

Block

4

INFORMATION USE AND USER STUDIES

UNIT 11

User Education and Information Literacy **5**

UNIT 12

User Studies **37**

UNIT 13

Information Use Studies **63**

UNIT 14

Marketing of Information Services **84**

Programme Design Committee

Prof. Uma Kanjilal (Chairperson)
Faculty of LIS, SOSS, IGNOU

Prof. B.K.Sen, Retired Scientist
NISCAIR, New Delhi

Prof. K.S. Raghavan, DRTC
Indian Statistical Institute, Bangalore

Prof. Krishan Kumar, Retired Professor
Dept. of LIS, University of Delhi, Delhi

Prof. M.M. Kashyap, Retired Professor
Dept. of LIS, University of Delhi, Delhi

Prof. R.Satyanarayana
Retired Professor, Faculty of LIS
SOSS, IGNOU, New Delhi

Dr. R. Sevukan (Former Faculty
Member) Faculty of LIS, SOSS
IGNOU, New Delhi

Prof. S.B. Ghosh, Retired Professor
Faculty of LIS, SOSS, IGNOU, New Delhi

Prof. T. Viswanathan, Retired Director
NISCAIR, New Delhi

Dr. Zuchamo Yanthan
Faculty of LIS, SOSS, IGNOU, New Delhi

Conveners:

Dr. Jaideep Sharma
Faculty of LIS, SOSS, IGNOU, New Delhi

Prof. Neena Talwar Kanungo
Faculty of LIS, SOSS, IGNOU, New Delhi

Programme Coordinators

Prof. Jaideep Sharma and Prof. Neena Talwar Kanungo

Course Coordinator

Prof. Neena Talwar Kanungo

Course Preparation Team

| Unit No(s) | Unit Writer(s) | Course Editor |
|------------|--|---|
| 11 | Prof. R. Satyanarayana and Prof. Jaideep Sharma | Prof. Neena Talwar Kanungo |
| 12 | Prof. R Satyanarayana | Internal Faculty Prof. Neena Talwar Kanungo |
| 13 | Prof. B K Sen | Prof. Jaideep Sharma |
| 14 | Prof. Dinesh Gupta | |

Print Production

Mr. Manjit Singh
Section Officer (Pub.)
SOSS, IGNOU, New Delhi

Secretarial Assistance

Ms. Sunita Soni
SOSS, IGNOU

Cover Design

Ms. Ruchi Sethi
Web Designer
E Gyankosh, IGNOU

September, 2013 (Second Revised Edition)

© Indira Gandhi National Open University, 2013

ISBN-978-

All rights reserved. No part of this work may be reproduced in any form, by mimeograph or any other means, without permission in writing from the Indira Gandhi National Open University.

“The University does not warrant or assume any legal liability or responsibility for the academic content of this course provided by the authors as far as the copyright issues are concerned.”

Further information on Indira Gandhi National Open University courses may be obtained from the University's office at Maidan Garhi, New Delhi-110 068 or visit University's website <http://www.ignou.ac.in>

Printed and published on behalf of the Indira Gandhi National Open University, New Delhi by the Director, School of Social Sciences.

Laser Typeset by : Tessa Media & Computers, C-206, A.F.E.-II, Okhla, New Delhi

Printed at :

BLOCK 4 INFORMATION USE AND USER STUDIES

Introduction

The theme of this Block is Information Use and User studies. This Block is divided into four units (Unit no. 11 to 14). Unit 11 is on User Education and Information Literacy, Unit 12 deals with User Studies, Unit 13 is titled Information Use Studies and Unit 14 of this Block is on Marketing of Information Services.

Unit 11 discusses the importance of user education for the new entrants to the library and also explains the new concept of information literacy in this context. User education is a service designed by libraries to help users know the services provided by them. It also educates the user about the sources, processes and techniques used in libraries to access and use information. Information Literacy (IL) has evolved as a result of information explosion and the increasing awareness and use of information. These concepts have been discussed in detail in the Unit. After reading the Unit you will be familiarised with the concepts and will be able to design such services in the libraries that you join in the future.

Unit 12 is on user studies in the libraries and information centres. This Unit is focused on the users to know their characteristics, information needs, etc. Such studies of users help in decision making as well as in the designing of information systems, products and services. It will also apprise you of the methods used in conducting such studies.

Unit 13 deals with conducting information use studies in the libraries to examine the use of their resources and services. It explains the meaning of and the need for doing such studies. It familiarises you with various types of use studies e.g. user-based, profession-based, sources-based, subject-based, etc. After going through this Unit, you will be able to plan and conduct such studies to know the use of sources, services, etc. of a library.

Unit 14 of the Block is on marketing of information services. It explains the meaning of the marketing and also the need to implement it in the library and information centre's arena. It further describes the concept of marketing mix and its application in the libraries and information centres.

UNIT 11 USER EDUCATION AND INFORMATION LITERACY

Structure

- 11.0 Objectives
- 11.1 Introduction
- 11.2 User Education
 - 11.2.1 Definition
 - 11.2.2 Components
 - 11.2.3 Historical Development
 - 11.2.4 Objectives
 - 11.2.5 Methods
 - 11.2.6 Information Technology and User Education
 - 11.2.7 Evaluation of a User Education Programme
- 11.3 Information Literacy
 - 11.3.1 Concept
 - 11.3.2 Need
 - 11.3.3 Historical Background
 - 11.3.4 Information Literacy Models
 - 11.3.5 Information Literacy Standards
 - 11.3.6 Imparting Information Literacy
- 11.4 Information Literacy and User Education
- 11.5 Summary
- 11.6 Answers to Self Check Exercises
- 11.7 Keywords
- 11.8 References and Further Reading

11.0 OBJECTIVES

After reading this Unit, you will be able to:

- explain the concept and meaning of user education;
- define its purpose and trace its development;
- describe the methods of conducting user education programmes in libraries;
- critically evaluate the effectiveness of user education programmes;
- explain the concept of information literacy;
- define its need and trace its development;
- describe the models and standards of information literacy;
- discuss how to impart information literacy;
- critically evaluate the effectiveness of information literacy; and
- briefly describe the user education and information literacy scenario in India and the world.

11.1 INTRODUCTION

Libraries have been providing user education programmes under different names to facilitate use of library and information resources. Library orientation is organised to orient the new users in a library with its physical set-up, rules, regulations and facilities. Library instruction is provided so that users are able to locate information sources in the library. Bibliographic instruction is yet another service offered by libraries to enable users to search and retrieve information. User education programmes are organised by libraries to familiarise the users with library sources and services. There is a need for such programmes to make the users aware of the library and information sources, services, processes/operations as well as library use ethics. Such programmes facilitate the users to use library and information resources efficiently and effectively. Developments in Information Communication Technologies (ICTs) have helped in better delivery of such programmes. Use of multimedia and the Internet has also helped to provide these programmes in a more interactive way with anytime remote access.

Further, developments in ICT, particularly the Internet, have resulted in the following changes:

- Vast information is now available in variety of formats. There are many ways of storing such information with a variety of search features.
- Various information sources are available to users. One needs to keep in mind the purpose of seeking information while selecting or choosing an information source.
- The Internet has provided an opportunity of publishing on the Internet. However, this has resulted in difficulty in assessing the authority and authenticity of the information.
- Availability of digital information resources has enabled the libraries to serve their users with information, anywhere and anytime.

Along with changes in information sources, the use of information has also witnessed a substantial change. The developments in availability of digital information, increasing dependence of users on it and its increasing use made by libraries in services led to the birth of the concept 'Information Literacy' (IL) to enable users to use information effectively.

11.2 USER EDUCATION

A number of user studies, conducted in different countries, have established the fact that only a few scientists make optimum use of libraries and are aware of the various bibliographical tools available in the libraries. "The inference is that, contrary to the opinion of some academics, knowledge of the structure and use of scientific literature is not gained intuitively, but has to be taught". Training in the use of scientific information has been officially recommended by the Royal Society Scientific Conference. The Perry Committee Report included a survey of undergraduate use of university libraries in the United Kingdom. The survey showed that the majority of students were not active users of academic libraries. Thus, the need for imparting training to users in the use of libraries and information

resources was firmly established. Several attempts have been made all over the world to design and develop programmes for training and educating the users in the use of libraries and information resources. Imparting such knowledge to the users is commonly referred to as user education.

11.2.1 Definition

User education may be defined as a process or a programme through which the potential users (scientists, engineers, technologists, academics and students) of information are made aware of the value of information and are motivated to use information resources. Mews, in her book on Reader Instruction, defines user education as instruction given to readers to help them make the best use of library. Gordon Wright opined that a student cannot be taught the use of library in splendid isolation, but must be made to see it as continuous process of education in which the various facets of communication are inextricably mixed. Jacques Tocatline (UNESCO) defined 'user education' to include any effort or programme which will guide and instruct existing and potential users, individually or collectively with the objectives of:

- a) recognising their own information needs;
- b) formulating these needs;
- c) using information services effectively and efficiently; and
- d) assessing these services.

It may be stated that user education is concerned with the information and communication process as a whole and one part of this involves interaction of the user with the library. It (user education) should be a continuous process starting with school and public libraries and with the possibility of extension into academic and special libraries. User education is central to the whole purpose of the library and the effective utilisation of information resources. The pattern of many academic user education programmes is similar to that proposed at the Royal Society Scientific Information Conference in 1948.

11.2.2 Components

Ideally, user education should be a continuous process comprising of two components, namely orientation and instruction, which may be combined when necessary.

Orientation is concerned with ways of acquainting the user with the library and services available and also with the organisation, layout and facilities of a particular library. Orientation is related to both cognitive objectives (i.e., understanding) and affective objectives (i.e., feelings and attitudes). In orientation, it is important to try and create the right kind of environment for effective communication between user and the library staff and to present an image of the library as a pleasant and friendly institution, where help can be obtained. As a result of orientation, the users should feel confident that the library staff is competent and is always willing to help them.

The second component of user education, namely instruction, is concerned with learning the use of the various information resources available in a specific library. This aspect is also known as bibliographic instruction and is concerned with the problems of information retrieval and the techniques of utilising information

sources to their maximum. Bibliographic instruction may be imparted at two stages, as an introductory course and as an advanced course, depending on the awareness level of the users.

It is not enough for the students to be motivated by the librarian(s) alone to make use of the library. Their teachers must also provide them with experiences that using the library is a necessary and rewarding part of education. In other words, user education programme must be integrated with academic teaching programme involving closer cooperation between the librarian and the teaching faculty. As an outcome of such cooperation, relevant practical work can be incorporated into user education programmes. The concept 'course-integrated' user education implies close relationship between library and academic programmes. Different forms of user education programmes have been suggested along the lines of ideal librarian/faculty cooperation.

11.2.3 Historical Development

The history of development of user education has been well documented. For example, Bonn's 'Training Laymen in the Use of the Library' furnished a survey of the whole field of user education covering up to the period 1958. This was updated through the efforts of Mirwis covering the academic instruction in the USA in the form of a bibliography for the period (1960-1970). Apart from these well documented records, the concept of user education evolved itself and has been widely accepted. The pattern of development is briefly discussed in the following sub-sections of this Unit.

Pioneering Efforts

The systematic use of the concept of user education owes its origin to Patricia B. Knapp and her 1964 report which mainly attempted at "exploring methods of developing a more vital relationship between the library and college teaching". This project was sponsored by the Monteith College of Wayne State University. Earlham College also tried to provide user education programmes more or less on the same lines. It was during this period that user education was identified with bibliographic instruction and/or course related library instruction with its own strategy. Bibliographic instruction comprised of two components, one concerning the sources for imparting of knowledge and the second relating to the development of skills essential for imbibing bibliographic instruction which consisted of the following aspects: a) general types of reference works b) indexing and abstracting periodicals c) library catalogue d) principles of knowledge organisation e) search strategy and f) subject analysis.

The role of library in higher education has been for long a subject of debate. In 1934, Louis Shores introduced the concept of 'Library Arts College'. This concept gradually evolved into 'Library College'. The purpose of Library College is to increase the effectiveness of student learning, particularly through the use of library centred independent study with the help of a bibliographically expert faculty. The Library College is concerned with changing the mode of instruction from the classroom lecture arrangement with the library as a supporting agency to the carrel or room in the library with the teaching/learning process dependent upon the individual and the independent efforts of the student.

Institutionalisation of User Education

In the process of institutionalisation of user education the lead was taken by the Council of Library Resources and Association of College and Research Libraries in the USA. It was the British Library Research and Development Department and the Centre for Research in User Studies which promoted and gave impetus to the development of user education programmes in the U.K. This institutional patronage was mainly responsible for a number of important user education projects.

UNISIST Programme: User Education

The focus of user education programmes all along has been academic institutions, with the American activity being concentrated towards under-graduates and the British programmes emphasising on post-graduates and research students. In the case of less developed countries, user education programmes were required to be geared towards developmental processes. UNESCO under the UNISIST Programme attempted to initiate user education programmes in less developed countries. UNISIST promulgated the UNESCO General Information Programme (PGI) in 1975. The UNISIST Information Policy objectives stress on user education. The UNISIST document notes that “basic training in the use of existing information sources, obtaining feedback from users on the results of information needs studies and involving, as wide range of users as possible in any new experimental services”. The Bangkok and Rome Seminars (UNISIST) in 1976 considered user education as an important factor in the National Information Policy of any country. The Rome Seminar recommended that National Policy on User Education should be formulated as an integral part of the national policy and in correlation with the national education policy.

There have been many conferences and seminars, at both international and national levels, on the theme of user education. One of the earliest conferences on the subject was the Fourth Triennial Meeting of IATUL (International Association of Technological University Libraries) held at Loughborough, U.K. in 1970. The theme of this meeting was ‘Educating the Library User’. The first international conference on Library User Education was held at Cambridge in 1979 with the theme ‘Library User Education: Are New Approaches Needed?’. This was followed by the second conference held at Oxford in 1981. This conference covered user education in different types of libraries. Other examples of international seminars on various aspects of user education are the Anglo-Scandinavian Seminar on Library User Education held in Gothenburg, Sweden in 1976, workshops held at Essen, Federal Republic of Germany in 1981 and at Cranefield Institute of Technology, Melbourne, Australia in 1981 and a seminar on user education in the online age held in Gothenburg in 1982. It may be stated that the early development of user education was largely concentrated in English speaking countries - mainly Britain, USA, Australia and Canada. Later, European countries, Japan and China in Asia also developed and conducted user education programmes.

As far as development of user education in India is concerned, the field has witnessed considerable activity. For example, the INSDOC (now NISCAIR), New Delhi and the DRTC, Bangalore, organised seminars and workshops for the promotion of user education. The IASLIC, Calcutta organised a national conference on User Education at Waltair (Andhra Pradesh) in 1981 and produced

a volume of papers on the subject. IARI (New Delhi) also made efforts to organise a special course on “library use, reference compilation, scientific paper writing and proof correction”. This course is not based on any standard guidelines such as UNISIST guidelines. Except for some voluntary efforts on a sporadic basis, no systematic effort has been made for institutionalisation of user education in India.

It may be mentioned here that the concept of user education has caught the imagination of librarians and information professionals all around the world. There have been three streams of experience so far as user education is concerned. Historically speaking, the American experience is said to be innovative, because it has laid the basis for others to follow. The names of Louis Shores, Patricia B. Knapp and Thomas Kirk would be remembered as pioneers. It was through their initiative and leadership that user education came to be accepted widely in the USA. The next step in the development was the institutional framework pioneered by Eastern Michigan University through its various activities. Yet another major step in this direction was statement of objectives of the Association of College and Research Libraries in which user education received attention. This process of institutionalisation of user education has been accelerated by the allocation of funds from private foundations.

The experience of the UK in user education was somewhat different. Here, user education programmes have tended to emanate from a central body like the Library Research and Development Department.

Self Check Exercise

Note : i) Write your answers in the space given below.

ii) Check your answers with the answers given at the end of this Unit.

1) Define user education. What are its components?

.....
.....
.....
.....
.....
.....

2) Explain in brief the developments taking place in the area of user education.

.....
.....
.....
.....
.....
.....

11.2.4 Objectives

A general objective of a user education programme for any type of library is to create awareness about the sources and services available and that it should be in consonance to the objectives of the institution. In special libraries, for subjects like, science, medicine or technology, where the rate of growth of literature is rapid the need for user instruction is particularly crucial.

Library user education is not a separate academic discipline. It consists of a series of skills which can be made use of, in connection with different academic studies. Hence, education in library use should be closely integrated with the teaching programmes of different academic disciplines. Therefore, there is a greater need for cooperation between library staff, academic staff and the student community for its successful implementation.

In the past, there has been an ongoing debate relating to the objectives for library user education. Organisations like ACRL in the USA and ASLIB in the UK have attempted to develop their own proposals and guidelines in this direction. Information professionals like Hutton, Scrivener and Hartz have communicated their views on the subject. Scrivener, while discussing the general aims for university library user education programmes, describes the following as a summary of what any programme might aim to achieve “the details will necessarily vary in different situations but teaching should establish and promote those traditional skills without which no student can make adequate use of his library: i) an understanding of library arrangements- physical, bibliographical and conceptual ii) a knowledge of sources which will be appropriate in any given situation iii) the ability to interpret his own need so as to frame relevant questions iv) an awareness of search techniques including the ability to devise serviceable routines and finally the student needs skill in the art of evaluating his sources and presenting his materials”.

It is always beneficial to make a distinction between library orientation and library instruction. It may be emphasised that library orientation is concerned with enabling the student to become aware of the existence of the library and the services available therein aiding the student to learn about the general use of the library, whereas library instruction is concerned with enabling the student to obtain information required for specific purpose by making full use of the resources and material available in the library and is concerned with problems of information retrieval.

11.2.5 Methods

Education has been defined as a process that empowers the learners. This process can be affected by a variety of factors. The four basic factors that affect learning in practical situations are motivation, activity, understanding and feedback. These factors might be considered in relation to library user education programme as well. Choice of teaching methods and media depends on the learning/teaching situation, the subject material, the students and the teachers. No single method will be suitable for all situations. However, teaching methods may roughly be categorised into those which are suitable for group instruction, those suitable for individual instruction and those suitable for both. These methods are depicted in the diagram 11.1.

