

Chapter 1

INTRODUCTION

1.1 The Study

A special library is library that provides specialized information resources on a particular subject, serves a specialized and limited clientele and delivers specialized services to that clientele. Special libraries include corporate libraries, Govt. Libraries, Law libraries, medical libraries, News libraries, museum libraries and nonprofit libraries. Special libraries also exist within academic institutions including Law, school libraries and medical school libraries. These libraries are included as special libraries because they are often funded separately from the rest of the university and they serve targeted groups of users.

Special libraries often have a more specific clientele than libraries in traditional educational or public settings, and deal with more specialized kinds of information. They are developed to support the mission of their sponsoring organization and their collections and services are more targeted and specific to the general public. Those that are open to public may offer services similar to research, reference, public, academic or children's libraries often with restrictions such as only lending books.

Special libraries are special in their collections, users and services. The libraries and information centers particularly the special libraries are acting as the service providers and there is an incessant demand from the users is to provide the nascent, updated and analyzed information speedily. The users visit the library for various purposes but their main objective is to get the information available in their area of work. The libraries basically acquire process, organize, manage and disseminate the information to the users whenever required. But the users' requirements and service expectations form the libraries are growing and advancing. It is therefore essential to provide the user-based services to the library clientele.

In the present context of globalization, all the special libraries should have the easy access to information. Information is essential for any industrial organization so that they can develop themselves and they can actively contribute to the more to the national economy. So, applications of ICT in libraries have become the most important issues now. The reliable, accurate and up-to-date information should be provided by the special libraries and information centers.

Information has emerged as the prime in the 21st century. ICT has exerted a profound influence on all type of libraries. They have no opinion adapt themselves to new developments, especially due to cuts in budget allocation. Hence networking of information centers is inevitable. The prime objectives of the library is pooling information resources and information related infrastructure and sharing them. In this process, many libraries have reexamined their traditional methods and services to overcome inadequacies through automation and computerization.

The use of computers for library operations avoids respectively jobs and saves considerable amount of time, resources and labor. It also speeds up technical processing and information services. ICT has been a means to bring quality services. Systematic planning of its introduction and application will assure that the technology based information services are unsustainable, and enhance the ability of library. In the present scenario, the library and information centers at global level are able to provide access to:

- Online database across the country and worldwide.
- Comprehensive statistical databases and content page service.
- Full text information sources with key word searching.

The special libraries in Indian setup 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.

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. Resources continue to spring up. Librarians are becoming indispensable counselors in themselves.

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 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.

Use of ICT application helps in producing, storing, transferring and using implied and clear information. National Knowledge Commission report mentions that libraries play a pivotal role in the dissemination of knowledge. They are an extremely important part for the foundation of an institution or organization. Higher education libraries are expecting a massive change in the way they are functioning. The Special libraries oblige to the needs, not only for teaching and learning but also for research, publication, conservation of ideas and knowledge. The new technologies especially electronic technologies have contributed to the drastic changes in LIS field. Over the past two decades, libraries have become undoubtedly aware about the revolutionary changes and impact of developments in information communication technology on their basic activities. The application of ICT provides easy and quick access to information. It provides opportunities for libraries and the information centers to broaden up the area of their resources and services and to increase their importance within institution or organization they serve. The last few decades are witnessed the enormous impact of information communication technology in functions and services of the libraries. The information communication technology has become an integral

part of all the aspects of library. A good and proper application of ICT in libraries results into better resource sharing and more effective services to the users.

According to the Indian Library Association Glossary “ICT is the application of the computers and other technologies to the acquisition, organization, storage, retrieval and dissemination of information”. Libraries are expected to use ICT to provide information more quickly. The 4th law of library and information science “Save the time of users” has great relevance in the context of use of ICT. The main aim of the research work is to make an intensive and exhaustive study to find out the various ICT based services in the Special Libraries of Assam for the further development of the libraries.

