Table 4).

8.4 Number of professional staff is highest in Assam University and Gauhati University followed by Tezpur University as second and Dibrugarh University as third in position. Total number of library staff found highest in GU followed by DU as second and AU as third in position. (Table 5).

91.66% university follows UGC pay structure for library professional. 8.33% follows its own private standard pay structure for professional and non professional. (Table 6).

The study shows that 8.33% library found lacking in skilled manpower as assistant librarian with practical knowledge of ICT. (Table 7).

8.5 It is evident that 75% libraries conducting training programme for professional staff. (Table 8).

8.6 It is stated that 58.33% libraries have their written collection development policy. (Table 9).

8.7 It is evident that operating expenditure of library for last five years (2012 to 2017) is highest in Dibrugarh University. (Table 10).

8.8 It is stated that regarding the document selection faculty plays the major role in all university libraries.. (Table 11).

Regarding vendor selection on offer and quick service as main criteria for selecting the book suppliers is followed by the University libraries. (Table 12).

8.9 It is seen that the 33.33% university libraries are subscribing e-resources both independently and through consortia. 8.33% library is subscribing e-resources by consortia only. 41.66% libraries are subscribing e-resources independently. (Table 17).

8.10 The library of TU, GU and DU are the member of UGC INFONET consortia. DU library is the member of INDEST consortia. AAU library is the member of CeRA. DU library is the member of DelCon. AAU, BU library is the member of DELNET. ADTU is the member of Z Gate. (Table 18).

8.11 Manual classification procedure is adopted by 83.33% university libraries of Assam.

Web based classification procedure is adopted by 50% university libraries.

Classification scheme DDC is used by all university libraries.

University libraries using standard to cataloguing e-resources is AACR2, MARC and Metadata.(Table 19).

8.12 University libraries adopting shelf list as a method is 33.33% and accession register method is 75% for stock verification. Most of the libraries verify their stock in one to two years some of the libraries verify their stock in three years and some in four years.

50% library has their weeding out policy. Frequency for weeding out is found three years, five years and more than five years. DU library implemented weeding out on a need base requirement. (Table 23).

Major findings in relevance of objectives:

8.13 It is seen that the collection of *print books* is highest with Gauhati University followed by Dibrugarh University as second and Assam Agricultural University is in third position. It is seen that the 33.33% university libraries having *e-books* they are TU, GU, DU and AAU.

Collection of *print journal* is highest with Gauhati University followed by AU as second and lowest collection is having with Bodoland University.

Collection of *online journal* is highest with Gauhati University followed by ADBUSO as second and lowest collection is having with Assam Don Bosco University Kharghuli. (Objective 1) (Table13).

8.14 It is evident that the total addition of print books from 2012 to 2017 is highest in Tezpur University is 27335 numbers is followed by Kaziranga University is 10745 numbers as second and Assam Don Bosco University Kharghuli is 1480 as lowest in position in five conjugative years. (Objective 1) (Table14).

Collection of print international journal in the year 2012-2017 seen that Tezpur University is highest followed by Dibrugarh University and Gauhati University respectively. Collection of print national journal from 2012 to 2017 is highest in Assam University followed by Assam Don Bosco University Azara as second and Bodoland University is lowest in position. (Objective 1) (Table15).

8.15 It is seen that Collection of print thesis in the year 2012 to 2017 is highest in Gauhati University followed by Assam Agricultural University as second Tezpur University as third in position. (Objective 1) (Table16).

8.16 It is found that the universities libraries are offering online inter library loan facility for library collection with other libraries is 33.33%. It is seen that 83.33% libraries offering manual reference service. Online reference service is being offered by 33.33% libraries. Manual referral service is provided by 41.66% libraries. Online referral service is provided by of 41.66% libraries. Manual selective dissemination of information service provides by 50% library. 25% library provides online selective dissemination of information service. Manual document delivery service provides by 25% libraries. Online document delivery service provides by 41.66% libraries. Manual bibliography services provides by 41.66% libraries. Online bibliography services or web bibliography services provide by 41.66% libraries. Manual indexing and abstracting service provide by 33.33% libraries. Online indexing and abstracting service provide by 16.66% libraries. Manual aggregator service is provided by 8.33% library. Online aggregator service is provided by 8.33% library. Manual current awareness service is offered by 66.66% libraries. Online current awareness service is being offered by

66.66% libraries. Manual library portal base services are provided by 25% libraries. Online library portal base services are provided by 58.33% libraries. Reprographic service is provided by 66.66% libraries.

It is evident that 33.33% libraries have their Inter Library Loan and Resource Sharing facilities, among them Tezpur university library is sharing their resources with DELNET and American Centre. Gauhati university library is sharing their resources with INFLIBNET through JCCC. Dibrugarh university library is sharing their resources electronically with INFLIBNET by IndCat and JCCC. Assam University library is sharing its resources with all AAU libraries. (Objective 1) (Table22).

8.17 It is seen that all the university libraries are fully automated with library software. The software LIBSYS is being used by 8.33% libraries, SOUL is being used by 33.33% libraries and KOHA is being used by 50% libraries. Using its own library software is 8.33% for library automation and management.

It is stated that other software to manage e-resources is using by 75% libraries. Anti Plagiarism Software URKUND is being used by 33.33% libraries and the software Grammarly is using by 25% libraries to manage e-resources. It is seen that 50% libraries have done retro conversion. The 8.33% libraries organize CD ROM collection according to accession number. 8.33% libraries organize CD ROM collection in CIRS. The 8.33% libraries organize CD ROM collection according to subject wise. Alphanumeric method is being used by the 8.33% libraries. 8.33% libraries organize CD ROM collection according to its own convenience. 66.66% libraries have their digital library of e-collection. The digital library software D-Space is being used by 75% libraries. Libraries using bar coding technology are 75%. RFID technology is being used by 16.66% libraries. The 41.66% libraries organize the electronic resources. 25% libraries follow an integrated OPAC for print and e-resources. 16.66% library used classified methods to organized electronic resources. (Objective 2) (Table20).

8.18 It is evident that the library OPAC is used by 50% library to provide access to print resources. 75% library is using Web OPAC for providing access to print resources. 66.66% library provides access to e-resources by accessing through campus network. 50% library provides access to e-resources by internet. 66.66% library gives access to databases through IP address. 41.66% library give proxy server based access to the databases. 8.33% library gives access to databases by EzProxy also. 8.33% library gives access to databases by remote access through cloud also. (Objective 2) (Table21).

9. Suggestions:

The study recommended the following suggestions after analyzing the different areas of management of collection in university libraries of Assam are:

9.1 More E-resources must be introduced in the form of e- journal and e-books for fulfillment of user satisfaction.

9.2 Technology must be up dated from time to time.

9.3 Workshop, conferences and seminar on ICT should be held frequently in library for professional development.

9.4 Number of trained and skilled manpower should increase in the libraries.

9.5 The library should be well equipped with enough number of computers with proper power back up and with stable networks.

10. Conclusion:

From the above study it can be concluded that over all services and development of university libraries is satisfactory. It is needed to develop more in the form of resources, services and technology to increase user satisfaction. The users of university library especially faculty members and research scholars are too much busy in their work thus they are time passionate, so university libraries are bound to use ICT tools for library management. As the university library is the important part of a university the user expects more from it, it is the moral duty of the university library to serve well its users. The librarians should be moral and dedicated towards their duties and responsibilities. They should be fully equipped with ICT knowledge and well concerned with recent trends and developments to serve the information seekers which will directly help in the overall development of parental university as well as indirect development of society.

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