Teaching methods

Type of instruction

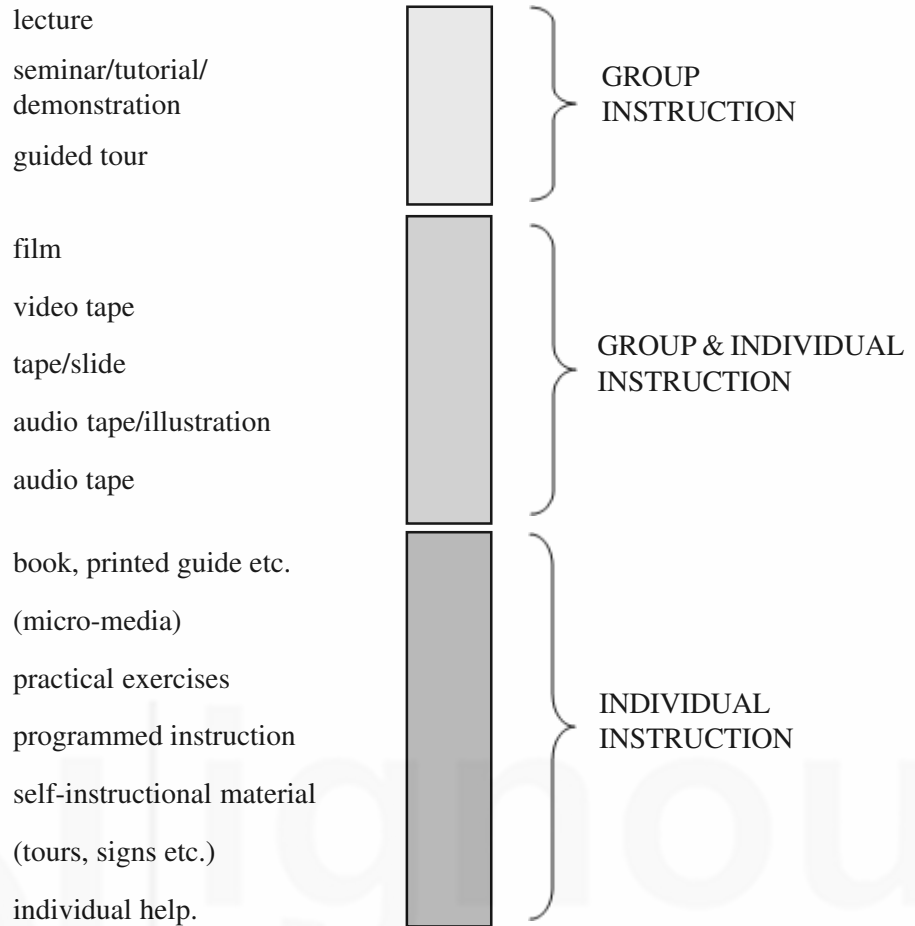


Diagram 11.1 : Teaching Methods for Group and Individual Instruction

(Source: User Education in Libraries by Nancy Fjallbrant and Ian Malley)

Teaching methods may use visual or audio stimulation or a combination of both. It is stated that methods which make use of a combination of sensory inputs are likely to be more effective than those which rely on a single channel of communication. In fact, interaction between individuals concerned in the learning/teaching situation also affects the learning process. The interaction may be categorised as teacher-student and student-teacher interaction. Revill is of the opinion that in programmed instruction student works as isolated individual. Therefore, there is little or no interaction with other students or with teacher. This situation might be advantageous for introvert students but may not favour the extrovert students who prefer companionship and competition in the classroom. Described below are various teaching methods for library user education. From the description it might be observed that no single method is suitable for all learning/teaching situations or for all individuals. In fact, various methods and media should be used to supplement each other in any given programme of education. However, traditional library instruction has made considerable use of the lecture method for large groups, the guided tour for smaller groups and individual help for those who ask for this at the information desk. Use of various methods and media for library user education are discussed briefly in the following sections.

The Lecture

Lectures are the most common method of instruction. They are used for teaching large groups of students. In lecture method of teaching both audio as well visual sensory inputs (via blackboard or overhead projector) are made use of. The lecture

as a form of communication in education has been strongly criticised. The disadvantage of this method is that the speed of delivery of information cannot be controlled by the receiver and repetition is not possible without the provision of printed handouts. However, lectures provide an opportunity for personal interaction and some feedback could be obtained from the students. Lecture is an unsuitable method for conveying information about bibliographic data. It is only suitable for providing a general introduction to a course on information retrieval. The lecture method may be more advantageous for a mature group of audience rather than beginners.

Seminars, Tutorials and Demonstrations

These are organised for small groups of students/users. Compared to lecture method, seminars, tutorials and demonstrations are methods which provide opportunity for active involvement of users in the learning process through greater interaction between the teaching staff and students. In seminars, the atmosphere tends to be less formal and more congenial for interaction between the teacher and the student. It is possible to provide motivation and to see that students are actively involved by means of practical exercises. During the practical sessions the students receive feedback regarding their progress. For example, an attempt can be made to relate new information to existing knowledge. It is rather difficult to explain the use of various specific tools for information retrieval in absence of source materials. It will be ideal to conduct seminars relating to library user education in libraries. This would facilitate demonstration of specific tools for information retrieval. Demonstrations might prove to be a good way of teaching small groups of students/users, the use of various tools used for information retrieval. They may be provided with an opportunity of actively searching for information about some topic in which students/users are interested.

The Guided Tour

This is one of the traditional approaches commonly adopted to orient the new users to the use of the library. This type of orientation is often given when the students have little or no motivation to use the library. From the point of view of library administration the guided tour type of library orientation is a burden as it demands substantial amount of the library staff time. "A better programme for short library orientation is the self-paced printed or audio tour followed by appropriate exercises. This method brings library users into the actual building where they carry out a series of practical tasks concerned with the location materials, photocopying, use of catalogues and other routines. Self guided tours have been used successfully in many libraries".

Audio-visual Methods

There are few areas in library user education where it is necessary to use moving images. As a result, the information can be conveyed in a series of units such as slides or transparencies or printed illustrations. This would suggest that the tape/slide medium or the use of audio-tape in conjunction with printed material would be suitable for library user education. The advantages of tape/slide productions are-flexibility, constant availability, speed of presentation and the clarity associated with the exposition apart from being easy to update.

Video-tapes

Video-tapes, like films, can be used to convey both motion and audio. It is possible to re-use the tape thereby making and updating less expensive. However, updating

of video-tapes is a time consuming activity. Video-recording can be used to create an atmosphere of reality and convey moving images but these requirements are not usually met with in library instruction. Video-recording can make use of tape, film or discs for actual storage of recorded material. However, one of the problems facing libraries in the use of video materials has been the lack of standardisation between different systems. It would appear that cassette systems are more appropriate in the context of library user education. There are at present two types of TV cassette systems- for playback alone and systems for both recording and playback. But the main problem is lack of compatibility between different systems. The advantages of these methods are that they allow for careful preparation of material and can make use of the best teachers available repeatedly as the recorded material can be used many times. Internal TV systems can be suitable for audiences of different sizes. Though the students cannot stop in the middle of the programme and ask questions and discussions cannot be organised. In other words, the instruction tends to place the student in a passive atmosphere.

Programmed Instruction

The programmed instruction can be carried out by the use of a variety of media such as printed books, automatic projection of slides or by means of a computer-aided instruction (CAI). Programmed instruction is associated with many advantages for library instruction. For example, student/users can work at their own pace, they can actively participate in the learning process and receive direct feedback in respect of their progress. It is also possible for the teaching staff to obtain a record of the student's progress. Of course, the disadvantage is that of the possible isolation of the student. Extrovert students who like companionship and competition of the classroom might not prefer this method of learning. CAI instruction is largely developed in the USA.

Signs and Informational Graphics

Sign systems and informational graphics are two of the most basic methods available for providing orientation about the use of the library. A study of British libraries conducted by Graphic Information Research Unit at the Royal College of Art revealed that the general standard of graphics was poor, signs in particular tended to vary in design and construction. However, in the USA, there has been a marked increase in this important aspect of user education in recent years and a number of handbooks and guides have been produced in this area.

“Librarians started to apply systems approach in which different types of signs are used to illustrate different functions such as orientation, direction, identification, instruction, prohibition or regulation or current awareness. These functions fall into two main types: signs related to direction finding and signs related to the use of library resources. If signs are to be effective for user orientation, they must be carefully planned with regard to position, content and presentation”. Well-designed signs are expensive but this expense becomes a good investment as the signs will last for a long time and also help the users to overcome the physical barriers of the library.

Individual Instruction at the Reference Desk

It is believed that the best form of library instruction can be imparted by personalised service at the reference desk. This is because generally a user asks a question about the use of some part of the library when s/he is interested to

learn about that particular aspect. The student/user is actively involved in the learning process and is receiving informed instruction from an expert. The difficulty associated with this type of individual help is that it may provide immediate relief to the students/users, but not necessarily the understanding and background knowledge to cope up with similar situations that the student/user might face in future.

To summarise, it might be said that choice of teaching methods and media depends on the learning-teaching situation, the subject material and people to whom training has to be imparted and the staff involved in the training process. The methods and media for library user education should preferably involve the active participation of the student/user so that the user feels part of the process. In practice, a combination of teaching methods and media might provide the ideal basis for programmes of library user education.

Self Check Exercise

Note: i) Write your answers in the space given below.

ii) Check your answers with the answers given at the end of this Unit.

3) What are the objectives of library user education?

.....
.....
.....
.....
.....

4) Mention the various methods and media used for library user education programme.

.....
.....
.....
.....
.....

11.2.6 Information Technology and User Education

Computers are increasingly being used today for information retrieval activities. This has resulted in rapid growth of computer-based online information retrieval systems. Databases and computer stored information files are produced by many organisations such as American Chemical Society (Chemical Abstracts) and the US National Library of Medicine (Index Medicus), etc. These databases are now widely accessible for information searching from local terminals which are linked to the central computer via a telecommunication network. Such efforts have resulted in the development of a number of online information retrieval systems. The use of these systems depends on the education of users and the availability and functioning of this method of information retrieval. The aim of this section is to examine the goals and objectives of online user education and to suggest

examples of methods, media and training programmes suitable for accomplishing these goals and objectives.

Groups Involved in Online Education

Different groups are concerned with online orientation, training and education. They are:

- 1) Database producers
- 2) System operators
- 3) Institutions such as libraries or information centres
- 4) Library schools
- 5) Intermediaries
- 6) End users

The motivation for each of these groups is expected to vary considerably. Generally, the motivation for taking part in such training programmes might be considered partly financial and closely linked to the sale of a specific product, database or information system. For the sake of convenience, online education programme may be divided into two components, orientation and instruction. Orientation is concerned with enabling the user to learn of the existence of computer-based information retrieval and the services available. On the other hand, instruction is concerned with enabling the user to learn in detail how to carry out computerised information retrieval. The goals and objectives of online user education may be categorised in terms of the two main groups namely the end-users and the intermediaries.

Main Goals

- i) To enable an end-user to carry out online information searches either himself/herself or with the help of an intermediary within her/his own subject field, as and when required, in connection with information needs.
- ii) To enable an intermediary to carry out online information searches, for end-users, within many different subject fields, from the available databases, on the various information retrieval systems.

Methods

In the earlier section a detailed account has been provided regarding the teaching methods and media in the context of library user education. In addition to the methods discussed earlier, it must specially be noted that as online retrieval is an interactive process, particular attention needs to be paid to methods which permit the display and experience of this interaction.

The ultimate aim of online instruction, for both end-users and intermediaries, is to be able to carry out online information searches. Therefore, it is essential to practice on a real system. This forms part of 'learning by doing' concept, which is also important in other forms of library user education. The need for live online instruction has been recognised by systems operators, who have provided various aids for teaching. For example, in MEDLINE system, the user can interactively ask for instructions at the beginning of the search or for assistance during the search. The SDC (System Development Corporation) provides an online database over databases, DBI (Data Base Index) where the user can type

in the subject area of interest and receive information as to the appropriate databases ranked in order of suitability for searching.

One of the most common ways of providing training to intermediaries is by letting them observe and work under a trained searcher. This is considered to be an essential part of intermediary training. Real 'hands-on' training in online searching is an important element in the education of end users in computerised information retrieval. This would enable the students/users to be motivated and involve themselves actively in the learning process.

Choice of teaching method is often dependent not only on the learning effects but also on availability of equipment and cost of use.

11.2.7 Evaluation of a User Education Programme

Evaluation of a User Education Programme has been described and interpreted in different ways by educational researchers. It is concerned with the collection of information about the effects of an educational course or programme on users. It involves comparison of observed effects with expectations or intentions. Therefore, it is important to consider why evaluation is carried out while trying to understand what evaluation is.

“Evaluation is concerned with the collection and analysis of information about the input, in terms of educational potential, the variables affecting the educational process, and the end product or output. Evaluation can be directed towards the various aspects of the educational course or programme.” The basic purpose of evaluation is to collect and analyse information that can be used for rational decision making. The objectives of a successful programme of library user education must be based on synthesis of the needs of students, academic staff and library staff. Evaluation, based on attempts to measure the realisation of pre-specified objectives, must be multifaceted, concerned with library use and information skills, attitudes to libraries, effects of various instructional programmes and use of a given library or information resources.

Methods of Evaluation

There are three methods which are normally used for evaluation purpose.

They are:

- i) the psychometric method,
- ii) the sociological or management method, and
- iii) the illuminative or responsive method.

Psychometric evaluation is based on the assumption that it is possible to expose experimental and control groups to different treatments, while all other variables are controlled and to measure the changes by means of psychometric tests, achievement tests or attitude scales. Thus, the experimental group may be exposed to a new type of course where as the control group follows the traditional course, in every other respect the two groups are exactly comparable. Pre-tests and post-tests are given to both groups and the analysis is concerned with establishing significant differences in performance of the two groups. This evaluation procedure is concerned with measuring output in terms of pre-specified goals and no attention is paid to unexpected effects.

The sociological evaluation method is used in the study, of changes in the structure of an organisation. This type of evaluation makes use of interviews and questionnaires. Attention is focused on the organisation undergoing the change, rather than on comparison with any control group.

The third type of evaluation has been called illuminative evaluation by Parlett and Hamilton. It is not limited by the initial formulation or aims, but allows the expression of unexpected results. The actual implementation of an innovation is regarded as the most important part of the study. Research is focused on what is actually happening in response to the innovation. This type of evaluation is not concerned so much with testing of an educational programme, but with describing and understanding the conditions in which the programme works, and how the participants are affected by it. Observational studies and explorative interviews are used to obtain the information.

Need for the Evaluation of Library User Education

Of late, librarians have become more particular regarding the evaluation of programmes of library instruction. In 1976, Brewer and Hills observed that “librarians should take evaluation more seriously and to think more professionally about their teaching commitment”. A critical examination of the bibliographies and handbooks on user education reveals that evaluation is not well documented as compared to other aspects. It might be mentioned that while there is a growing increase in awareness about the importance of evaluation in library user education programmes, not many examples of systematic evaluation of library user education programmes are presently available.

One of the examples cited in this connection is that of the evaluation studies conducted at Chalmers University of Technology Library. A review of work done in library user education programme evaluation, reveals that evaluation has been carried out in many different ways. An attempt is made to study the value of such programmes and the measurement of the effects of such educational programmes on those who participated in such programmes. It might be emphasised that evaluation and the feedback received in the process will lead to the improvement of such programmes.

Self Check Exercise

Note: i) Write your answers in the space given below.

ii) Check your answers with the answers given at the end of this Unit.

5) How Information Technology (IT) helps in providing user education?

.....
.....
.....
.....

6) What is the need for evaluating user education in libraries?

.....
.....
.....

11.3 INFORMATION LITERACY

Information Literacy (IL) is a very active area of research today. Library and Information Science (LIS) professionals are writing on the subject and are also engaged in research on it. It has evolved as a concept with the increasing importance of information in our lives. Information literacy finds more application in education and research sector, though it is equally applicable in work and other areas of life. Let us begin with understanding what is information literacy.

11.3.1 Concept

The concept of information literacy was first conceived by Paul Zurkowski in 1974, the then President of Information Industry Association. He observed that information literates are trained in the application of information resources to their work. It enables them to make more intelligent decisions at work, research and study as compared to those who are not information literate. One of the earliest definitions of information literacy was given in 1989 by the ALA Presidential Committee on Information Literacy. It stated that “to be IL, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.” The concept evolved as a result of the ever increasing volume of information being generated across all fields and its increasing importance. Excess of information or paucity of information, both, create problems in using it for decision making. Paucity of information may result in a decision that does not take into account all facets of the problem or different experiences reported regarding the issue. Excess information, described as ‘information smog’, makes it difficult to sift relevant information from the huge mass of information, thus affecting the decision. It is presumed that a user is competent in using the different tools, forms and formats in which information exists to handle it efficiently and effectively.

Terms such as computer literacy, media literacy, library literacy, digital literacy and network literacy have cropped up recently to express these competencies. Computer literacy refers to the ability to handle computers so as to produce, process, store and retrieve information. The term technology literacy is broader in scope as it encompasses competencies in handling all Information and Communication Technology (ICT) components in managing information. Media literacy is another competency that an individual should possess to handle information competently. Information is available in different media e.g. print, electronic media including T.V., Internet, etc. Media literacy refers to the ability to access, store, organise, search and communicate information in these media. Network literacy is also considered a part of information literacy due to the fact that information does not exist in isolation and all institutions and organisations are interconnected and share information. Internet and Intranet are examples of networks that play a crucial role in our lives while using information. It is essential for one to be able to post, access, transmit and use information on a network resulting in one being network literate. Digital information is on the rise today. It has its own advantages of easy transmittal across distances, easy maneuverability, multiple and simultaneous access. A large volume of current information is available in digital form. We are converting even the print form of information into digital form. This demands one to be digitally literate to be able to handle digital information. Library literacy implies the competence to use the library effectively to access and use information. It implies knowing the scope of

reference and information sources, their structure and search engines which may be indexes in print sources. Broadly speaking the library skills have been equated to search skills. Some writers have gone to the extent of equating library skills to analytical skills.

Another comprehensive definition of information literacy was arrived at during the UNESCO sponsored meeting of Experts on IL at Prague. It was observed that “Information Literacy encompasses knowledge of one’s information concerns and needs, and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information and address issues or problems at hand; it is a prerequisite for participating effectively in the Information Society, and is a part of the basic human right of lifelong learning”.

Another way of looking at information literacy is enumerating the characteristics of an information literate person that has been done by Doyle as a result of a Delphi study undertaken by him. He states that an “IL person:

- Recognizes that accurate and complete information is the basis for intelligent decision making;
- Recognizes the need for information;
- Formulates questions based on information needs;
- Identifies potential sources of information;
- Develops successful search strategies;
- Accesses sources of information including computer-based and other technologies;
- Evaluates information;
- Organizes information for practical application;
- Integrates new information into an existing body of knowledge; and
- Uses information in critical thinking and problem solving”.

Some more characteristics can be added to the list i.e., they understand the social and legal issues surrounding the use of information. They are competent and independent learners, are flexible in their working, are adaptable and can function independently and in groups.

11.3.2 Need

Information is the basic ingredient of our day-to-day working, learning, teaching, research, administration, etc. Information is available all around us. Those who utilise it effectively and efficiently are called information literates. It is not easy to utilise the information available in abundance because:

- It is increasing exponentially, thereby making it difficult to ascertain whether we have access to all information that currently exists;
- Anyone can publish on the Internet, thus making it difficult for the user to verify the authenticity and validity of information;
- Sources of information are many, therefore, making its control difficult;
- Information is available in different formats which a user should be adept in handling to use the information; and
- Using the information for some work requires skills of analyses and syntheses.

The above characteristics of information require individuals to be competent to handle and use the information which is acquired on being information literate. Moreover, the information society aims at overcoming the information gap in the society by democratisation of information so as to empower the citizens.

Self Check Exercise

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit

7) Define information literacy and discuss its need.

.....

.....

.....

.....

.....