In the traditional libraries, users have to spend more time for searching a small piece of information and for that they have to depend mainly on the library professional or library staff. But in the age of Information and Communication Technology, computers are being used for day to day house-keeping activity of the library, which saves the time of the end users, and library professionals also and at the same time avoid duplication of work and make the library service smooth and effective. The advancement of information communication technology (ICT) has made a tremendous improvement and change almost in all walks of life. Information communication technology (ICT) is being increasingly used in library and information services for the acquisition, storing, processing and dissemination of information. Information communication technology can be used in libraries and information centers for the development of new information services and computerized library services.

There is a great impact of ICT on the functioning of all types of libraries. There are various prospects in the application of ICT in library activities to provide pinpointed, exhaustive and expeditious information from within and outside sources to the users in anticipation or on demand. It has become imperative to have an understanding of the prospects of application of ICT in the libraries. By the application of information

technology in the process of library work, the job of the library staff becomes easy, interesting and pleasurable.

The emergence of the information revolution supported by the application of information communication technology (ICT) has enabled libraries to develop feasible strategies for better services. Library uses several technologies to provide information to its users. Recent developments in ICT have not only expanded enormously the ability to access, store and process information within the library but also have brought significant changes in the services, concept, management, functioning and infrastructures of library and information system.

1.2 Statement of the problem

Considering the above factors, the statement of the present study is entitled as “Impact of Information Communication Technology (ICT) for Information access in Special Libraries with Special reference to Assam: A study”. It is anticipated that the study will give an insight view about how far the libraries have been able to utilize the advances of ICT tools. Now-a-days application and implementation of ICT in the libraries is facing a lot of problems. This study has been conducted to find out the barriers which are hindering the impact of ICT on Special libraries. Now-a-days the development and success of libraries predominantly lied on the mass essential use of ICT tools. On one hand, it has unbolted various new ways in the field of Library and Information Science. While on the other hand it has left many problems. So, it is very much crucial to look after the above stated area. If it became possible to detect the various obstacles and issues confronting by the special libraries of Assam then it can be possible to suggest some suggestions which will be good for the libraries. It is hoped that the study will give an insight about opinion views; perception and opinion on various issues related to ICT applications and will also explore the challenges being faced for implementation of ICT initiatives in libraries. The results of the study will also highlight the level of knowledge and ICT skills of library staff for providing ICT based services and managing Information Technology in the libraries. After analyzing

the user's satisfaction level, efforts were also made to bridge the gap between users need and the delivery by the libraries.

1.3 Objectives of the Study

Library is one of the educational facilities required to achieve the stated goals of sound and take responsibility for collecting and supplying the required information of the clientele at appropriate time, pin-pointedly, exhaustively and expeditiously. Normally a user in Special library seeks information on a specific rather than whole book. User would be confined to well define groups and their number would also be limited.

The present study is comprehensive and extensive survey on the status of different services for information access in particular in the selected special libraries. The study is mainly concentrated to understand the performance of the use of the information resources as a part of facilities and services provided to the research community. In view of these aspects, the objectives of the study are:

- To find out the status of automation in Special Libraries.
- To know the preferences of the researchers towards the information in ICT environment.
- To suggest the measures for improvement of services, facilities, information resources to meet the needs of users.
- To assess the status of ICT application as a tools for the modernization of libraries.
- To find out the basic ICT infrastructural facilities available in the special libraries in all over Assam.