11.3.3 Historical Background

As mentioned earlier, the exponential information boom and increasing dependence of the society on information gave birth to information literacy in 1974. The introduction of personal computers in 1980s saw further rise in information generation. Related developments in telecommunication technology brought people closer which resulted in information exchange. Developed countries also saw the rise of the phenomena of ‘information society’ during 1980s where information occupied central importance. They realised its importance and started programmes to prepare their citizens to make use of the varied information resources. American Library Association (ALA) took the initiative and recommended the formation of National Forum for Information Literacy (NFIL). NFIL was formed in 1989 as a first step to collectively promote information literacy across all sections of society. NFIL had representation from over 65 different bodies related to the fields of education, industry, governance, etc. The Forum aimed at creating awareness in the society towards information literacy by discussing developments in information literacy and publicising through announcements, advertisements, seminars as well as encouraging research on it. A definition emerged, given by the Presidential Committee of ALA on Information Literacy in 1989. It is the most comprehensive definition that has been most often quoted and also forms the basis of other definitions.

1990s saw the movement spreading to other countries. Society of College, National and University Libraries (SCONUL), UK gave the “The Seven Pillars of Information Literacy” model to spread information literacy among higher education community. Other models such as Kulthau Information Search Model, Empowering 8 IL Model, Big Skills IL Model, Pitts/Stripling Research Model were proposed simultaneously by other organisations and individuals. The year 2000 saw another important contribution in information literacy by Association of College and Research Libraries as it outlined standards for assessing information literacy of students. It included performance indicators and learning outcomes that help to monitor information literacy. IFLA included a section on Information Literacy by replacing the User Education Roundtable in 2002. Later it prepared a draft proposal, “International Guidelines on Information Literacy”

to guide libraries, individuals and organisations to design information literacy programmes.

The Prague declaration is an important event in the history of information literacy which is the result of an international conference on information literacy held jointly by UNESCO, NFIL and the National Commission on Libraries and Information Science in 2003. It described information literacy as a basic human right in lifelong learning and as a necessary ingredient for social, economic and cultural development of individuals, communities, nations and the society on the whole. IFLA organised a 4 day colloquium in Egypt at Alexandria on Information Literacy and Lifelong Learning. It concluded that information literacy and lifelong learning are essential for development of the information society. Known popularly as the Alexandria Proclamation, it requested governments and intergovernmental organisations to accord information literacy its due importance. Specifically it asked:

- to encourage conferences and seminars on information literacy within specific regions and socio-economic sectors to facilitate spread of information literacy;
- to train professionals from the LIS, education and archives sectors in the principles and applications of information literacy;
- to include components of information literacy in education as well as continuing education programmes for agriculture, economic and business sectors; and
- to make mandatory by accreditation bodies information literacy and lifelong learning to be necessary components of all education and training programmes.

Institutions were set up for popularising, teaching and undertaking research on the subject. Library associations also started having information literacy as an active area for discussions in meetings. IFLA introduced a section on information literacy to popularise the subject in institutions across the world. It also aimed to design curriculum for imparting information literacy. Similar efforts were undertaken by UNESCO and national associations in other countries. IFLA has a blog and listerv also on information literacy. Professionals in India also realised the importance of information literacy and actively participated in discussions. Thus, information literacy became the topic of discussion in many seminars, conferences and workshops. A series of meetings were organised under the aegis of UNESCO, ILA and IASLIC to popularise the subject. Central Library of University of Delhi has designed a programme on information literacy for researchers. More such efforts have to be undertaken to impart information literacy skills. Libraries in other countries have designed tutorials on information literacy that are available on their websites.

Self Check Exercise

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit.

8) Discuss in brief the historical developments in the area of information literacy.

.....
.....
.....

11.3.4 Information Literacy Models

Information literacy models are useful for LIS professionals and faculties in designing information literacy programmes. They provide a framework to develop an information literacy programme based on information seeking and writing and evaluating the information product. These models assure learning as an active and creative process that enhances critical thinking. They have also been used for designing and evaluating information literacy curricula.

Society of College, National and University Libraries (SCONUL) developed a model of information literacy in 1999 known as Information Skills Model. The seven skills recommended in the model are also called “The Seven Pillars of Information Literacy”.

The skills include the ability to:

- 1) Recognise the need for information;
- 2) Distinguish ways in which information gap may be addressed;
- 3) Construct strategies for locating information;
- 4) Locate and access information;
- 5) Compare and evaluate information obtained from different sources;
- 6) Organise, apply and communicate information in ways appropriate to the situation; and
- 7) Synthesise and build upon existing information, contributing to the creation of new knowledge.

Kulthau is credited for conducting a series of studies concerning user’s information behaviour. She observed student reactions while using different methods like interviews, case studies and assessing them in writing assignments, etc. Based on their responses, she proposed the Information Search Process. She proposed three models to impart library skills, viz. the source or library as the focus, the pathfinder or search strategy approach and the process model approach. The first two models have the library or the information resource as the focus, helping the user to reach and search the source, whereas the last model stresses upon the process of information search and use and is user-centred in contrast to the other two models that are resource and information centred. The process model helps empower the user in information search and use. It inculcates critical thinking and problem solving skills so as to strategise information use according to the situation.

Irving gave the nine steps Information Skills Model that guides students in completing their academic assignments. She realised the use of information literacy skills in different activities besides academic. She observed that information literacy helps in the work place as well as in personal life.

The Stripling/Pitts Research Process, given by two high school media specialists, combines content and process elements in providing a structure for learning. They feel that it is important to ascertain the state of knowledge of the recipient. It is described as the Student’s Mental Model. Once the teacher and the librarian identify the student’s state of awareness, they can challenge it for further learning. Using different methods, the teacher and the information literacy specialist can help student to make sense out of information, identify one’s learning so as to

match it with the developments in the subject and keep up to date. The model puts assessment as an essential component of learning making it contextual to real life helping learning.

Self Check Exercise

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit.

9) Explain the purpose of an information literacy model. Enumerate information literacy models.

.....
.....
.....
.....
.....

11.3.5 Information Literacy Standards

Association of College and Research Libraries (ACRL), 2000 formulated standards of information literacy for higher education that help in developing an information literacy curriculum for an educational institution. The standards also provide **Performance Indicators (PI)** and **Outcomes** for each standard that have been presented briefly below.

Standards of Information Literacy

The information literate student:

- 1) Determines the nature and extent of information needed.
- 2) Accesses the needed information effectively and efficiently.
- 3) Evaluates information and its sources critically and incorporates selected information into her or his knowledge base and value system.
- 4) Individually or as a member of a group, uses information effectively to accomplish a specific purpose.
- 5) Understands many of the economic, legal and social issues surrounding the use of information and accesses and uses the information ethically and legally.

IL Standard-1

The information literate student determines the nature and extent of information needed.

Performance Indicator

The information literate student:

- a) Defines and articulates the need for information.
- b) Identifies a variety of types and formats of potential sources of information.
- c) Considers the costs and benefits of acquiring the needed information.
- d) Re-evaluates the nature and extent of information need.

Outcomes 1

- Discusses with peers and in class to identify information need or identify a research topic.
- Explores information sources to gain familiarity with the topic and modifies the need to be more focused.
- Identifies key concepts that identify the need.
- Knows how information is produced, organised and disseminated.
- Recognises the difference of sources in different formats.
- Differentiates between primary, secondary and tertiary sources.
- Recognises that information may have to be constructed with raw data from primary sources.
- Determines the availability of local resources and decides on broadening his search beyond local resources and go for inter-library loan.
- Defines a realistic timeline to acquire the needed information.

IL Standard-2

The information literate student accesses the needed information effectively and efficiently.

Performance Indicator

The information literate student:

- a) Selects the most appropriate IR(information retrieval) system for accessing the needed information.
- b) Constructs and implements effectively designed search strategies.
- c) Retrieves information online or in person using a variety of methods.
- d) Refines the search strategy if necessary.
- e) Extracts, records and manages the information and its sources.

Outcomes 2

- Identifies appropriate investigative methods for information search.
- Investigates the pros and cons of the different methods.
- Selects the efficient and effective methods for information search.
- Develops a research plan appropriate to the investigative method.
- Identifies keywords and related terms for information search.
- Selects controlled vocabulary for information retrieval.
- Constructs a search strategy using appropriate commands.
- Implements the search strategy in various information retrieval systems using different user interfaces and search engines with different command languages.
- Implements the search using protocols appropriate to the discipline.
- Uses various search systems to retrieve information in a variety of formats.
- Uses class numbers to physically locate sources in the library.

- Uses online or in person service to retrieve information.
- Assesses the quality of search results to determine if alternative information retrieval systems are to be used.
- Checks whether a change in search strategy needs to be done.
- Repeats the search using a revised search strategy.
- Selects an appropriate ICT to extract the information.
- Creates a system to organise the information.
- Records pertinent citations for future reference.

IL Standard-3

The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.

Performance Indicator

The information literate student:

- a) Summarises the main ideas to be extracted from the information gathered.
- b) Articulates and applies initial criteria for evaluating both the information and its sources.
- c) Synthesises main ideas to construct new concepts.
- d) Compares new knowledge with prior knowledge to determine the value added, contradictions or other unique characteristics of the information.
- e) Determines whether the new knowledge has an impact on the individual's value system and takes steps to reconcile differences.
- f) Validates understanding and interpretation of the information through discourse with individuals.
- g) Determines whether the initial query should be revised.

Outcomes 3

- Reads text, selects main ideas and presents in his/her own words.
- Quote verbatim matter in quotes.
- Evaluates information regards its reliability, accuracy, validity, timeliness and point of view or bias.
- Recognises prejudice, deception or manipulation.
- Recognises relationship among concepts and combines them into useful primary statements.
- Extends initial synthesis when possible to a higher level of abstraction to construct new hypothesis that may require additional information.
- Uses ICT for analysing and presenting information.
- Determines whether information satisfies research or information need.
- Draws conclusions based on information gathered.
- Integrates new information with the previous information.
- Participates in discussions to verify if the information need has been satisfied.

- Review search strategy and information retrieval sources and expands if needed.

IL Standard-4

The information literate student individually or as a member of a group, uses information effectively to accomplish a specific purpose.

Performance Indicator

The information literate student:

- Applies new and prior information to the planning and creation of a new product or performance.
- Revises the development process for the product or performance.
- Communicates the product or performance effectively to others.

Outcomes 4

- Organises the content in a manner that supports the purpose and format of the product or performance.
- Articulates knowledge and skills transferred from prior experiences to plan and create a new product.
- Maintains a log of activities related to information seeking, evaluating and communicating.
- Reflects on past successes, failures and alternative strategies.
- Chooses a medium that best supports the purpose of the product or performance.
- Design in a way that best conveys the thought.

IL Standard-5

The information literate student understands many of the economic, legal and social issues surrounding the use of information and accesses and uses the information ethically and legally.

Performance Indicator

The information literate student:

- Understands many of the ethical, legal and many of the socio-economic issues surrounding information and information technology.
- Follows laws, regulations, institutional policies and etiquette related to the access and use of information resources.
- Acknowledges the use of information sources in communicating the product or performance.

Outcomes 5

- Identifies and discusses issues related to privacy and security in print and electronic environment.
- Identifies and discusses issues related to free vs. fee-based access to information.
- Identifies issues related to censorship
- Demonstrates an understanding of IPR, copyright and fair use of copyrighted material.

- Participates in electronic discussions following netiquette.
- Uses approved passwords and other forms of passwords to access information.
- Complies with institutional policies on access to information sources.
- Preserves the integrity of information resources, systems, equipment and facilities.
- Demonstrates an understanding of plagiarism and earnestly practices it.
- Selects an appropriate documentation style and consistently follows it.
- Posts permission granted notices for copyrighted material.

Self Check Exercise

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit

10) What are information literacy standards? Discuss their purpose.

.....

.....

.....

.....

.....

11.3.6 Imparting Information Literacy

Different types of programmes help impart information literacy skills. These range from stand-alone programmes to course related and course integrated programmes. A simple information literacy programme could be providing details on information sources, their scope and search techniques followed by exercises in searching databases and other sources. Course related programmes dwell on information literacy skills in different subjects and areas. Course integrated programmes are also for a particular subject/area. The difference between a course related programme and a course integrated programme lies in the fact that the former is a separate programme on information literacy whereas the latter is integrated in the course in a way that forms an inseparable part of the programme.

Information literacy programmes may be non-credit or for-credit. There is a feeling that information literacy programmes, like other non-subject programmes, should be non-credit. But the drawback with a non-credit programme is that it is not taken seriously. Learners might take it lightly and not give weightage to it. Even if a condition to pass it is set, learners seriousness is limited to just passing it. Course integrated information literacy programmes have an advantage that the learner is not able to sideline them. Smith (2003) has proposed an information literacy curriculum for the Sciences which is an integrated information literacy programme.

It is spread into four parts viz.,

- **Undergraduate: Beginning/ General** – includes introduction to the different types of resources (primary, secondary and tertiary), core resources in a subject, basic research process in the sciences, basic searching skills and applying the same to a database, evaluating a resource and citing a work.

- **Undergraduate/ Advanced-** includes role of information the process of research, in depth introduction to the types of resources, core information resources (print and electronic), introduction and application of more sophisticated search strategies, searching online resources, scientific information on the Web, portals, searching and evaluation, process of publishing scientific information and peer review, evaluating a scientific paper, evaluating information and critical thinking.
- **Graduate Students-** includes scientific research process and the sources of information at each stage, information tools of practicing scientists, scientific publication process in depth from the perspective of the scientist/ producer, key sources and databases in the discipline, information seeking process with a focus on in depth research for theses and research proposals, information management (including use of bibliographic management software, peer review process), evaluating scientific information and journal articles, citation indexing, Journal Citation Reports (JCR), Internet for scientific communication and information resources and key issues in scholarly publication including copyright, electronic publishing.
- **Professional Scientists: Post-Doctoral and Independent Researcher-** includes updates on new features of known resources and introduction to new resources, keeping up with new literature by Table of Contents (TOC) services, browsing, alerts/ Selective Dissemination of Information (SDI), identifying core journals in a discipline, citation counting and JCR, limitations of citation counting and impact factor, searching the ISI databases, advanced searching the key discipline – specific resources, bibliographic and data sources, search on the Web including portals, directories, organisation and publisher information, locating grant news and announcements, e-journals publishing and accessing, managing a personal resource collection, information skills and instruction in undergraduate and graduate courses, training and mentoring.

Purdue University Library, Illinois provides an information literacy curriculum with six goals, i.e. to enable the user to:

(<http://www.lib.purdue.edu/rguides/instructionalservices/infolitcurriculum>)

- understand the role, value and power of information in modern society;
- understand and be able to communicate his/her specific need(s) for information;
- understand that information varies in its organisation, content and format;
- retrieve information from a variety of systems and in various formats;
- evaluate information sources; and
- understand how to organise information effectively.

These goals have been further subdivided into objectives and these objectives help in designing a course. Nyamboga (2004) describes the efforts of Indian university libraries in information literacy. He gives a brief account of the automated resources of five universities i.e. Bangalore University, Cochin University of Science and Technology, Gulbarga University, University of Hyderabad, Kuvempu University and Mangalore University. It is expected for a library to be at least automated to provide information literacy skills training

today. A scan of the different university websites in India would bring to light the efforts of their libraries in providing information literacy services. Delhi University Library System leads as it provides information that facilitates the use of e-resources. It has also been organising information literacy sessions for its researchers every academic year wherein they are taught to use e-resources and also to cite references while reporting research. Information literacy programmes are also organised for the postgraduate departments, colleges for the faculties and students. Other universities provide information on their websites about e-resources and also how to use them.

The following list gives examples of the kinds of skills and competencies that might be taught to in courses being developed or revised with support from the Andrew W. Mellon grant, Integrating Information Literacy into the Liberal Arts Curriculum. This list is highly selective, and is intended merely as a starting point, or “touchstone”, for those doing course development work in this area. Generally speaking, undergraduate students in their first couple of years will acquire, use and refine their basic research skills (Basic Competencies) and students in their junior and senior years will use and refine the more advanced skills (Advanced Competencies).

Basic Information Literacy Skills Include:

- “Understand that materials in academic libraries are classified by subject (no fiction or biography sections, as in typical high school libraries), and be able to interpret a call number.
- Be able to identify the parts of a bibliographic record.
- Be able to use reference tools such as dictionaries, encyclopedias, handbooks, almanacs, and statistical sources to achieve a manageable research focus.
- Be able to distill a complicated research question into searchable concepts/keywords/synonyms.
- Understand the concept and usefulness of a controlled vocabulary (all online catalogs and many databases & indexes employ controlled vocabularies).
- Understand the difference between subject searching and word searching.
- Understand commands of the online catalog (Boolean, truncation, adjacency, etc).
- Be able to formulate a research strategy, and understand the process through which questions are refined, and redefined in the course of research.
- Understand that both popular and scholarly material exists on most any topic; be able to distinguish between these 2 types of material, and determine when it’s appropriate to use each type and why.
- Be able to distinguish between primary and secondary resources; be able to determine when it’s appropriate to use these 2 types of resource and why.
- Understand the nature of periodical literature, and why and when it’s useful.
- Understand what periodical literature abstracts and indexes do, and why they are useful. Understand that these resources vary in scope (what subjects are included, how many titles are indexed, etc.), arrangement (classified, subject, etc.), and content (full-text, abstracts, citation only).

- Be able to critically evaluate information for usefulness, bias, currency and authority (including Internet resources).
- Have an understanding of plagiarism and intellectual property issues-quoting, paraphrasing, attributing ideas; what is fair use?
- Be able to use a style manual to correctly document information sources in many different formats.

Advanced Information Literacy Skills Include:

- Be familiar with the subject-specific tools in their discipline (indexes, abstracts, electronic texts, and other specialized resources).
- Understand how scholars and practicing professionals in their discipline generate, control, and use information (published/unpublished sources, electronic & personal communications, etc.).
- Understand and effectively communicate the steps required for effective research, including formulating a thesis, creating a search strategy using a variety of sources.
- Develop the ability to critique their own research process; was the original need met?"

Self Check Exercise

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit

11) Mention the different approaches of imparting information literacy.

.....

.....

.....

.....

.....

11.4 INFORMATION LITERACY AND USER EDUCATION

Library instruction programmes have evolved with time and changing information environments. Different programmes have been designed to serve different user needs. Library orientation, bibliographic instruction and user education programmes have been designed to serve the different needs of the library users. Information literacy emerged as a result of the explosion of information, increasing importance and the increasing digitisation of information. However, it cannot be placed in the same category as all other programmes. It has a broader scope and objectives as it is not limited to library resources and programmes. Its purpose extends beyond knowing and mastering the contents of information sources, searching and using information from them. Information literacy aims at developing competencies in individuals to keep themselves updated in their knowledge domains by utilising relevant and appropriate information, ethically and legally. Subsequently, they should be able to apply this knowledge for their

study, research, teaching and work. To achieve this, they need to develop reasoning, critical thinking, analytical and synthesis skills. Information literacy enables one to contextualise and see things in a greater meaningful context. Information literacy is an enabler of lifelong learning which is the focus of learning today.

11.5 SUMMARY

Libraries have designed different programmes to introduce their services and tools to their users. These differ from each other as they cater to different categories of users. Library orientation is provided for the freshers/ new users to make them aware of the rules, regulations, physical infrastructure and facilities in the library. Library instruction aims at helping users to understand the tools to access information. Bibliographic instruction is provided to the users to understand the use of the available tools of organising information and thus to search for information effectively and efficiently. Library orientation is concerned with enabling the student to become aware of the existence of the library and the services available and aiding the student to learn about the general use of the library, whereas library instruction is concerned with enabling the student to obtain information required for specific purpose by making full use of the resources and material available in the library and is concerned with problems of information retrieval.