1.4 Hypotheses

A hypothesis is a specific statement of prediction. Hypothesis is generally regarded as the prominent tool in research. It helps in making the research more distinct and to the point which guides towards the fruitful result. Keeping in view the research ethics and the objectives of the present study, the following hypothesis has been framed:

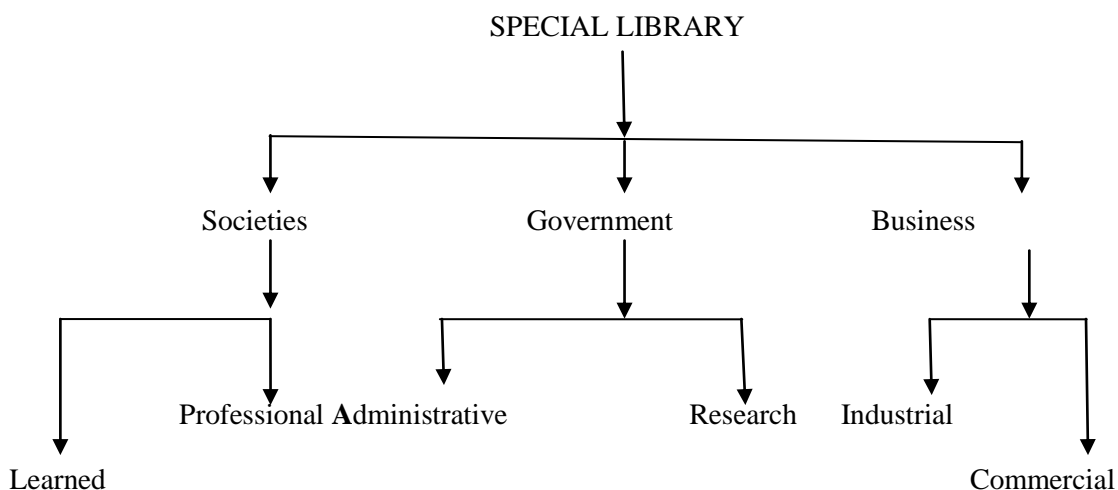
H1. ICT is a time saving phenomenon for the quality services in modern Special Libraries.

H2. Repackaging of information enhances the facilities and services of the Special Libraries.

1.5 Area of Study

The study is confined to all types of central and state government special libraries of Assam. An attempt has been made in the present study entitled “Impact of Information Communication Technology (ICT) for Information access in Special Libraries with special reference to Assam: A study” to assess various ICT based facilities and services available in Special libraries reference to Assam.

A special library serves the specialist located within a single establishment or group and all are engaged in working towards one common purpose. The users expect to receive specific information on request from their libraries. A special library can be categorized broadly depending on their area of activity and their parent body.



There are more than seventy numbers of special libraries in all over Assam which are attached to various organization and works under society, government and business forum. Special library the definition is itself ambiguous. Special libraries include

corporate libraries, government libraries, Law libraries, museum libraries, news libraries and non-profit libraries. Special libraries also exist with academic institutes like Law institute, medical, etc. difficult to have a concrete list of Special libraries. Initially the research was started with all the Special libraries of Assam. But keeping the objectives of the study in mind and the aim of the study which is delimited to show the status of implementation of ICT infrastructure for providing better services to their clientele in the special libraries, a pilot study was undertaken covering 30 special libraries of Assam. The study is confined with some selected district of Assam (Guwahati, Dibrugarh, Tinsukia, Jorhat, Nawgaon, Digboi & Bongaigaon), which are most urbanised, most populated, with high literacy rate and people are interested to visit library. So purposively and using convenient sampling 30 Special libraries are selected for the pilot study which are located in these districts. Some of them are remarkably older but lack of library professionals, lack of well established building, and lack of ICT infrastructures, services, facilities and resources. Out of these thirty special libraries 17 libraries were selected for the present studies which are attached to R&D and government organizations and functioning under society, state and central government of Assam. Following are the name of the organization which are having special libraries but not considered for the present study due to the above mentioned reason:

Table: A Name of the Institute's not considered for the study

Sl. no.	Name of The Institute	Year of Establishment	Place
1.	Assam Electronics Development Corporation (AMTRON)	1984	Guwahati
2.	Assam Productivity Council	1959	Tinsukia
3.	Assam Power Distribution Company (APDCL)	2009	Guwahati
4.	National Research Development Company	2017	Guwahati
5.	Nagaon Paper Mill		Jagiroad
6.	Assam tai Museum	1988	Sibasagar
7.	Assam Sahitya Sabha	1924	Jorhat
8.	Swami Vivekananda Kendra		Guwahati