Changes in the information world leading to the explosion of information and its increasing importance in decision making at all levels led to the birth of the concept of 'Information Literacy'. Information literacy as a concept is different from all other programmes of the library that relate to helping the user in accessing required information. It helps in interpreting the information, using it to add to one's repertoire of knowledge and thus remaining updated and helps in lifelong learning. It gains importance from this quality that it helps a learner to know how to learn. There are different methods and tools to learning about information resources. The developments in the concept of user education and information literacy have been discussed for the learners to appreciate the concepts. There is a vast literature on the subject as it is still developing and being researched. You are advised to go through the references as well as new developments to keep updated on the subject.

11.6 ANSWERS TO SELF CHECK EXERCISES

- 1) User education is described as a process or programme through which the potential users of information are motivated to use the information sources. User education has basically two components such as: i) orientation and ii) instruction.
- 2) The development of user education originated since 1934 when Louis Shores brought the concept of "Library Arts College" with the objective of developing the student learning through the use of library. Patricia B.K. Knapp and her 1964 Report also attempted at "exploring methods of developing a more vital relationship between the library and college teaching". Afterwards various institutions and associations in the USA, UK and India as well as UNISIST programme organised seminars and workshops to promote user education.

- 3) The objectives of library user education programmes are to: i) create awareness of the resources available and ii) acquaint a series of skills which can be made use of in connection with different academic studies.
- 4) Lectures, seminars, tutorials and demonstrations guided tour, video-tapes, programmed instruction, graphics, individual instructions are various methods and media which are used for library user education programme.
- 5) Computer-based on-line information retrieval systems are helpful to users to carry out on-line information searches either themselves or with the help of an intermediary.
- 6) The need for evaluating user education in libraries is to study the value of different programmes and measurement of the effects of such educational programmes on those who participated.
- 7) Information literacy is defined as the ability to recognise the need for information, to locate, evaluate and use effectively the needed information. It is difficult to ascertain whether we have access to all information that currently exists. Anyone can publish on the Internet making it difficult for the user to verify the authenticity and validity of information. Sources of information are also many making its control difficult. Information is available in different formats which a user should be adept in handling to use the information. The above characteristics of information require individuals to be competent to handle and use the information which is acquired on being information literate.
- 8) Information literacy came into existence in 1974, introduced by Paul Zurkowski. ALA played a major role by setting the ALA Presidential Committee on Information Literacy which gave comprehensive definition of information literacy enumerating the characteristics expected of an information literate person. A number of conferences were organised, particularly the one at Prague by UNESCO and at Egypt by IFLA that helped induce the attention in information literacy among professionals. Extensive literature was produced by individuals and organisations including universities and library associations that gave an impetus to research in the field. Information literacy is being researched all over the world. Libraries have designed programmes that need to have active collaborations of faculties and administrators to make them successful.
- 9) Information literacy models are useful for LIS professionals and faculties in designing information literacy programmes. They provide a framework to develop an information literacy programme from information seeking to writing and evaluating the information product. These models are learning and creative process that enhances critical thinking. They have also been used for design and evaluation of information literacy curricula. Some of the Information Literacy Models are: SCONUL Seven Pillars of Information Literacy, Kulthau's Information Search Process, Stripling's/Pitts Model, Irving Model.
- 10) Association of College and Research Libraries (ACRL, 2000) has formulated standards of information literacy for higher education that help in developing an information literacy curriculum for an educational institution. The standards also provide performance indicators (PI) and outcomes for each standard.

- 11) Information literacy can be imparted as stand-alone courses or as part of other courses. The component of information literacy may be integrated in other courses. These courses may be offered as non-credit courses or as credit-based courses.

11.7 KEYWORDS

- Affective Goals and Objectives** : They are concerned with feelings whether the student wants to, and subsequently does, behave in various educationally desirable ways. They are of long term importance for the behaviour of the student.
- Bibliographic Instruction** : It is concerned with learning to make use of the information resources available in a specific library. It is concerned with the problems of information retrieval and the techniques of exploiting information sources to the maximum extent.
- Cognitive Goals and Objectives** : These are concerned with understanding various concepts. Within domain they are arranged according to degree of complexity.
- Digital Information Literacy** : The ability to access, store, organise, transmit and use digital information effectively in various activities of life.
- Illuminative or Responsive Evaluation** : This type of evaluation emphasises participant observation and interviews as means to obtain an overall view of education programmes.
- Information Literacy** : The ability to use information effectively in various activities of life. IL helps in lifelong learning.
- Media Literacy** : The competence to use various media in accessing, storing, organising and transmitting information.
- Library Literacy** : The competence in using library tools and techniques in accessing, searching, retrieving and using information.
- Library Orientation** : The programme that tries to create the right kind of environment for effective communication between user and the library staff and to present an image of the library as a pleasant, friendly institution, where help can be obtained. It makes the user feel confident that the library staff is competent and is always willing to help her/him.
- Psychometric Evaluation** : It has evolved from the discipline of psychology and is based on the assumption that it is possible to expose experimental and control groups to different treatments, while all other variables are controlled and to measure changes by means of psychometric tests, achievement tests or attitude scales.

Sociological Evaluation: This approach has developed from the discipline of industrial sociology. This method is used to study changes in the structure of an organisation.

Technology Literacy : The competence in using ICT in accessing, searching, retrieving and using information.

User Education : The process or programme through, which the potential users of information are made aware of the value of information and are motivated to use information resources.

11.8 REFERENCES AND FURTHER READING

ALA (American Library Association). *Information Literacy Competency Standards for Higher Education*, 2000. Web. 7 July 2013. <<http://www.ala.org/ala/mgrps/divs/acrl/standards/standards.pdf>>

ALA (American Library Association). *Presidential Committee on Information Literacy. Final Report*. Chicago: American Library Association, 1989. Web. 10 July 2013. <<http://www.ala.org/ala/mgrps/divs/acrl/publications/whitepapers/presidential.cfm>>

Breivik, P. S., and E. G. Gee. *Information Literacy: Revolution in the Library*. New York: Macmillan, 1989. Print.

Bruce, C. S. "The Relational Approach: A New Model for Information Literacy". *The New Review of Information and Library Research* 3 (1997):1 – 22. Print.

---. "Information Literacy as a Catalyst for Educational Change. A Background Paper". In P. A. Danaher (Ed.), *Proceedings of Lifelong Learning: Whose responsibility and what is your contribution? 3rd International Lifelong Learning Conference*, pp. 8-19, Yeppoon, Queensland, 2004. Web. 24 June 2013. <http://eprints.qut.edu.au/4977/1/4977_1.pdf>

---. *Seven Faces of Information Literacy*. AULSIB Press: Adelaide, 1997. Print.

Corrall, S. "Information Literacy Strategy Development in Higher Education: An Exploratory Study". *International Journal of Information Management* 28:(2008). 26-37. Print.

Doyle, C. *Outcome Measures for Information Literacy within the National Education Goals of 1990. Final Report to the National Forum on Information Literacy. Summary of Findings*. ED 351033, 1992. Web. 25 July 2013.

Eisenberg, Michael B. *Information Literacy: Essential Skills for the Information Age*. 2nd ed. Connecticut: Libraries Unlimited, 2005. Print.

..., and R. E. Berkowitz. *Information Problem Solving: The Big Six Approach to Library and Information Skills Instruction*. Norwood, NJ: Ablex, 1990. Print.

Fjallbrant, Nancy, and Ian Malley. *User Education in Libraries*. 2nd ed. London: Clive Bingley, 1984. Print.

Girja Kumar and Krishan Kumar. *Philosophy of User Education*. New Delhi: Vikas, 1983. Print.

Irving, A. *Study and Information Skills across the Curriculum*. London: Heinemann Educational Books, 1985. Web 20 August 2013. <<http://www.ericdigests.org/pre-9218/information.htm>>

Kirkendall, C.A. "Library Use Education: Current Practices and Trends". *Library Trends* 29.1: (1980). Print.

Knapp, P.B. *The Monteith College Experiments*. New York: Scarecrow Press, 1964. Print.

Kulthau, Karol C. "A Process Approach to Library Skills Instruction: An Investigation into the Design of Library Research Process". *School Library Media Quarterly* 13 (Winter): (1985) 35-40. Print.

Lubans, J., ed. *Educating the Library User*. London: Bowker, 1974. Print.

Moghdam, D. "User Training for Online Information Retrieval Systems". *JASIS* 26: (1975). Print.

Rajagopalan, T.S. "Education and Training of Information Users". *Library Science* 15:(1978). Print.

Revill, H.H. "Teaching Method in the Library: A Survey from the Education Point of View". *Library World* 71: (1970). Print.

Satyanarayana, N.R., ed. *User Education in Academic Libraries*. New Delhi: Ess Ess Publications, 1988. Print.

Satyanarayana, R. *Training Courses for Users of Scientific Information*. Paper 11.4a DST Course Material: New Delhi: INSDOC, 1976. Print.

Stevenson, M.B. *User Education Programmes: A Study of their Development, Organisation, Methods and Assessment*. Wetherby: British Library, 1977. Print.

Tadesse, Taye, and A. Neelameghan. "User Sensitisation and Orientation: A Case Study in Postgraduates in the Medical Sciences". *Journal of Information Science* 21. 1: (1995). Print.

Taylor, P.J. "User Education and the Role of Evaluation". *Unesco Bulletin for Libraries* 3291: (1978). Print.

Tocatlian, Jacques. "Training Information Users". *Unesco Bulletin for Libraries* 3291: (1978). Print.

Website:

<<http://www.eric.ed.gov:80/ERICDocs/data/ericdocs2sql/>>

UNIT 12 USER STUDIES

Structure

- 12.0 Objectives
- 12.1 Introduction
- 12.2 User and User Studies
 - 12.2.1 User Characteristics
 - 12.2.2 User Studies
 - 12.2.3 Need for User Studies
 - 12.2.4 Planning of a User Study
 - 12.2.5 Methodologies/Techniques for User Studies
- 12.3 User Studies: Limitations and Criticisms
- 12.4 Case Studies
 - 12.4.1 Efforts Made in India
 - 12.4.2 User Studies in the Electronic Environment
- 12.5 Summary
- 12.6 Answers to Self Check Exercises
- 12.7 Keywords
- 12.8 References and Further Reading
- Appendix

12.0 OBJECTIVES

After reading this Unit, you will be able to:

- identify the user of a library or of any information system or service;
- describe the characteristics of different users and categorise them into specific groups;
- explain the need for careful and continuous study of and contact with the users;
- discuss the relation of user studies in the design of information systems, products and services;
- explain the essential steps necessary in planning of a user study;
- identify and adopt suitable methodologies for user studies; and
- enumerate general variables and characteristics of users and use as subject of study.

12.1 INTRODUCTION

Libraries and information systems are designed and built with the primary objective of meeting the information needs of a group of people who constitute their clientele. In the past, information systems and services were developed based more on ‘literary warrant’ rather than ‘users warrant’.

In fact, the key to the aims, direction and contents of any and all information activities is the user. Talking of information users, P.L. Leggate observes “unlike

retrieval systems and computer systems, users are human and therefore difficult to classify. Unfortunately, one can say almost anything and it will be true of some users. Any generalisation which can be made will be true of at least some users". Identifying definite user groups to which information is to be provided involves number of complex, costly and demanding processes. However, the basic questions and problems are not how effective or efficient these processes are but:

- 1) what an information system or information unit or library can do to assist an information user in identifying, clarifying or solving a problem?
- 2) what such a system or unit can do to raise the probability that a user will find relevant and useful information with a minimum effort?

The above stated questions form the foundation on which the librarians have to build or develop information systems or information units including library services. These questions provide a practical operational framework for viewing the objectives, products and services as well as for evaluating the success or failures of such products or services.

If this contention is accepted, it follows that the first requirement for designing an information system, service or product would be to study thy users. The users should be studied not only before designing an information system or starting of an information service or product, but also, during the life cycle of the system or service. It might be emphasised here that while study of users increases the probability of a longer life cycle of such a system, lack of a careful study may decrease it sharply.

Conducting a user study is a difficult proposition because the related theories, models and methodologies have not been fully developed and perfected. However, there is a much higher probability that products and services based on user studies will be better designed than those based on intuition, anecdotal evidence or committee deliberations.

It must be stressed that the basic purpose of a user study is to gather information that is useful in design and provision and/or evaluation of specific information products or services geared to meet the needs of specific users. Thus, user studies are a necessity in all phases of information activities from design to evaluation to marketing and to management. Therefore, the central question is, what useful information about users or uses should be collected? In other words, what user and use variables should be collected? The choice of such variables for study is wide. Depending on the objective, individual studies will concentrate on a limited number of specific variables. Some of the general variables possible to examine in user studies are:

- the factors or variables in the users of information that effect their perception of the problem;
- the specific ways in which users are most likely to use information and their capacity to use a given type of information;
- the stages in the information transfer process which relate to the knowledge an individual has about a specific idea or innovation;
- environmental or social characteristics; and
- communication characteristics, etc.

In the literature of LIS, the term ‘user studies’ has been interpreted differently. Users studies encompass various inter-related concepts and categories such as information use, information needs, information seeking behaviour, etc. The different interpretations along with other related aspects are discussed in the subsequent sections of this Unit. The main purpose of this Unit is to furnish adequate information to the participants of this programme so that they are in a position to plan and conduct a user study in course of their professional work.

12.2 USER AND USER STUDIES

The user is the focal point of all information activities at all levels. User is a broad concept which may include both producers as well as clients of information. In LIS literature, a number of terms have been used to signify users. For example, the words patron, client, member, reader, customer are used to signify the concept of a user. Whitaker defines user as a person who uses one or more of the services provided by a library. On the other hand, Guinchat opines that a user can be defined on the basis of two sets of criteria, namely: i) objective criteria, such as socio-professional category, specialist field, nature of the activity for which the information is sought, reason for using the information system, and ii) social and psychological criteria such as the user’s attitudes and values with regard to information in general and in his relations with information unit in particular. The key factor being reasons behind his particular information seeking and communication behaviour and his professional and general social behaviours. Guinchat categorises users into three broad groups : i) users not yet engaged in active life, such as students; ii) users with a job and whose information needs are related to their work. They are classified by main activity (management research, development, production, services, etc.) by branch of activity and/or specialist field (civil service, agriculture, industry, etc.) and by level of education and responsibility (professional staff, technical. workers); and iii) the ordinary citizen needing general information.

Prof. J.D. Bernal classifies users of scientific and technical information from the point of view of the kind of information services required by them. One major aspect of this grouping is combining engineers, architects, medical practioners and agriculturists into the category of technologists. Also, managers (both business and industry) can be conceived as a distinct group of users of information. These two groupings are depicted in the Figures 12.1 and 12.2.

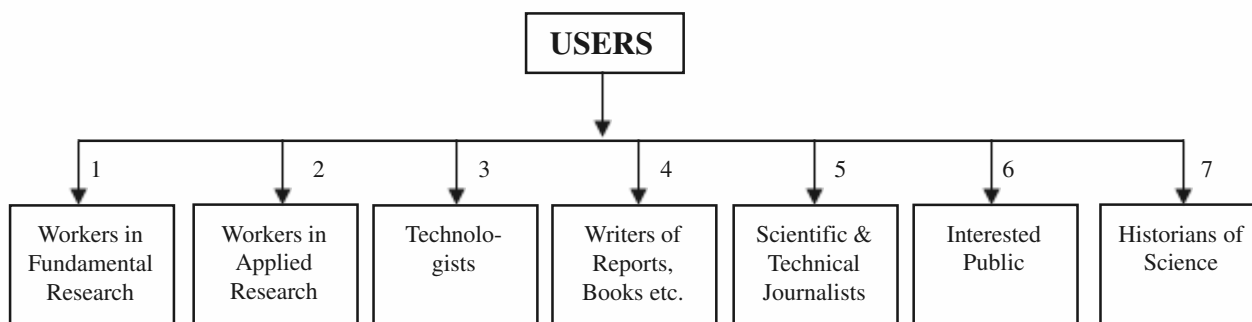


Fig. 12.1: Functional Categories of Users

Source: Prof. J.D. Bernal

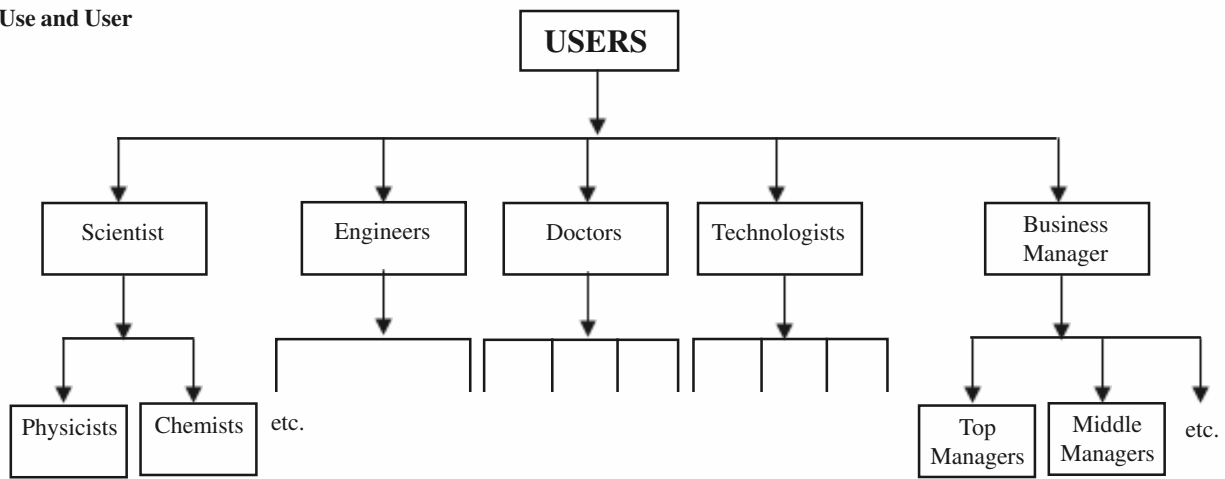


Fig. 12.2: Users Categories Professional Groups

Source: Prof. J.D. Bernal

Another method of grouping users is on the basis of their approach to information. They can be classified as :

- the potential user – one who needs information which can be provided by specific services;
- the expected user – one who is known to have the intention of using certain information services;
- the actual user – one who has actually used an information service regardless of the fact whether he derived advantage from such a service or not; and
- the beneficiary user – one who derives a measurable advantage from information services.

It may be worth noting here that Ranganathan has grouped users, on the basis of types of services, into the freshman, ordinary inquirer, specialist inquirer and general reader. It may be stated that a wise system designer recognises that the user of information must be an active participant in the system whose needs should direct the system design. Therefore, the information service must anticipate, match and be responsive to the requirements of its clientele. In certain situations the users may not be fully aware of the many advantages of a particular system or service. In such situations the system designer must guide the user regarding the pertinent aspects providing a tailor-made service. Generally, three important groups of scientific and technical information system users are distinguishable according to the kind of activity in which they are engaged in are:

- a) researchers,
- b) practitioners and technicians engaged in developmental and/or operational activities in the different fields of technology, and
- c) managers, planners and other decision makers who are engaged in coordinating development activities at local, national or international levels.

The above mentioned three groups are very broadly defined and are not exhaustive.

12.2.1 User Characteristics

Since the main purpose of any user study is to gather information that is useful in design, provision and evaluation of specific information products or services geared to specific users, it becomes necessary to have full understanding of the user characteristics. User characteristics may be studied under the following mention groups: i) individual characteristics, ii) stages in the information diffusion, iii) environmental or social characteristics, and iv) communication characteristics.

Individual Characteristics

The individual characteristics of users deal with (a) their perception of the problem and their definition of the problem faced along with their description of the needed information (b) the specific ways in which they are most likely to use information and their capacity to use a particular type of information.

Stages in the Information Diffusion

This aspect relates to the amount of knowledge an individual (or a group of users) has about a specific idea or innovation. Information needs at various stages are different and therefore information products and services have to be tailored for each stage. This might be possible only when the capabilities of the user are clearly perceived.

Environmental or Social Characteristics

The factors in the social system (such as the norms, situation, reference groups, etc.) that have an important effect on the individual's behaviour and communication fall under the category of environmental or social characters pertaining to an individual (or group) of user. Awareness about these factors enables the system designer to precisely gauge the information requirements of the user.

Communication Characteristics

The elements related to the use and diffusion of information constitute what are known as communication characteristics. Some of these include information sources, information structures, communication channels and information systems. These aspects need to be correlated with other characteristics.

A proper and systematic user study aims at collecting all the pertinent data concerning the users with the objective of building an efficient information system. Such data enables establishment of close relationship between users and the information system designers.

Self Check Exercise

Note: i) Write your answers in the space given below.

ii) Check your answers with the answers given at the end of this Unit.

1) What do you understand by the expression user of a library, information system, information service or product?

.....

.....

.....

- 2) Explain what you understand by the expression ‘categories of users’. Mention the different categories of user that an information professional generally comes across.

.....

.....

.....

.....

.....

- 3) Discuss the main groups under which user characteristics may be studied. How does the knowledge of users help information system designers?

.....

.....

.....

.....

.....

12.2.2 User Studies

In the foregoing paragraphs the concept of user and the characteristics associated with users have been described and discussed. In this section let us try and understand what constitutes a user study and its development. It is the recognition of the paramount importance of users that leads us to user studies.

In the literature of LIS, the earliest reference we come across is to the study conducted by L.R. Wilson in the late 1930s. It was an attempt to investigate the distribution and status of libraries in the USA and was not aimed at obtaining information relating to library use or users.

The concept of users and their information needs found some expression at the first conference of Royal Society held at London and became a subject of discussion at the International Conference on Scientific Information held at Washington in 1958. Prof. J.D. Bernal’s paper entitled “The Transmission of Scientific Information: A User’s Analysis” received a great attention.

It may be mentioned here that a pilot study on the use of scientific literature by scientists was conducted by R.R. Shaw in 1956 on behalf of National Science Foundation. Shaw’s study is considered as one of the pioneering efforts in the direction of user studies. Since then, a number of comprehensive studies have emerged on the subject. For example, Davis and Bail compiled a bibliography consisting of 438 such studies as early as 1964. It has been recorded that by 1977 more than 1000 important studies were conducted on the subject of ‘user studies’. It must be mentioned that the growth of science and technology and the importance accorded to the use of scientific information proliferated such attempts of user studies.

An event of great significance in the history of user studies was the establishment of the Centre for Research on User Studies (CRUS) in 1975 by the British Library

at University of Sheffield. The main objective of this centre was to create a national centre to act as a focal for research in user studies. The establishment of a Centre for Research on User Studies indicates the importance of the subject user studies.

12.2.3 Need for User Studies

Information need surveys or user studies are potentially useful in bridging the gap between the kind of information services needed and the kind of services in existence. Any information system would definitely require identification of user requirements. However, there had been certain doubts regarding the point whether information needs could really be established through user studies or surveys. For instance, it has been stated that information needs distinct from wants, cannot be determined through public opinion poll type surveys. It has been further stated that information service is a professional service (such as medicine) as opposed to a consumer service (such as packaging of breakfast food) and hence users of information services cannot provide correct guidance in the designing or improvement of an information system. This view shifted the emphasis towards the techniques or methodologies for conducting such surveys. This situation led to the efforts for development of reliable methodologies for conducting user studies and further emphasised the need for conducting user studies as necessary requirement for the design and operation of effective and efficient information systems, services and products.

12.2.4 Planning of a User Study

It is important to plan a user study carefully from the beginning to the very end. In this regard, it is necessary to lay down a detailed plan of each step beforehand. The various stages of work are to be spelt out along with the general objectives of the study, translation of the objective into a set of questions or means of answering the questions, selection of the tool or appropriate technique for obtaining the answers, the selection of the sample of users to be observed and a plan for getting the necessary co-operation, the pre testing of the technique, the full scale study itself and analysis of data and preparation of the final report. In each stage of work certain decisions are to be taken.

Different Steps in the Plan

Any plan for conducting a user study should consist at least the following steps:

- i) Surveying the previous studies and literature in general and learning about all aspects of user studies;
- ii) Spelling out the objectives of the study;
- iii) Determining the variables to be studied and the specific model to be followed;
- iv) Selecting the sample population to be studied;
- v) Determining the method for collection of data for observation;
- vi) Determining the method of analysis of data or observations;
- vii) Determining the ways of presentation of data and utilisation of the results including dissemination of such results.

While setting the objectives of the proposed study one has to spell out in clear terms what exactly one is going to find out from the study. All the subsequent

stages will hinge around this decision. In this context, it may be pointed out that what are generally referred to as information use or need studies are a composite of many different things. Such studies may be grouped into four broad categories.

Different Categories of User Studies

- i) Studies which are conducted to find out the overall pattern of interaction of the users community with the communication system, without reference to any specific information receiving event are categorised as **communication behaviour studies**;
- ii) In the second category are placed studies which are conducted to find out the use of any communication medium like primary periodical, secondary periodical, etc. and are called **user studies**;
- iii) The third category includes studies which are conducted to find out the pattern of flow of information in the science communication system as a whole. They constitute **studies in the flow of information**;
- iv) The fourth category includes **studies/surveys** which are conducted within the limited confines of a library or an information centre, mainly to find out the extent of use of the services and facilities offered by an agency with the ultimate objective of improving the system or services.

It may be mentioned that any particular study/survey may have different aspects and hence may overlap with the categories mentioned above. Hence, while setting the objectives, it has to be decided what exactly will be the nature of the study/survey according to the four categories described above.

12.2.5 Methodologies/Techniques for User Studies

After the need for conducting user studies has been established and the relevant aspects (variables) to be studied are decided, the next logical step would be selection of methods for conducting a user study.

From sizable literature on the subject, it is evident that most of the general surveys, e.g. interview, questionnaire, diary, etc., have been extensively used by researchers in the field of information use study also. The methods used so far may be grouped as under:

- a) General or Conventional Methods
 - i) questionnaire
 - ii) interview
 - iii) diary
 - iv) observation by self
 - v) operations research study
- b) Indirect Methods in the Context of Information Use
 - i) analysis of library records
 - ii) citation analysis
- c) Special and Unconventional Methods
 - i) computer-feedback
 - ii) unconventional methods

A description of all the above methods may be found out from literature on the subject. Hence, a detailed discussion is not attempted here. However, the selection of methods depends on previous decisions on objectives of the study and also on the variables to be studied. Three important aspects are involved in the selection of methods:

- i) selection of a sample of user population;
- ii) determination of procedures for collection of data from or about the sample;
- iii) determination of procedures for analysis of collected data to derive or summarise results.

Each one of these, has to be considered in detail before one actually plunges into action regarding user studies. One of the most commonly committed mistakes in user studies is to collect data without any idea as to how the data is to be analysed. It is always useful to consult a statistician and take her/his help in the selection of appropriate methods to be followed in the envisaged user study. This would greatly enhance the usefulness of the results derived from the user study. However, the study should avoid incorporation of meaningless statistics.

As to the question of selection of a sample of user population, there are a number of methods available which would facilitate this task. The most common in this regard being:

- a) Convenience Sampling : which means picking the first 25, 50, etc. users that come along as subject of study;
- b) Random Sampling : which involves picking users for the study from a population at random;
- c) Stratified Sampling : which involves sub-dividing the population into sub-groups and then picking users for study at random;
- d) Representative Sampling : which involves determining beforehand individuals, pairs of individuals or small groups with some characteristics in common as subject of study.

Similarly, there are a number of methods available for data collection. Some of the commonly used methods are:

Surveying: This involves questioning users and obtaining answers directly from users about their behaviour, attributes, values, conditions and/or preferences. This is by far the most frequently used method in user studies. It at times also leads to somewhat biased results.

Observation: It involves making direct observations on the communication behaviour of users in given situations, practices, time periods, etc.

Records analysis: This method involves obtaining written records or other transcripts of previous communications (such as papers, correspondence, statistics) and deriving inferences about users based on the records.

Experimentation: This method involves introduction of an element in a defined group of users and observing the results or consequences, possibly also comparing the group with another where the element was not introduced.

Next step involved is identification of some of the data analysis methods. An analysis is generally an informal activity because it consists of gaining an impression or feeling of what the data indicates and in which direction they point. For a formal analysis the most frequently adopted methods are:

Statistical analysis which comprises application of standard statistical techniques to summarise, compare and test for significant data which is expressed numerically.

Semantic analysis involves application of semantic techniques to summarise and compare data which is expressed verbally.

Psycho-social analysis which involves application of psychological, sociological or anthropological techniques to classify or describe the data obtained through a user study, which is represented conceptually, logically or representatively.

Economic analysis which comprises application of macro or micro economic techniques to derive conclusions in economic terms on data expressed in all the above mentioned ways.

Each of these techniques of analysis requires basic knowledge of the respective fields. Standard statistical packages are widely available which help accomplish the required results. However, use of such packages requires some practical training. Appropriate techniques can also be adopted relatively easily from the previous studies.

Self Check Exercise

Note: i) Write your answers in the space given below.

ii) Check your answers with the answers given at the end of this Unit.

4) Discuss briefly the need for user studies.

.....
.....
.....
.....
.....
.....
.....

5) What is meant by planning of a user study? Indicate the different steps in conducting a user study.

.....
.....
.....
.....
.....
.....
.....

- 6) Discuss briefly the different types of user studies.

.....

.....

.....

.....

.....

- 7) Explain some of the methodologies/techniques employed for conducting user studies.

.....

.....

.....

.....

.....

12.3 USER STUDIES: LIMITATIONS AND CRITICISMS

Although a number of studies have been conducted in the past to assess the information needs of scientists, engineers and technologists, the information needs proved to be extremely complex and varied. As a result, most of these studies proved to be inadequate to the task of completely revealing the precise nature and needs of information users. These investigations have, at best, provided only an *a priori* approach to the problem and much is needed to be done in this direction.

There have been some criticisms on the methods and techniques used in the user studies/surveys. For example, it has been stated that the question of sampling in user studies left much to be desired. In other words in selecting the sample, refined techniques of random sampling have not been taken into account. The usual error of getting into the sample a large number of target population who take an interest or are methodical and co-operative to return questionnaires and diaries, is always there. This error should be avoided. Moreover, it is not only the size of the sample that is important but also its composition taking into consideration the environments of the participants. One of the critics has suggested as many as seven different environments as follows: i) academic institutions, ii) research organisations, iii) industry, iv) government, v) professional associations, vi) trade unions and political parties, vii) the press and broadcasting. Similarly, users can also be categorised according to functions such as : i) research, ii) teaching and training, iii) management, iv) social work and administration, v) the press and broadcasting, vi) politics, vii) business and commerce, viii) study and learning. All these are likely to influence a person's information needs and behaviour.

There are several other variables also. These are demographic (e.g., age, education, length of experience in research) and psychological (such as motivation, intelligence) variables which may well be related to information requirements,

needs of users. Hence, it has been mentioned that user psychology must also be taken into account. Aspects of user psychology to be considered include, the search time that can be tolerated, the amount of irrelevant material that can be tolerated, time available for retrospective searching, the preferred form of the search product, user's input channel capacity, work habits, terminological idiosyncrasies, prior knowledge of reference tools and information system and user's judgement about the comfortableness of the physical aspects of the information system.

The importance of including individual variables in studies of information gathering and information seeking behaviours has also been stressed by some experts. Some of the individual variables cited include : i) age, ii) experience in research in a particular job, iii) background qualification, iv) whether solitary or team worker, vii) persistence and thoroughness, viii) motivation, etc.

With appropriate inclusion of some of the above mentioned aspects in user studies, the critics believe that the shortcomings in them can be minimised and the findings can be made valid and widely applicable.

12.4 CASE STUDIES

Since Prof. J.D. Bernal made his pilot study for the Royal Society's Scientific Information Conference in 1948, there had been several attempts to investigate the methods by which scientists and engineers obtain the information they need and then put them to use. The basic assumption behind these efforts was that the conventional information tools and systems currently in use needed improvement and the improved tools and services of tomorrow would spring from those we have today.

Use studies/surveys have been conducted in different countries at different levels with different samples of population. It is not possible to discuss or present the findings of all such studies in this Unit. However, the important findings of some of the studies have been reported in the literature which are provided in this Unit in the form of references.

One of the investigations published in 1995, reported the analysis of some 796 user studies noticed through LISA for the period 1969-1989. This investigation revealed that the contemporary research areas in user studies included areas like direct enquiry of users, assessment of user attitudes, experimental information services and their evaluation and direct observation of users. The less researched areas in user studies appeared to be use made of information, communication not involving documents, relevance and refinements, etc. Now, the situation has changed completely. If a researcher, in present times, online searches LISA for the term 'User Studies' the number of related studies which includes the traditional studies as well as studies on the use of Internet, electronic resources and services will be in thousands.

12.4.1 Efforts Made in India

The problems of communication in science and the user interface have received some attention in India. For instance, INSDOC now NISCAIR conducted a use survey relating to its current awareness service entitled "INSDOC List of Current Scientific literature" as early as 1964. As a result of the findings of this survey

INSDOC had to wind up the above mentioned current awareness service and had to start the compilation of Indian Science Abstracts. Another significant effort in this direction is the study conducted by Carl M. White regarding the use of Delhi University Library in 1965. In the same year (i.e. 1965) the Indian Association of Special Libraries and Information Centres (IASLIC) conducted a seminar on Users and Library and Information Service. Though the seminar did not discuss or report any worthwhile study/survey, but it helped in drawing the attention of the authorities of special libraries and information centres towards these problems.

In the year 1967, INSDOC conducted a pilot survey to assess the information potential and the information needs of the research workers engaged in the field of electronics. This survey was undertaken in connection with the formation of Electronics Information Grid. Interview technique and questionnaire method were used in this study. The findings, though essentially empirical in nature, have been published in the form of a report. Yet, another worthwhile effort in this direction was the survey conducted by Krishan Kumar at the Delhi University to determine the reading patterns, information needs and information gathering habits of the teachers and research scholars attached with the chemistry department of the University. This survey was conducted by means of a questionnaire (see appendix) and also through interviews. The findings of this survey are compatible with the findings of similar studies undertaken in other countries. A sample copy of the questionnaire used in this study is provided in the appendix for your reference.

Though libraries exist for users, research in Indian librarianship has taken for granted the user component of the system. It is only in recent years that extensive and in depth customer related studies began to appear. One such effort was made by M.S. Sridhar. His doctoral research work was on information seeking behaviour (ISB) of the Indian Space Technologists (IST) of ISRO Satellite Centre (ISAC), Bangalore. The results of this study have been published under the title "Information Behaviour of Scientists and Engineers". This study is a valuable contribution towards user studies and therefore worth considering as one of the case studies. H.R. Sethi conducted a user study on Information Seeking Behaviour of Social Scientists in JNU, Delhi. Neena Kanungo, in her doctoral research, explored the Information Seeking Behaviour of Researchers in History and Political Science in four central universities of Delhi. The case studies referred to above are illustrative in nature and not exhaustive.

12.4.2 User Studies in the Electronic Environment

With the emergence of the Internet and online information resources and services, the LIS professionals have witnessed a shift in the scope and methodology of user studies. Now, the focus has been shifted to the information needs of users of electronic resources, services, databases, etc. As a result, many studies have been planned focusing on the impact of the Internet, electronic resources and services on the user community. If you browse the Web or secondary source such as LISA or any other related database of e-resources, you will come across numerous studies on the said subject. Even if you browse the contents of the printed scholarly periodicals you will find many such studies.

Many of the libraries, be it academic or public or special, have turned into hybrid libraries catering to the information needs of the traditional user as well as the

digital user. The electronic environment has given ample opportunities to the user in the use of library and its resources and services. Now, the user has the option to use the library and its sources and services anytime, anywhere.

The online environment has also brought changes in the case of users and their characteristics, their information needs, etc. The information sources and services which are available online can be used with or without subscription. These changes have also influenced the use of libraries and its resources. Such studies help in understanding the use and delivery of electronic information as well as its impact on the users. We are here giving you one example of a study on electronic information services. The Jubilee (JISC User Behavior in Information Seeking Longitudinal Evaluation of Electronic Information Services) Project of JISC (Joint Information System Committee) of UK was on electronic information services. One of the objectives of the study was to predict, monitor and characterise information seeking behaviour in relation to electronic information services (EIS) in different disciplines. The project aimed to explore various questions: Which electronic information service do the users use? How do they use? What are the electronic information services they use and what for? What factors did influence the use of electronic information services? Are there variations in the use of such services among different user groups and disciplines? Is the use of electronic information services changing? What will be the impact of changes in electronic information services use/availability on student learning? For data collection the Project used qualitative as well as quantitative approach and survey tools such as questionnaire, electronic questionnaires, interviews (face to face as well as on telephone), focus group discussions and workshops with practitioners. A tool-kit was constructed with the objective to improve the use of EIS in higher education in UK.

The results of user studies conducted on the electronic environment help in decision making in subscribing e-resources and services in the library; secondly, the findings persuade the publishers for improving the resources and services; and finally, the results also help in the development, improvement and effectiveness of the information system.

Self Check Exercise

Note: i) Write your answers in the space given below.

ii) Check your answers with the answers given at the end of this Unit.

8) Briefly discuss some of the limitations and criticisms concerning user studies.

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

- 9) Describe some of the significant efforts made in India relating to user studies/ user surveys.

.....

.....

.....

.....

.....

12.5 SUMMARY

In this Unit on user studies, an attempt has been made to explain to you the concept of user of a library or information system. Different connotations to the term ‘user’ have been discussed. It has been emphasised that libraries and information systems are designed and built with the primary objective of meeting the information needs and requirements of a defined group of people, called users. Users, therefore, become the focal point of all information activities at all levels. This situation calls for acquisition of an in depth knowledge regarding the users of an information system. The users should be studied not only before designing of an information system or starting of an information service or product, but also during the life cycle of the system or service. It might be mentioned here, that while the study of users increases the probability of a longer life cycle of an information system, lack of it might decrease it rather sharply.

The efforts made to acquire an in depth knowledge of users constitute what are commonly referred to as user studies. The need for user studies, the planning necessary for a user study, the methodologies/or techniques available for conducting user studies and other important aspects related to user studies have been described and discussed in this Unit. Detailed information relating to some significant efforts made in the development of user studies in developed countries as well as in India has been furnished. These are to help the students to a large extent, to grasp the basic concepts relating to user studies. The Unit, as a whole, will enable them to gain sufficient insight and skill to plan and conduct user studies, if needed, during the course of their professional work.