9.	Brahmaputra Cracker & Polymer ltd.	2007	Dibrugarh
10.	Oil India ltd	1989	Digboi
11.	Bongaigaon Refinery & Petrochemicals ltd	1974	Bongaigaon
12.	Digboi Refinery	1901	Digboi
13.	Numuligarh Refinery ltd, (NRL)	2001	Numuligarh

1.6 Limitation of the study

The name special library implies that the library is meant for catering the various information needs of workers and researchers pursuing activities to attain a common institutional goal. Due to exponential growth of knowledge and changing trends in information seeking behavior of this specific group of users ICT implementation became a must today in these group of library. Although there are altogether seventy such special libraries functioning under various organizations throughout the state of Assam only seventeen (17) of them governed by central government / state government and societies are selected for the present study. This study is conducted to critically examine the application of information communication technology in the selected Special libraries and information centers of Assam. The study is limited to special libraries attached to R&D and government organizations functioning under society, state and central government of Assam. Under the present study the activities like implementation of ICT to manage resources of the selected special libraries and to provide better services to the users are only targeted. The limitations of these special libraries are also targeted to evaluation with an aim to put forward probable suggestion for improvements.

- The study has been concentrated on seventeen Special libraries (Table-2) of Assam where ICT is used and automation process has started or in its initial stage.
- To understand the effectiveness of libraries and information centers and their ICT based services, resources and facilities, views and opinions of all groups of users including staff were collected.
- To meet the demand of users the improvement of ICT facilities of these library are crucial.

- Information collected from respective libraries and their users were merged together to assess the collective position of ICT usages and level of users satisfaction among the special libraries of Assam.
- The reasons for exclusion of the other libraries are that they were not coming under R&D and not govern by any of the state or central government. And till now some of the libraries don't possess any kind of ICT applications, not even having proper library buildings / infrastructures.

The samples of data were collected from each selected library individually. But the analysis was done collectively not individually with the purpose of not to reveal the analysis of any specific library.

1.7 Methodology

1.7.1. Research Approach

Research is a systematic study which comprises of several steps to reach a conclusion of a specific problem. Conducting a scientific study includes identifying the problem, framing objectives of the study, framing valid research hypothesis, collecting data, analyzing data using appropriate methods and finding the results and suggest the solutions to the problem. These steps make a study a scientific study. Kothari (2003) has described the research as a scientific investigation. Before starting the research, it is important to finalize all the tools and techniques involved in the various steps of the study. It will lead to smooth and hassle free research. All the steps, research methods, and tools & techniques used in the present study are elaborated in this chapter.

The present study was based on the survey method, questionnaire method and literature search method. Questionnaire, observation and personal interview methods were used for collection of data. Data from the secondary sources of information, i.e. Institution's Websites/Home page, Annual reports, etc. were also utilized for the present study. The study covers limited areas of library's collection and services; development of ICT infrastructure, status of library automation etc.

1.7.2. Population and size of the study

A research population is the complete set of cases in which a study is focused. It is the whole set of individual or of objects having some common characteristics. Selection of population and choosing the sample from the universe are very important steps in research. Depending upon the result of the pilot study the sample of the study is delimited to seventeen special libraries of Assam and the librarians and users of the special libraries have been taken as research population.

In the present study, users population size is 301 numbers. Confidence level is 95% and Margin error is 5%. Therefore sample size is 170.

[N.B.: users confined with faculty, students and research scholars]

$$(S) \text{ Sample size} = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \frac{z^2 \times p(1-p)}{e^2 N}}$$

N = Population size = 301

P = 0.5

L = 5% = (0.005)

Z = 1.96

Therefore, S = 170

With this a total 170 questionnaires were distributed among the users with a response rate of 41.10% and 100% from the librarians, including the permanently employed library professionals and users of the organizations.

1.7.3. Source of Data

Source data is raw data that has not been processed for meaningful use to become information. There are two types of source of data- Primary and Secondary. After finalizing the structure and type of data for collection, the source of data should also be decided. Both primary and secondary data have been collected for the systematic

study. Primary data were collected using organized questionnaire. And the secondary data for the present study is collected from the secondary sources of information, i.e. Institution's Websites/Home page, Annual reports, census reports, statistical records, thesis, dissertations, brochures, newsletters, etc. Personal interview methods were also used for collection of data where it was felt necessary. By using the primary source of data the whole information for the analysis of the study has been collected. And the secondary source has been used to gather just the basic information about the Institutions'.

1.7.4. Pilot study

Pilot studies are a crucial element of a good study. keeping the objectives of the study in mind and the aim of the study which is delimited to show the status of implementation of ICT infrastructure for providing better services to their clientele in the special libraries, a pilot study was undertaken covering 30 special libraries of Assam. The study is confined with some selected district of Assam (Guwahati, Dibrugarh, Tinsukia, Jorhat, Nawgaon, Digboi & Bongaigaon), which are most urbanised, most populated, with high literacy and people are interested to visit library. So purposively and using convenient sampling 30 Special libraries are selected for the pilot study which are located in these districts. Out of these thirty special libraries 17 libraries were selected for the present studies which are attached to R&D and government organizations and functioning under society, state and central government of Assam.

1.7.5. Sampling method

The sampling method used to 17 selected Special libraries through survey. A survey is a systematic collection of data concerning a system, its activities, operations, persons involved in that system. Survey method is approached through the methods of personal interview, mailed questionnaires, telephone, personal discussion, electronic survey and so on. For the present study survey method is utilized to collect the information from the librarians and users of the special libraries. For the survey of the

users the faculty members of the organization, students, research scholars and other category users are included in the sample. An organized questionnaire was framed for the librarians and users of the libraries. During the survey it was found that most of the respondents were supportive and helpful and they gave their valuable time to answer the questions. All the selected special libraries were personally visited to collect data using the data collection tools like questionnaire, personal interview and observation.

1.7.6. Development of tools for data collection

The task of data collection in research methodology arises after the problem of research has been defined and the research design chalked out. In order to prepare an interview schedule for the present study the data has been examined and reviewed literature that is available in the objectives of the study.

The components under each objective were decided after the proper examination of the objectives, which are established under thorough and analysis of the related literature. During the process a lot of time has been utilized assessing various documents like_ books, journals, periodicals, abstracts and research article. Thus taking into account the standard of selecting components, in the preliminary stage a minimal 30 components were selected according to the category of users (librarian, students, research scholar, and scientist/faculty) fitting into the objectives of the study for ICT application in the special libraries with reference to Assam.

- **Refining of the components**

After selecting 30 components for the objectives, the status of ICT infrastructure and computerized services in the particular area of special libraries in Assam, the next step was refining the components. For this purpose the schedule offered to the subject experts for scrutiny, experts in the field of library and information science (departmental professor specialized in the field). The content and purpose of the study is also explained to them. On the basis of their perspective and suggestions 40 more components were added and some were changed according to the purpose of the study. The components which completely justify the purpose and objectives of the study has been framed in the schedule.

- **Pilot study**

In the present pilot study the data has been collected using the tools_ Questionnaire method and Observation method.

The total 70 respondents were selected from representing different categories for the study as mentioned in the table below:

Table: B Number of respondents in pilot study

Librarian	Research scholars	Students	Scientists/Faculty	Total
17	20	18	15	70

- **Consideration for the Interview schedule**

In order to filling up the schedule, necessary helps are taken from the different category of library users. The only required circumstance of the management was depending upon the mutual co-operation and understanding.