12.6 ANSWERS TO SELF CHECK EXERCISES

- 1) User is a broad concept, which may include both producers as well as clients of information. In library and information science literature, a number of terms have been used to indicate users of a library or an information system. For example, the words patron, client, member, readers, customer are used to signify the concept of a user. Whitaker defines user as a person who uses one or more of the services provided by a library. On the other hand, Guinchat opines that a user can be defined according to two sets of criteria namely: i) objective criteria such as socio-professional category, specialist field, nature of the activity for which the information is sought, reason for using the information system; and ii) social and psychological criteria such as the user’s attitudes and values with regard to information in general and in his relations with the information unit in particular. There are reasons behind his particular

information seeking and communication behaviour and his professional and general social behaviour. Users constitute a very important component of any information system or service.

- 2) Many information scientists attempted to classify and group users of library and information systems and services. Different perceptions have been expressed by them.

Prof. J.D. Bernal provides some sort of classification of users of scientific and technical information from the point of view of the kind of information services required by them. They are: scientists, engineers, doctors, technologists and business managers. Guinchat, categorises users into three broad groups : i) users not yet engaged in works such as students; ii) users with a job and whose information needs are related to their work; iii) the ordinary citizen needing general information. Another way of grouping users is on the basis of their approach to information as i) potential user; ii) the expected user; iii) the actual user; and iv) the beneficiary user. It may be of interest to know that Ranganathan grouped users, on the basis of types of services, into freshman, ordinary inquirer, specialist inquirer and general reader.

Generally speaking, an information professional comes across three important groups of users: a) researchers, b) practitioners and technicians engaged in developmental and/or operational activities in different fields of technology, and c) managers, planners and other decision makers who are engaged in co-ordinating developmental activities at local, national or international levels.

- 3) Since the main purpose of any user study is to gather information that is useful in design, provision and evaluation of information products and services, it is imperative to have a full understanding of the user characteristics. User characteristics may be studied under the groups: i) individual characteristics; ii) stages in the information diffusion, iii) environmental or social characteristics, and iv) communication characteristics. A proper and systematic user study aims at collecting all the pertinent data concerning the users with the objective of building an efficient information system. Study of user characteristics enables establishment of a close relationship between users and information system designers and service providers.
- 4) Information need surveys or user studies are potentially useful in bridging the gap between the kind of information services needed and the kind of services in existence. Any information system would definitely require determination of user requirements. In the past, there had been doubts regarding the point whether information needs could be established through user studies. But, subsequent research has proved that it is possible to find out information needs of users by means of user studies. The availability of reliable methodologies for conducting user studies has enabled the profession to establish the fact that design of effective and efficient information systems and services can be better accomplished through user studies. The establishment of a research centre in U.K. to undertake research on user studies in 1975, proves the importance attached to this subject. It may, therefore, be emphasised that user studies are a pre-requisite for the development of efficient information systems, services and products.

- 5) Like all serious efforts, conducting of a user study requires prior planning. It is important to plan a user study from the very start to the end. For this purpose, it is necessary to work out a detailed plan of each step in advance. The different stages of work are the general objectives of the study, translation of the objectives into a set of questions or means of answering the questions, selection of the appropriate techniques for obtaining the answers, the selection of the sample of users to be observed and a plan for obtaining the necessary co-operation, the pre-testing of the technique, the full scale study itself, analysis of data and preparation of the final report need to be clearly conceived after deep thinking. In each stage of work certain decisions need to be taken.

Different steps involved in the plan. Any plan for conducting a user study should consist at least the following steps:

- surveying the previous studies and literature in general and learning about aspects of user studies;
- determining the objectives of the study;
- determining the variables to be studied and specific model to be followed;
- selecting the sample of the population to be studied;
- determining the method for collection of data for observation;
- determining the method of analysis of data or observations; and
- determining the ways of presentation and utilisation of the results including dissemination of such results.

While establishing the objectives of the proposed study, one has to spell out in clear terms what exactly one is going to find about. All the subsequent stages will depend on the decision.

- 6) Information use studies or information need studies are a composite of many things. Such studies may be grouped into four broad categories such as studies which are conducted to find out the over all pattern of interaction of the user's community with the communication system, without reference to any specific information receiving event, are categorised as communication behaviour studies; studies which are conducted to find out the use of any communication medium like primary periodical, secondary periodical, etc. are called user studies; the third category includes studies which are conducted to find out the pattern of flow of information in the science communication system as a whole. They constitute studies in the flow of information; the fourth category, includes studies/surveys which are conducted within the limited confines of a library or an information centre, mainly to find out the extent of use of the services and facilities offered by an agency with the ultimate objective of improving the system or service. It may be pointed out that any particular study/survey may have different aspects and hence may overlap with the categories mentioned above. Hence, while setting the objectives, it has to be decided what exactly will be the nature of the study according to the categorisation stated above.
- 7) Once the need for conducting user studies has been established and the relevant aspects (variables) to be studied are decided, the next logical step would be selection of suitable method for conducting a user study.

From the literature available on the subject, it is evident that the majority of user studies adopted three broad categories of methods :

- a) General or Conventional Methods such as:
 - i) questionnaire
 - ii) interview
 - iii) diary
 - iv) observation by self
 - v) operations research study
- b) Indirect Methods in the context of Information Use
 - i) analysis of library records
 - ii) citation analysis
- c) Special and Unconventional Methods
 - i) computer-feedback
 - ii) unconventional methods.

The important aspects involved in the selection of methods may be mentioned as follows:

- i) selection a sample of user population;
- ii) determination procedures for collection of data from or about the sample;
- iii) determination of procedures for analysis of collected data to derive or summarise results.

Each one of these, has to be considered in details before one actually conducting user studies. As to the question of selection of a sample of user population there are number of methods available. The most common among them are:

- i) Convenience sampling
- ii) Random sampling
- iii) Stratified sampling
- iv) Representative sampling

Similarly a number of methods are available for data collection. Some of them are:

- i) surveying
- ii) observation
- iii) records analysis
- iv) experimentation

Next aspect involved is identification of some of the data analysis methods. For formal analysis the frequently used methods are :

- i) statistical analysis
- ii) semantic analysis

- iii) psycho-social analysis
- iv) economic analysis

Each of these formal methods require basic knowledge of the respective fields. Standard statistical packages are widely available which help accomplish the required results. However, use of such packages requires some practical training on the part of the users. One can also adopt the techniques used in previous studies.

- 8) Although a number of studies have been conducted in the past to assess the information needs of scientists, engineers and technologists but the information needs proved to be extremely complex and varied, as a result, most of these studies proved to be inadequate to the task of completely revealing the precise nature and needs of information users. These investigations have, at best, provided only a *priori* approach to the problem and much is needed to be done in this direction.

There have been some criticisms on the methods and techniques used in the user studies/ surveys. For example, it has been said that the question of sampling in user studies has left much to be desired. In other words, in selecting the sample, refined techniques of random sampling have not been taken into account. The usual error of getting into the sample a large number of workers who take an interest or are sufficient in being methodical or co-operative to return the questionnaires and diaries, is always there. This error should be avoided. Moreover, it is not the size of the sample that is important but also the composition of it taking into consideration the environments of the participants. There are other variables also that affect the behaviour of users in so far as information use is conceived. Hence, it has been stated the user psychology must also be taken into account. Aspects of user psychology include the search time that can be tolerated, the amount of irrelevant material that can be tolerated, time available for retrospective searching, the preferred form of the search product and users input channel capacity, work habits, etc. all need to be incorporated. The importance, including individual variables in studies of information gathering and information seeking behaviours, has also been stressed by some experts.

With appropriate inclusion of some of the above aspects in user studies, the critics believe that the short comings in them can be minimised and the findings can be made valid and widely applicable.

- 9) The problem of communication in science and the user interface have received some attention in India. For instance, INSDOC conducted a use survey relating to its current awareness service entitled INSDOC List of Current Scientific Literature, as early as 1964. As a result of the findings of the survey, INSDOC had to wind up the mentioned service and had to start compilation of Indian Science Abstracts (ISA). Another significant effort in this direction is the study conducted by Carl M. White relating to the use of Delhi University Library in 1965. In the same year (1965) IASLIC conducted a seminar on "Users and Library and Information Science". Though the seminar did not discuss or report any worthwhile study/survey, but it helped in drawing the attention of the authorities of Special Libraries and Information Centres towards these problems.

In the year 1967, INSDOC conducted a pilot survey to assess the information potential and information needs of research workers engaged in the field of 'electronics'. This survey was undertaken in connection with the formation of 'Electronics Information Grid'. 'Interview technique and questionnaire method were employed in the study. The findings though essentially empirical in nature, have been published in the form of a report. Yet another worthwhile effort in this direction was the survey conducted by Prof. Krishan Kumar at the Delhi University to determine the reading patterns, information needs and information gathering habits of the teachers and research scholars attached with the chemistry department of the university. This survey was conducted by means of a questionnaire and also through interviews. The findings of this survey are compatible with the findings of similar studies undertaken in other countries.

In recent years, extensive and in depth customer related studies began to appear, one such effort was made by M.S. Sridhar. His doctoral research work was on Information Seeking Behaviour (ISB) of the Indian Space Technologists (IST) of ISRO Satellite Centre (ISAC), Bangalore. The findings of this study have been published under the title 'Information Behaviour of Scientists and Engineers'. This study is a valuable contribution towards user studies. Other relevant user studies in the field of social sciences covering the researchers of central universities of Delhi are the works of HR Sethi as well as of Neena Kanungo.

12.7 KEY WORDS

- User** : A person who utilises the information resources of a library, the services and products of an information system and derives benefit from them. Users are also known as patrons or clientele.
- User Categories** : Users, on account of their educational background, intellectual level and need for information, may be grouped into definite categories such as scientists, engineers, doctors, technologists, business managers, administrators, faculty members and students, etc. This classification is known as categorisation of user community.
- User Characteristics** : The factors in users of information that effect:
- i) their perception of the problem faced and their definition of needed information, and
 - ii) the specific ways they are most likely to use information and their capacity to use a given type of information are known as characteristics of users. The can be grouped broadly into :
 - i) individual characteristics;
 - ii) environmental or social characteristics;
 - iii) communication characteristics.

- User Studies** : Systematic efforts undertaken to obtain information on the manner in which information is obtained and used by different categories of users are known as user studies. It is imperative to know the information needs and behaviour of users and the different ways of attaining such knowledge to design and develop tailor made information systems, services and products.
- User Warrant** : The demand for specific type of information requirements expressed by different categories of users is generally interpreted as user warrant.

12.8 REFERENCES AND FURTHER READING

Banwell, Linda, and Graham Coulson. "Users and User Study Methodology :The Jubilee Project". *Information Research* 9.2 (2004). Web. <<http://informationr.net/ir/9-2/paper167.html>>.

Bernal, J.D. *Report on Royal Society's Scientific Conference*. London: Royal Society, 1948. Print.

---. *The Transmission of Scientific Information: A User's Analysis - In: International Conference on Scientific Information*. Vol.1. Washington: NRC, 1959. pp.77-95. Print.

Busha, Charles H., and Stephen P. Harter. *Research Methods in Librarianship: Techniques and Interpretations*. New York: Academic Press, 1980. Print.

Devarajan, G. *Library Information User and Use Studies*. New Delhi: Beacon Books, 1995. Print.

Guha, B. *Techniques of User Studies. Paper 11.3 in DST Course Material*. New Delhi :INSDOC, 1976. Print.

Kanungo, Neena Talwar. "Information Seeking Behaviour of Researchers in History and Political Science in Delhi". Diss. University of Delhi, 1997. Print.

Kawatra, P.S. *Library User Studies: A Manual for Librarians and Information Scientists*. Bombay: Jaico Publishing House, 1992. Print.

Krishan Kumar. "Users Survey Concerning Teachers and Research Scholars in the Department of Chemistry, University of Delhi". *Ann Lib Sci Doc* 15.4 (1968):175-207. Print.

Raizada, A.S. *Electronic Information Potential in India*. New Delhi: INSDOC, 1967. Print.

Saracevic, T., and J.B. Wood. *Consolidation of Information: Handbook on Evaluation, Restructuring and Repackaging of Scientific and Technical Information*. Chapter 11.4. Paris: UNESCO, 1981. pp.36-44. Print.

Satyanarayana, R. *Categories of Users, their Information Requirements and Information Gathering Habits. Paper 11-2 in DST Course Material*. New Delhi: INSDOC, 1976. Print.

---. *Some Important User Studies and their Findings: Paper 11.2 in DST Course Material*. New Delhi: INSDOC, 1976. Print.

Sethi, A.R. *Information Seeking Behaviour of Social Scientists: An Indian Conspectus*. Delhi: Himalaya Publishing, 1990. Print.

Shaw, R.R. *Pilot Study on the Use of Scientific Literature by Scientists*. Washington: NSF, 1956. Print.

Sridhar, M.S. *Information Behaviour of Scientists and Engineers: A Case Study of Indian Space Technologists*. New Delhi: Concept Publishing, 1995. Print.

White, Carl M. *A Survey of the University of Delhi Library*. Delhi: University of Delhi, 1965. Print.

Wilson, T.D. "On User Studies and Information Needs". *J Doc* 37(1981): 3-15. Print.



Questionnaire used in the users survey concerning teachers and research scholars in the Department of Chemistry, University of Delhi.

QUESTIONNAIRE
UNIVERSITY OF DELHI
DEPARTMENT OF LIBRARY SCIENCE
Users Survey

You are kindly requested to assist in the search for information with regard to the information needs, types of information and the use of science and technology literature by research workers so as to enable librarians to provide you more effective library services. Please think over the questions in Part I and we will discuss them together at sometime convenient to you. Please answer the questions in Part II and make any additional suggestions on the back of these pages or on a separate sheet of paper.

Your cooperation is appreciated and the information provided will be kept confidential.

Part I for discussion

- A) What are your needs for information in terms of amount, kinds, levels, variations at different times such as at the beginning, during and at the end of a research project?
- B) How do you get the information you need?
- C) Which types of publications do you use? e.g. books (i.e. monographs), handbooks, literature guides, journals, abstracts, indexes, reviews, research reports, advances in -, Progress in..., etc.

For what purpose do you use each of the type of publication used by you?

- D) Are you able to keep up with the literature in your field? Do you have any problems in keeping up with your field?
- E) Have you ever used a library outside Delhi including the ones located in foreign countries? Give your impression and compare them with the libraries used by you at present.

Name Department

Area of research Status

Date

Part II for factual answers

- 1) How much time on an average do you spend on reading in your field in a week?

.....
.....

2) How much time on an average do you spend in the laboratory in a week?

.....
.....

3) Which foreign languages can you read to be able to follow literature in that language?

.....
.....

4) Of which professional societies are you a member?

.....
.....

5) What other subjects besides Chemistry, do you need to consult and how often (frequently or rarely or never)?

.....
.....

Subject

How often

5.1

5.2

5.3

6) Have you ever felt the need to improve your skills in the use of science-technology literature?

.....
.....

7) 7.1 Do you think training in the use of Chemical literature would be helpful to you?

.....
.....

If yes, when should this training be given:

7.2 Undergraduate level7.3 Pre-Ph.D. Level

7.4 Postgraduate level.....7.5 Any other level

8) 8.1 Which library do you consult most?

8.2 Which library do you borrow from most?.....

9) How many hours per week on an average do you spend on reading in your field in library and elsewhere, and how often do you do it? (Daily, 3 times a week, once a week, fortnightly, monthly, rarely, once only).

How often Times spent per week (hours)

9.1 in the University Library (main)

.....

9.2 in the Department of Chemistry

.....

9.3 in other library(ies)

.....

9.4 at home

.....

9.5 enroute between home and department

.....

10) Do you find the collection in the field of your interest in the libraries you use most, strong enough to meet your demands? Indicate below names:

Names of the libraries

10.1 Completely adequate

10.2 Partially adequate.

10.3 Not at all adequate

10.4 Completely inadequate

11) 11.1 Do you ask for material not available in the University Library/ Department Library?

11.2 How many times in the past 12 months did the library succeed in satisfying your demand?

11.3 How much time did it take to get the material?

11.4 What other libraries have given you such service?

12) How far in terms of distance would you go to consult a library for your needs not fulfilled by the libraries you now use?

.....

13) Do you ask for assistance for the reference libraries or other members of the library staff in these libraries:

13.1 to locate books or other items

13.2 to locate current periodicals

- 13.3 to understand the use of various tools
- 13.4 other assistance
- 14) 14.1 What service not now provided in the University/Department Library would you like to be made available? (e.g. preparation of a bibliography, getting a photocopy of article, doing literature search, etc.)
.....
- 14.2 Are you willing to pay for such special services?
- 15) Can you use a library card catalogue effectively?
- 16) Can you locate material in a library?
- 17) Which library do you think is easiest to use:

Name of library

 - 17.1 Its reference collection
 - 17.2 In searching periodical literature
 - 17.3 For borrowing books
 - 17.4 In locating material on shelves
 - 17.5 For consulting its card catalogue
 - 17.6 Other activities
 - 17.7 General comments on what makes a library easy to use
- 18) Suppose there were to be two or three lectures on 'How to use a library effectively', would you attend these?
- 19) About how may scientific journals do you:

| | | |
|--|--------|---------|
| | Indian | Foreign |
|--|--------|---------|

 - 19.1 subscribe to
 - 19.2 read regularly
 - 19.3 scan regularly

UNIT 13 INFORMATION USE STUDIES

Structure

- 13.0 Objectives
- 13.1 Introduction
- 13.2 Information Use Study
 - 13.2.1 Meaning and Scope
 - 13.2.2 Need for Information Use Study
- 13.3 Types of Information Use Study
 - 13.3.1 User-based Information Use Study
 - 13.3.2 Profession-based Information Use Study
 - 13.3.3 Subject-based Information Use Study
 - 13.3.4 Non-electronic Source-based Information Use Study
 - 13.3.5 Electronic Source-based Information Use Study
 - 13.3.6 Oral Information Use Study
- 13.4 Conducting Information Use Study
 - 13.4.1 Non-electronic Information Sources
 - 13.4.2 Electronic Resources
 - 13.4.3 Methods
 - 13.4.4 Study with a Questionnaire
 - 13.4.5 Presentation of Results
- 13.5 Summary
- 13.6 Answers to Self Check Exercises
- 13.7 Keywords
- 13.8 References and Further Reading

13.0 OBJECTIVES

After reading the Unit, you will be able to:

- explain the meaning, scope and need of information use study;
- describe the components of information use study; and
- conduct information use study yourself.

13.1 INTRODUCTION

Humans have been using information since time immemorial. When they were food gatherers and hunters, they were always in need of information as to the availability of fruits, tubers, edible leaves and stems, fish, animals, etc. Anyone spotting an animal in the forest or a tree with edible fruits, s/he used to inform the community. Utilising the information, people of the community picked up the fruits or killed the animal and the entire community used to eat. By eating fruits, leaves or tubers, if a person fell ill, the information spread through the community so that others should not eat those things. In this way they identified inedible fruits, leaves and tubers. On the other hand, when a person found that by eating something an ailment is cured, s/he utilised this experience to heal the ailment of others. Subsequently this gave birth to the medical profession. The

practice of using information which started long ago for necessity of survival continued as human civilisation progressed without any break. Even today we are using information for diverse needs and purposes.