- **Components selected for the final delineation**

For selecting the components under each objective, all the components having symbolic difference were selected for the final schedule. All the components having no symbolic difference were not added to the schedule. The selected components were arranged and definite serial numbers were given to it for the final delineation on the basis of its importance.

1.7.7. Data Analysis techniques

The collected data gathered from the samples have been classified and calculated by frequencies, relevance and percentage. Analyzed data has been presented in cross tabulation format with graphical representation using software “IBM SPSS” statistic version 24 and Microsoft Excel 2007.

In the present study the software “IBM SPSS” static version 24 have been used to analyze the entire collected data from the users. And with the help of Microsoft Excel 2007 data collected directly from the Librarians of the libraries have been tabulated and analyzed.

The t-test is a univariate test that uses t-distribution for testing sample, mean and proportion when the size of sample is small (i.e. less than 30). The variance of t-distribution approaches the variance of standard normal distribution as the sample size increase. In the present study the size of the sample is 17, which is less than 30. So, t-test method has been adopted for the testing of hypothesis. The purpose of t-test in this study because of a compare random sample consisting of variable measurements of a parent group. T-test is mostly applied when the static would follow a normal distribution. .

1.7.8. Data Analysis Aspects

The analysis has been done in two aspects. These are Librarians' data analysis (data collected from Librarians) and Users data analysis (data collected from the users) of special libraries.

Librarians Data Analysis

The collected data are directly tabulated and compared among the special libraries.

Users Data Analysis

The collected data from users have been converted in to percentage (%) and the results are compared in analysis. The Weighted Mean Score and Rank method of statistics are also used to analyze the data received as priority and satisfaction level. It is assigned weightage 3 to priority 1, weightage 2 to priority 2 and weightage 1 to priority 3 in case of priority. In context of satisfaction level it is assigned weightage 4 to very good, weightage 3 to good, weightage 2 to satisfactory and weightage 1 to poor.

Calculation

In following ways the calculation has been done:

Weighted Mean Score (Priority) = (Priority 1 × 3 + Priority 2 × 2 + Priority 3 × 1) / Total response from respective library

Weighted Mean Score (Satisfaction level)= (Very good \times 4 + Good \times 3 + Satisfactory \times 2 + Poor \times 1) / Total response from respective library

The results of the weighted mean scores are ranked in table for interpretation. Later on the ranks are interpreted from highest to the lowest for analysis.

1.8 Chapter Plan

The complete study and the findings are furnished here in seven chapters. The citation and the bibliographic reference follow APA (American Psychological Association) 6th edition style with little contrast. A brief outline of each chapter is given below.

Chapter 1: Introduction

This chapter discusses about the problem of the study. It covers a short illustration of the subject, importance of the study, area of the study, objectives, hypotheses, limitations and methodology.

Chapter 2: Literature Review

This chapter discusses about the literature survey of associated studies covering information communication technology, about Special Library in Assam.

Chapter 3: Special Library and its present status: A brief study

This chapter gives an overview of Special Library and its present status.

Chapter 4: Role of ICT for promotion and up gradation of Special Libraries

This chapter deals with the role of ICT applications in Special libraries and information centers in the state of Assam. The chapter also attempts to discuss the present status of ICT resource availability, changing pattern in providing library services and changing approaches of the users of Special libraries of Assam.

Chapter 5: ICT based services and its impact on selected special libraries in Assam

This chapter has sincerely attempted to evaluate the application and impact of ICT based services on the Special libraries of Assam. This chapter shows that the work on ICT application in special libraries have revealed that ICT is essential for effective information service delivery.

Chapter 6: Data Analysis

Analysis of data which are collected and its interpretation is included in this chapter.

Chapter 7: Findings, suggestions & Conclusion

Summary of the important findings, suggestions and further recommendations for the study are discussed here in this chapter.