In prehistoric times, the use of information did not cost any money, as the concept of money was non-existent. Nowadays, information is not only oral but also available in a number of media. One has to pay for information in print or electronic media. You purchase books, newspapers, etc. in printed form, some dictionaries and encyclopaedias in CD-ROM and search information in the Internet by paying money. In many cases even for oral information one has to pay money e.g. your tutor teaches you that means, s/he gives you information orally, and you pay for it. If you intend to search information in a database again you are to pay for it.

Commercial firms spend a huge amount of money everyday in advertising their products and services in television, radio, newspapers, etc. It is of vital importance for them to know how the information about their products and services is being used by the customers. For example, information about a product given in a newspaper in the form of advertisements cannot be used by illiterates. For such customers information can be better disseminated through radio or TV. Such thought out use of information is likely to increase the sale of products and utilisation of services.

A library is a storehouse of information. Every year libraries spent a huge amount in procuring books, periodicals and various other types of documents, in subscribing to various databases, e-resources, consortia, etc. The question that arises is what is being procured and subscribed and are these sources being used optimally? Are there some documents or databases which are not being used at all or being used inadequately? Such questions have necessitated the LIS professionals to conduct information use studies. In the following sections of this Unit, we are going to discuss in detail the information use study.

13.2 INFORMATION USE STUDY

We have already briefly discussed the use of information from ancient time to the present and also the factors that gave birth to the idea of information use study. A few decades ago information use studies were few. Nowadays, every year a number of information use studies are being conducted. The references given at the end of this Unit will give you an idea.

13.2.1 Meaning and Scope

‘Information use study’ simply means the study of the use of information. This *use* may pertain to oral information or recorded information. Everyday we use a lot of oral information. For example, a girl is asking her mother how to cook a particular food item. Mother is giving the instruction and the girl is preparing the food. Before starting for the railway station, we ring up the enquiry counter as to know the time when a particular train is arriving or departing. The moment we hear that the train is in time or late we plan accordingly. In this Unit, we are going to discuss mostly on the use studies related to recorded information as there are hardly any use studies related to oral information. This Unit does not deal with the information use studies conducted by commercial firms.

13.2.2 Need for Information Use Study

Procurement policy – Procurement of recorded information involves cost, often in terms of millions of rupees. If it is seen that the procured information is not being used adequately, then it may be assumed that part of the money is going waste. A study by Roy and Paul indicates that ‘almost 50% of books [of a research library] are never used’. The statistics clearly show that there has been some flaw in the procurement of books. Libraries usually receive books through purchase, exchange and gifts. In whatever way they may come to the library, their non-use means some wastage of money. It may appear that books received through gifts involve no cost as no money is to be paid to the donor for these books. However, money is spent for their transportation, processing, maintenance, etc. Moreover, these unused books occupy valuable space in the library.

There are various factors for non-use of books. Obsolescence is one of the most important factors. A book might have been of use when purchased. However, with the passage of time, the contents of the book have become outdated leading to its non-use. A book with poor contents may not find many readers. Similarly, a book on a subject alien to the research area of an institution may also lie idle.

A use study provides many valuable indicators. The study by Roy and Paul also shows that maximum amount is spent for the purchase of books on physical chemistry and material science in the library. In reality, their use is less. On the other hand, very small amount is spent for books on inorganic chemistry and their demand is very high. Use study reveals many such interesting things which may be highly useful for formulating a correct procurement policy.

Weeding or switching over to electronic media – An active library grows continuously in size as new books are added to the library every year. This generates requirement of further space. There are two ways, either the library is expanded with the addition of new rooms or new buildings or some space is generated by weeding out unused books. It is mainly through use study we identify the unused books which may be removed from the shelves to generate space. In a research library periodicals are in great demand. Year after year they consume huge amount of space. If on-line version of these periodicals is procured including back volumes, immediately the space problem is solved to a great extent.

Constraints in information use – Use of information is greatly hindered because of various constraints. It is a common that libraries in torrid summer or extreme cold are used very less where there is no air conditioning or frequent power failures. Vashishth has pointed out quite a few constraints in the use of e-resources revealed through use studies. In summing up it may be said that use studies point out to defects in procurement policy, identifies books and back volumes of periodicals that are no more in use, highlights constraints that are leading to less use of books, periodicals and other documents.

Self Check Exercise

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit.

1) Highlight the need for information use study.

.....

13.3 TYPES OF INFORMATION USE STUDY

In the information use study, the sources which people consult to gather information are usually studied. Information use studies may be categorised as follows:

- User-based information use study
- Profession-based information use study
- Subject-based information use study
- Non-electronic source-based information use study
- Electronic source-based information use study
- Oral information use study

We shall discuss all these in the subsequent sub-sections.

13.3.1 User-based Information Use Study

In this type, studies are conducted to find out how common people, children, students, academicians, scholars, faculty members and many others use various types of information. Choukhande and Kumar studied the information use pattern of faculty members and research scholars of Amravati University. In another study Gopalakrishnan and Ramesh Babu have studied the information use pattern by the academicians of the NIFT centres in India.

13.3.2 Profession-based Information Use Study

Doctors, engineers, scientists, teachers, subject specialists, etc. are all professionals. Information use may vary from profession to profession. A scientist may prefer to use mostly primary information. On the other hand, a librarian may use primary, secondary and tertiary information. Pujar and Sangam have studied information use by economists. The study reveals that the economists used both non-electronic and electronic sources. Among non-electronic sources figure books, handbooks, reference books, research reports, conference papers, theses, journals, magazines, newspapers, government publications, reprints, preprints, discussion-generated/occasional/working papers, abstracting and indexing periodicals and citation indexes. Among the electronic sources they have consulted CD-ROM databases, e-journals and computer programs.

13.3.3 Subject-based Information Use Study

It is possible to study information use according to various subjects. In such studies both electronic and non-electronic sources may be covered. Some examples of subject-based information use studies being presented here. Biradar studied the use of information sources in an agricultural college library at Shimoga, India. Nirmal Singh studied the use of information sources in education college libraries in Punjab. In another paper, Pushpalatha and Mallaiah studied the use of information resources in chemistry in Mangalore University library.

13.3.4 Non-electronic Source-based Information Use Study

Non-electronic sources comprise of hand-written documents like manuscripts and letters, typed or mimeographed documents like theses and circulars and all

printed documents like books and journals. In this case, use study is possible with a single document, a specific type of document, a particular category of information sources or information sources in general.

Single document – In this case we have the example of *Science Citation Index* whose use has been studied by Brahma.

Specific type of document – Textbooks, monographs, encyclopaedias, directories, etc. are specific types of documents. The use of this type of documents is also studied. For example, the use of encyclopaedias in schools and public libraries has been studied by Campello, et al. Ernest studied the use of telephone directory in an academic library. Roy and Paul studied the use of books in a research library. The use of bibliography has been studied by Viabolicova.

Category of documents – Documents are categorised as primary, secondary and tertiary sources. Use studies are possible with documents of all the categories. Examples of a few categories are given here. Reference books pertain to secondary sources. Aditya Kumari and Talawar studied the use of reference sources in university libraries of Karnataka. Government publications pertain to mixed category as all categories of publications are produced by various governments. Fola Adio studied the use of government publications in academic libraries in Nigeria. Schemeckebier also dwelt on the use of government publications in general.

Information sources in general – This means all types of information sources are taken together. Some examples of such studies are being presented here. Biradar, et al surveyed the use of information sources in a public library. Parvathamma and Shankar Reddy also studied the use of information sources in public libraries situated in Bidar District of Karnataka State. Tadasad and Talikoti investigated the utilisation of resources of City Central Library, Gulbarga. Verma, et al use of collection of an institute in Gwalior, India. Gurdev Singh studied the use of information sources in college libraries of Delhi.

13.3.5 Electronic Source-based Information Use Study

Nowadays, such studies are conducted more often. These studies include e-resources in general, sources in CDs, online databases, web, consortia, etc. It is also possible to study the use of these sources according to user, profession, subject, category of documents, etc. Some studies of this category are discussed below.

e-resources – These include online bibliographic databases, web, consortia, e-journals, e-books, e-zines, etc. These resources may be CD-based, web-based, online databases, etc.

Some of the studies conducted with e-resources are as follows. Anil Kumar and Ashok analysed the use of online resources of a digital library. Bansode and Pujar studied the use of web-based resources by the research scholars at Shivaji University. Bavakutty and Mohamed Hanifa explored specific factors that promoted or hindered the use of online information resources in special libraries in Kerala. Joteen Singh surveyed the use of Internet-based e-resources at Manipur University. Mohammed Hanifa investigated the use of e-resources by research scholars in special libraries in Kerala. Zhang also examined the scholarly use of

web-based electronic resources. Ibrahim, Natarajan, et al, as well as Patil and Parameshwar studied the use of e- resources in the United Arab Emirates University, Annamalai University and Gulbarga University respectively and Vashishth pointed out the constraints of the use of electronic resources.

e-resources through consortia – Parameshwar and Kumbargouder, Veenapani, et al, and Walmiki et al studied respectively the use of e-resources through UGC-Infonet Consortium by the research scholars of Department of Chemistry, Gulbarga University, researchers of Manipur University and Karnataka state universities.

e-resources by subject – Many subject specialists search Internet to use web resources. Biradar and Sampathkumar studied the use of web resources by physicists of the universities in Karnataka. In another study, Sujatha and Mudhol investigated the use of electronic information sources at the College of Fisheries, Mangalore, India. Kaur studied the use of e-resources by the teachers and researchers of the science and engineering and technology faculties in Guru Nanak Dev University

e-journals – These journals are in electronic form and also available online. Researchers prefer to use these journals as these are available much faster as compared to their printed version. As such there are a number of studies on the use of electronic journals also known as e-journals. Khaiser Nikam and Promodini studied the use of e-journals by the academic community at the University of Mysore. In another paper Singh investigated the use of online journals at the Jamia Milia Islamia library. Gunasekaran, et al studied the usage of electronic journals through consortia by the students and members of the faculty of Bannari Amman Institute of Technology. The same type of study has been conducted by Kumbar and Hadagali with faculty and research scholars of Karnatak University, Dharwar, as their sample. Mohamed and Sreelatha as well as Raja and Upadhyay examined the use of e-journals by doctoral students of Calicut University and researchers of Aligarh Muslim University respectively.

e-journals by subject – Bhat and Sampath Kumar studied the use of scholarly journals on library and information science available on the Web.

CD-based sources – Many databases are now available in CDs, especially in CD-ROMs. Ali surveyed the use of optical disc databases in Iran. Gupta studied the use of CD-ROM databases at the Indian Agricultural Research Institute library.

Internet-based studies – Many researchers have conducted studies on the use of the Internet by the teachers, research scholars, students of colleges and schools covering various disciplines. One such study is conducted by Kanungo on the use of the Internet in the scholarly communication of social scientists of IGNOU. The study ascertained the use of the Internet in the scholarly communication of the social scientists in IGNOU and analysed its impact on their research and working in the Open Distance Learning (ODL) environment. Findings of this study highlighted purposes as well as frequency of use of the Internet by the social scientists, their methods of locating, accessing and using information on the Internet.

13.3.6 Oral Information Use Study

Everyday human beings disseminate maximum amount of information orally. Some examples of dissemination of oral information are listed below:

Long ago when tea production started in British India, the hawkers used to visit weekly markets in rural areas, demonstrate the preparation of tea and offer each of the onlookers one cup of tea to taste, tell about its utility and the name of the shop/s in the market where it is available. Now you can easily judge to what extent the information given was used.

A village level worker disseminates information about a high-yielding variety of rice to the farmers of a village, tells them about the productivity of the variety, method of cultivation, requirement of fertiliser and irrigation, availability of seeds, etc. Now a study may be conducted after a year or so to find out how many farmers have cultivated the new variety. If the result is encouraging, then it will be assumed that the information has been used.

In a weekly market, the employees of a bank announced with drum beating the opening of its branch wherefrom people will be able to take loan for the purchase of cows, bullocks, construction of house, education of the children, etc. In no time, the people started crowding the bank for opening account as well as demanding loans for various purposes. This clearly indicates that the information given was used.

Whenever a villager spots a carnivorous animal in the vicinity, s/he informs and within minutes the information spreads throughout the village and people take safe shelter. This also indicates full utilisation of the information given. The use of oral information is demonstrated many a times by its direct effect.

Self Check Exercise

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit.

2) Enumerate the types of information use studies. Give an example of oral information use.

.....

.....

.....

.....

.....

.....

.....

.....

13.4 CONDUCTING INFORMATION USE STUDY

In libraries, information use studies are conducted examining the use of various documents and electronic resources.

13.4.1 Non-electronic Information Sources

Non-electronic sources comprise textbooks, monographs, treatises, handbooks, manuals, dictionaries, encyclopaedias, yearbooks, gazetteers, directories, seminar volumes, bibliographies, question papers, prospectuses, general periodicals, indexing periodicals, abstracting periodicals, magazines, newspapers, patents, reports, theses, manuscripts, maps, atlases, globes, plates, A/V material, microforms, A/V cassettes, film reels, etc. Use study is possible with any one of the items, e.g. periodicals or a group of items, such as reference sources, government publications or with all the items. Use study by itself can be a full-fledged study or it can form part of a bigger study, such as a library use study.

Precautions – While conducting use study you should very clearly pinpoint the items. In some studies, you find items like books, yearbooks, handbooks, etc. Yearbooks and handbooks are also books. In such cases where there is ambiguity, you are to clearly mention what you mean by the term ‘books’.

13.4.2 Electronic Resources

These sources comprise of compact discs (CDs), digital video discs (DVDs), CD-based databases, web-based databases, online catalogues, databases available with consortia, etc.

13.4.3 Methods

There are various methods to find out the usage of documents. Some of the methods are quite simple and amenable to manual operation. There are other methods that require questionnaire, interview, computer help for data analysis, etc. We shall provide a glimpse of some of these methods.

Dot-on-the-Spine Method – This is a simple manual method. Whenever a book is issued a dot is put on the spine. This method is highly useful for **weeding out** books. Say, the method is in operation for ten years. While browsing through the shelves it will be extremely easy to identify the books that have not been used even once. These books may be taken out of shelves and placed before the authorised committee to decide which books are to be weeded out.

Many libraries stack unused books at an alternate location. For that purpose also this method is useful. This method is useful for small and medium size libraries. The libraries that have huge collection in terms of lakhs of volumes, this method will be cumbersome and highly time consuming.

This method cannot reveal the use of those books that are not issued out, say, reference books. Moreover, numerous books are used within the library itself. The use of those items also remains unknown. Of course, the question of weeding out such books generally does not arise unless they are damaged beyond repair.

Checking of Library Records – Many libraries keep records of books that are issued out. By checking those records also the use of books can be determined. This method also cannot determine the use of books that are not issued out and used within the library.

Citation Analysis – Users of higher academic institutions, research institutions, etc., write articles, research papers, theses, project reports, monographs and

textbooks, etc. In all these they cite books, periodicals and various other documents which they have used for writing papers, etc. For doing the use study theses, research papers, monographs, textbooks, etc. written by students and faculty members during the last five years, are exhaustively searched. Entries can be prepared manually or using a computer for all the citations appearing in all those publications. After the entries have been prepared they will be arranged periodical-wise, book-wise, etc. In the periodical-wise arrangement it will be seen that there are many entries pertaining to a few periodicals. For preparing a rank list of periodicals, you are to count the entries. While using computers care should be taken to ensure that the entries can be arranged from different perspectives and automatic counting can be done. Suppose, in the entries around one hundred periodicals have figured. When you arrange the entries according to periodical titles, you will notice that many periodicals have accounted for more than one entry. Some periodical titles might have occurred twenty times, some others less than or more than twenty times. To prepare a rank list of periodicals you are to count the occurrence of each of the periodical titles. When you arrange the titles according to the descending frequency of occurrence, you will get a ranked list of periodicals. This ranked list will indicate which titles have been used heavily, moderately and sparingly. Now you may compare this list with the list of periodicals being procured by the library. The comparison will immediately indicate the titles of periodicals which have not been used even once. The study will reflect the use of other documents as well.

This type of study will be useful for university libraries, research libraries, higher academic institution libraries, etc. They will not be useful for school libraries, public libraries, most college libraries and many special libraries.

If you search the literature, you will find that a number of citation studies have been done in the past to determine the use of type of library resources by the users and research scholars in particular. It is difficult to mention all the studies here but to give you an idea of such studies a few have been cited here. For example, Kanungo has carried out a few citation studies to find out the use of resources by political scientists and historians. She has also analysed the citations of Journal of Asian Studies to determine the use pattern of social scientists.

Observation Method – This method is particularly useful for the books and other documents that are used within the library. Issue records, dot-on-the-spine method do not reflect the use of documents within the library. In observation method the observer silently observes and notes down the books, periodicals and other documents being used by the readers within the library. Another way of doing the work is to ask the readers not to shelve the documents which they use during the day. Thus, all the documents that have been used will be on the reading table. By checking the documents it will be known what documents the readers have used during the day.

Interview Method – In this method, users of the library are specifically asked by the investigator about the documents they have used. This job is best done sitting with the user along with a structured list of interview questions. Item by item, the user will be asked, and her/his replies will be recorded at that precise moment.

Questionnaire Method – This is the most widely used method and can be used even if the user is scattered at different places. Depending on the need the questionnaire is framed taking care that no item is missed.

Details – In use study this particular factor plays the most important role. Suppose you are studying the use of the periodicals by the users of a library. If in the list of questions only ‘Periodicals’ is written as one of the items, then it will not be known which periodicals are being used heavily, moderately or sparingly. For this reason you are to list all the periodicals by name in the questions list.

Sample - In this method the selection of the sample is a big factor as the result of a survey is largely dependent on the sample. A use study in most cases is a library-based study. The library may be an independent unit or it may be attached to an organisation. Hence, selection of the sample is not very difficult. The respondents are available within the library and organisation itself. What you need is a structured list of questions. The list will have to be framed keeping in view the type of survey you want to conduct.

13.4.4 Study with a Questionnaire

Suppose, you want to conduct a use study of library and information science periodicals being received by your library. The periodicals being received by your library are as follows:

- 1) American Libraries, Chicago
- 2) Annals of Library and Information Studies, NISCAIR, New Delhi
- 3) Calcutta University Journal of Information Studies, Kolkata
- 4) DESIDOC Journal of Library and Information Technology, Delhi
- 5) DLIBCOM, Ahmedabad
- 6) Granthagar, Kolkata
- 7) IASLIC Bulletin, Kolkata
- 8) ILA Bulletin, Delhi
- 9) Indian Journal of Library and Information Science, Delhi
- 10) Information Processing and Management, USA
- 11) Information Studies, Bangalore
- 12) Journal of Documentation, UK
- 13) Journal of Information Management and Scientometrics, Aligarh
- 14) Journal of Library and Information Science, Delhi
- 15) Journal of the American Society of Information Science and Technology, New York
- 16) Kelpro Bulletin, Thiruvananthapuram
- 17) Library Herald, Delhi
- 18) Libri, Germany
- 19) Malaysian Journal of Library and Information Science, Kuala Lumpur
- 20) RBU Journal of Library and Information Science, Kolkata
- 21) Scientometrics, Budapest
- 22) SRELS Journal of Information Management, Bangalore

The number of journals is not very high, therefore, you may list the names of all the periodicals in the questionnaire and ask the respondents to assign marks to each of the periodicals they use following the given scale: Used daily – 5, used a few times in a week – 4, Used once or twice in a week – 3, Used less than once in a week – 2, Used rarely – 1, and Not used – 0.

The users of the periodicals are the students, research scholars and faculty members of LIS courses as well as others. You may also include the purpose of use. Using the three parameters such as periodicals, users and purpose of use, you can conduct the study.

Your questionnaire will be short and simple and filling of the questionnaire will not take time. The questionnaire may take the following shape:

Sample Questionnaire

[Please tick ✓ at appropriate places]

- 1) Name (Optional) Date
- 2) Sex: Male Female
- 3) Age Group: 20-30 31-40 41-50..... 51-60..... 61 above
- 4) User: Faculty Member (Specify Faculty)
 Researcher (Specify Faculty)
 Student (Specify Course): BLIS/MLIS/Others
 Others
- 5) Please assign marks against each of the periodical titles using the following scale:

| | Scale |
|-------------------------------|--------------|
| Used daily | 5 |
| Used several times in a week | 4 |
| Used once or twice in a week | 3 |
| Used less than once in a week | 2 |
| Used rarely | 1 |
| Not used | 0 |

- 6) Periodicals
 - 1) American Libraries, Chicago
 - 2) Annals of Library and Information Studies, New Delhi.
 - 3) Calcutta University Journal of Information Studies, Kolkata
 - 4) DESIDOC Journal of Library and Information Technology, Delhi
 - 5) DLIBCOM, Ahmedabad.
 - 6) Granthagar, Kolkata
 - 7) IASLIC Bulletin, Kolkata.
 - 8) ILA Bulletin, Delhi.
 - 9) Indian Journal of Library and Information Science, Delhi.

- 10) Information Processing and Management, USA.
 - 11) Information Studies, Bangalore.
 - 12) Journal of Documentation, UK.
 - 13) Journal of Information Management and Scientometrics, Aligarh.
 - 14) Journal of Library and Information Science, Delhi.
 - 15) Journal of the American Society of Information Science and Technology,
New York.
 - 16) Kelpro Bulletin, Thiruvananthapuram.
 - 17) Library Herald, Delhi.
 - 18) Libri, Germany.
 - 19) Malaysian Journal of Library and Information Science, Kuala Lumpur
.....
 - 20) RBU Journal of Library and Information Science, Kolkata.
 - 21) Scientometrics, Budapest.
 - 22) SRELS Journal of Information Management, Bangalore.
- 7) Purpose of Use
- 1) For collecting data for research work
 - 2) For preparing a lesson
 - 3) For writing an article
 - 4) For compiling a bibliography
 - 5) For verifying certain facts
 - 6) Others, please specify

Thank you for your kind cooperation

This questionnaire, with certain modifications, may be used for many other use studies. For example, if you want to study the use of databases your library is subscribing to, just insert the names of databases in place of periodicals and conduct the study. Similarly you can study the use of reference books, newspapers, magazines, A/V aids, etc.

If the number of items is very high, say 100 or more, then instead of listing the items title by title, keep the space blank and ask the user to list the items in the descending order of their use. Suppose, you have got back about 100 filled-in questionnaires and in each questionnaire you may find mention of ten, twenty or more items. Now make cards of all these items and arrange them alphabetically. You will find in many cases the same item has been used by more than one user. Now arrange the titles according to the frequency of use. That means, the title that has been used by maximum number of users will come first, followed by those that have been used less number of times. Now, note down the names of the items in the descending frequency of their uses. This is the rank list of the use of the items. From this list you may be surprised to know that some of the items the library is having are not being used at all. If there is a need to weed out some of the items, because of budget crunch or some other reasons you may do

so. The method of preparing the rank list described above is a manual one. If you have a computer then enter the data in a tabular form and get them alphabetically arranged with sort command. Count the frequency of occurrence of each item and record the frequency against the item in the next column. If an item has occurred more than once, just retain the first one, and delete the rest. Sort the items again in descending order of frequency. The resulting Table gives you the rank list of items.

13.4.5 Presentation of Results

Use studies are generally bibliometric studies. Hence, results of a use study are to be presented with tables and figures as is done in a bibliometric paper whereby results, trends, etc. become apparent without any difficulty. The data gathered according to the sample questionnaire given above may be analysed and presented in the form of tables, bar diagrams, etc.

With the data analysed at least three tables can be generated as follows:

Table 13.1: Users and their Characteristics

| Sl. No. | User Name | Status | Age Group | Gender | Remarks, if any |
|---------|-----------|---------|-----------|--------|-----------------|
| 1 | A | Faculty | 20-31 | F | Joined recently |
| 2 | B | Faculty | 51-60 | M | |
| 3 | C | Faculty | 41-50 | M | |
| 4 | D | Faculty | 51-60 | M | |
| 5 | E | Faculty | 31-40 | F | |
| 6 | F | PhD | 51-60 | M | |
| 7 | G | PhD | 31-40 | F | |
| 8 | H | PhD | 20-30 | M | |
| 9 | I | M Phil | 20-30 | F | |
| 10 | J | M Phil | 20-30 | M | |
| 11 | K | MLIS | 20-30 | M | |
| 12 | L | MLIS | 20-30 | M | |
| 13 | M | MLIS | 20-30 | M | |
| 14 | N | MLIS | 41-50 | F | |
| 15 | O | MLIS | 31-40 | F | |
| 16 | P | BLIS | 20-30 | F | |
| 17 | Q | BLIS | 20-30 | F | |
| 18 | R | BLIS | 20-30 | F | |
| 19 | S | BLIS | 20-30 | M | |
| 20 | T | BLIS | 20-30 | M | |
| 21 | U | BLIS | 20-30 | M | |
| 22 | V | BLIS | 20-30 | M | |
| 23 | W | BLIS | 20-30 | M | |
| 24 | X | BLIS | 20-30 | F | |
| 25 | Y | BLIS | 20-30 | F | |

The above Table clearly shows the number of respondents, composition of the faculty in terms of status, age group and gender.

Table 13.2: Ranked List of Periodicals

| Rank | Name of the Periodical |
|------|------------------------|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |
| 11 | |
| 12 | |
| 13 | |
| 14 | |
| 15 | |
| 16 | |
| 17 | |
| 18 | |
| 19 | |
| 20 | |
| 21 | |
| 22 | |

With the data given in Table 2, a bar diagram may be drawn.

Table 13.3: Purpose of Use

| Sl. No. | Purpose | No. of Users |
|---------|---------------------------------------|--------------|
| 1 | For collecting data for research work | |
| 2 | For preparing a lesson | |
| 3 | For writing an article | |
| 4 | For compiling a bibliography | |
| 5 | For verifying certain facts | |
| 6 | Others | |

It will be clear from the data in Table 3, for which purpose the periodicals are being used heavily, moderately or poorly.

Self Check Exercise

Note: i) Write your answers in the space given below.

ii) Check your answers with the answers given at the end of this Unit.

3) Enumerate non-electronic information sources.

.....
.....
.....
.....
.....

4) You are to conduct a reference book use study in a college library. How are you going to select the sample?

.....
.....
.....
.....
.....

5) Name five library and information science periodicals published from India.

.....
.....
.....
.....
.....

13.5 SUMMARY

Human beings have been using information since time immemorial. With the passage of time the use of information has progressively increased. However, fewer attempts have been made so far to systematically study the use of information. As a substantial amount of money is being spent in the generation, dissemination, processing, storage, etc. of information, it is essential to know to what extent information is being used. This has been discussed briefly in the Introduction section of this Unit.

Meaning and scope of information use study have been explained and it has been pointed out that use study of recorded information has only been covered as use study of oral information is hard to come by. It has been pointed out that use study is needed to decide the proper acquisition policy, weeding out of books, periodicals and other documents and to find out constraints in the use of books and other materials.

Various types of information use studies are encountered such as user-based information use studies, profession-based information use studies, subject-based information use studies, non-electronic source-based information use studies, electronic source-based information use studies, etc. All these types have been described quoting examples of studies conducted.

Use study is possible with a single document, a specific type of document, a particular category of information sources or information sources in general. All these have been discussed with examples. In the electronic source-based information use studies, e-resources, e-journals, CD-based sources and Internet use have been covered. Some examples of the use of oral information have been provided.

Conducting of information use studies related to non-electronic and electronic resources have been discussed. A number of methods have been described. How a questionnaire is to be framed for a questionnaire method study also has been elaborated upon. A sample questionnaire has also been included for better understanding.

13.6 ANSWERS TO SELF CHECK EXERCISES

- 1) Procurement of recorded information involves cost, many a times, in terms of millions of rupees. If it is seen that the procured information is not being used adequately, then it may be assumed that part of the money is going waste. Studies have shown that at times libraries are procuring such documents or subscribing to such databases as are not in great demand. On the other hand, documents or databases that are having more demand are not being procured adequately. Many a times, use studies pinpoint the flaws in the procurement policy. Use studies identify books that are no more in use because of obsolete information, lack of user in the field, etc. The books unnecessarily occupying valuable spaces on the shelves may be weeded out or transferred to alternate locations. Many useful databases sometimes do not find adequate number of users. User studies can find out the underlying constraints for non-optimal use of the costly databases. The constraints can be removed to ensure optimal use of the databases.
- 2) The types of information use studies are as follows:
 - User-based information use study.
 - Profession-based information use study.
 - Subject-based information use study.
 - Non-electronic source-based information use study
 - Electronic source-based information use study
 - Oral information use study.

An example of oral information use is as follows:

In a weekly market, a bank announced with drum beating the opening of its branch wherefrom people will be able to take loan for the purchase of cows, bullocks, construction of house, education of the children, etc. In no time, the people started crowding the bank for opening account as well as

demanding loans for various purposes. This clearly indicates that the information given was utilised.

- 3) Non-electronic sources comprise textbooks, monographs, treatises, handbooks, manuals, dictionaries, encyclopaedias, yearbooks, gazetteers, directories, seminar volumes, bibliographies, question papers, prospectuses, general periodicals, indexing periodicals, abstracting periodicals, magazines, newspapers, patents, reports, theses, manuscripts, maps, atlases, globes, plates, A/V material, microforms, A/V cassettes, film reels, etc.
- 4) The sample will comprise students, teaching staff as well as non-teaching staff. Suppose the college is running BA, BCom, BSc, BCA, and BBA courses. Ten students as well as five teachers will be selected from each of these courses. In addition, five non-teaching staff will also be selected. Thus, the sample will comprise 80 users, which will be a good sample for conducting the use study.
- 5) Five library and information science periodicals produced from India are as follows.
 - 1) Annals of Library and Information Studies, New Delhi
 - 2) DESIDOC Journal of Library and Information Technology, Delhi
 - 3) IASLIC Bulletin, Kolkata
 - 4) Information Studies, Bangalore
 - 5) SRELS Journal of Information Management, Bangalore

13.7 KEYWORDS

Electronic Journal : A journal in electronic form. *Synonym*: E-journal

Electronic Magazine : A magazine in electronic form. *Synonym*: E-magazine

Electronic Resource : Information available on the internet. Information that can be stored in the form of electrical signals.
Synonym : E-resource

13.8 REFERENCES AND FURTHER READING

Aditya Kumari, H., and V.G. Talawar. "Use of Reference Sources in University Libraries of Karnataka: A Study". *Annals of Library and Information Studies* 56.2 (2009):103-116. Print.

Ali, Jalali Dizazi. "Use of Optical Disc Databases in Iran: A Study of the Present Situation and Proposal for Desirable System". *Library Herald* 39.3 (2001): 168-186. Print.

Anil Kumar, M. P., and S.Ashok. "Real Time Usage Analysis of Online Resources - A Case Study of a Digital Library". *International Conference on Digital Libraries, 2004 : [Proceedings]*. Vol.2. New Delhi: TERI, 2004. 957-961. Print.

Bansode, Sadanand Y., and Shyamprasad M. Pujar. "Use of Internet by Research Scholars at Shivaji University, Kolhapur". *Annals of Library and Information Studies* 55.2 (2008): 123-126. Print.

Bavakutty, M., and K. Mohamed Haneefa. "Online Information Resources in Special Libraries in Kerala". *National Convention on Library and Information Networking (NACLIN 2004), Pune: Proceedings*. Ed. H. K. Kaul, and S. K. Patil. New Delhi: DELNET, 2005. 62-70. Print.

Bhat, Veena R., and V.T.Sampath Kumar. "Use of Web Based Sources in Scholarly Electronic Journals in the Field of Library and Information Science: A Citation Analysis". *Annals of Library and Information Studies* 55.2 (2008): 145-152. Print.

Biradar, B.S., and B.T. Sampathkumar. "Use of Internet by Physicists in Universities of Karnataka State: A Comparative Study". *ILA Bulletin* 41.4 (2005):25-40. Print.

---., P. Dharani Kumar, and Y. Mahesh. "Use of Information Sources and Services in Library of Agriculture Science College, Shimoga: A Case Study". *Annals of Library and Information Studies* 56.2 (2009): 63-68. Print.

---., Kannappanavar, B. U., and J. Keshava. "Use of Information Sources by the Users of Public Library: A Survey". *Indian Journal of Information, Library and Society* 19.3-4 (2006):195-205.Print.

Brahmi, F. A. "Reference Use of Science Citation Index". *Medical Reference Services Quarterly* 4.1 (1985): 31-38. Print.

Campello B.S., et al. "The Use of Encyclopedias in Public and School Libraries in the Belo Horizonte Metropolitan Area: A Research Report". *Ciecia da Informacio* 22.3 (1995): 259-262. Print.

Choukhande, V. G., and P.S.G. Kumar. "Analytical Study of Information Needs and Use Pattern of Faculty Members and Research Scholars of Amravati University". *ILA Bulletin* 40.3(2004): 23-31.Print.

Ernest, D. J., et al. "Telephone Directory Use in an Academic Library". *E Services Review* 20.1 (1992): 49-56. Print.

Fola Adio, W. "The Use and Acquisition of Government Publications in Academic Libraries in Nigeria: A Case Study Approach". *Library Herald* 41.1 (2003): 26. Print.

Golakrishnan, S., and B. Ramesh Babu. "Information Use Pattern by the Academicians: A Case Study of NIFT Centres in India". *Library Herald* 46.2 (2008): 63-80. Print.

Gunasekaran, M, R. Balasubramani, and S. Sivaraj. "Usage of Electronic Journals through Consortia by the Students and Members of the Faculty of Bannari Amman Institute of Technology: A Survey". *Indian Journal of Information Science and Services* 2.1(2008): 52-57. Print.

Gupta, Sunita. "Use of National Facility of CD-ROM Databases at Indian Agricultural Research Institute Library – A Case Study". *Library Herald* 38.3-4(2000): 168-175. Print.

Haridasan, S., and M. Khan. "Impact and Use of E-resources by Social Scientists in National Social Science Documentation Centre (NASSDOC), India". *Electronic Library* 27.1 (2009): 117-133. Print.

Hewitson, A. "Use and Awareness of Electronic Information Services by Academic Staff at Leeds Metropolitan University – A Qualitative Study". *Journal of Librarianship and Information Science* 34.1(2002): 43-52. Print.

Ibrahim, A. E. "Use and User Perception of Electronic Resources in the United Arab Emirates University". *Libri* 54.3 (2004): 18-29. Print.

Kanungo, Neena Talwar. 'Use of Internet in the Scholarly Communication of Social Scientists: A Case Study of IGNOU'. *Annals of Library and Information Studies* 54.1 (2007): 7-18. Print.

--- . 'Citing Patterns of Indian Political Scientists: A Case Study of the Indian Journal of Political Science'. *Journal of Library and Information Science* 20.1-2(1995): 56-65. Print.

--- . 'Citing Patterns of Indian Historians: A Case Study of the Indian Historical Review'. *Journal of Library and Information Science* 21.1-2(1996): 81-92. Print.

--- . 'Information Use Patterns of Social Scientists: An Analysis of Citations of Journal of Asian Studies'. *IASLIC Bulletin* 52. 2 (2007): 69-81. Print.

Kaur, A. "Use of E-resources by Teachers and Researchers of the Science and Engineering & Technology Faculties in Guru Nanak Dev University: A Survey". *Proceeding of the National Convention on Knowledge, Library and Information Networking (NACLIN 2006)*. 267-285. Print.

Khaiser, Nikam, and B. Promodini. "Use of e-journals and Databases by the Academic Community of University of Mysore: A Survey". *Annals of Library and Information Studies* 54.1 (2007): 19-22. Print.

Kumbar, B. D., and G.S. Hadagali. "Use of UGC_Infonet E-Journals Consortium by Faculty and Research Scholars of Karnatak University, Dharwar". *SRELS Journal of Information Management* 46.1 (2009): 51-60. Print.

Kumbar, M., N.G. Kumar, N.V. Raj, and J.K. Praveen. "Use of Electronic Resources by Research Scholars in CFTRI, Mysore". *ILA Bulletin* 41.3 (2005):16-20. Print.

Mohamed, H. K., and L. Sreelatha. "Use of E-journals by Doctoral Students of Calicut University". *Proceeding of the National Convention on Knowledge, Library and Information Networking (NACLIN 2006)*. 255-265. Print.

Mohammad, Hanifa K. "Use of ICT Based Resources and Services in Special Libraries in Kerala". *Annals of Library and Information Studies* 54.1(2007):23-31. Print.

Natarajan, K., B. Suresh, P. Sivaraman, and R. Sevukan. "Use and User Perception of Electronic Resources of Annamalai University: A Case Study". *Annals of Library and Information Studies* 57.1 (2010): 59-64. Print.

Parameshwar, S., and P. Kumbargouder. "Use of UGC-Infonet Consortium by the Research Scholars of Department of Chemistry, Gulbarga University, Gulbarga: A Sample Survey". *Proceeding of the National Convention on Knowledge, Library and Information Networking (NACLIN 2006)*. Print.

Parvathamma, N., and Shanker Reddy. "Use of Information Resources and Services in Public Libraries: A Case of Bidar District, Karnataka State". *Annals of Library and Information Studies* 56.4 (2009): 249-254. Print.

Patil, D. B., and S. Parameshwar. "Use of Electronic Resources by Faculty Members and Research Scholars in Gulbarga University: A Survey". *SRELS Journal of Information Management* 46.1 (2009): 51-60. Print.

Pujar, S. M., and S. L. Sangam. "Information Use by Economists: A Study". *Annals of Library and Information Studies* 54.4 (2007): 190-194. Print.

Pushpalatha, K., and T. Y. Mallaiiah. "Use of Information Resources in Chemistry: A Study of Mangalore University Library". *Annals of Library and Information Studies* 56.3 (2009): 175-183. Print.

Raja, M. M., and A. K. Upadhyay. "Usage of E-journals by Researchers in Aligarh Muslim University: A Study". *International Information and Library Review* 38.3 (2006): 170-179. Print.

Roy, Satyabrata, and Gayatri Paul. "Book Usage in a Research Library: A Case Study". *IASLIC Bulletin* 54.4 (2009): 197-209. Print.

Schemeckebier, L. F. *Government Publications and Their Use*. Washington: Brooking Institution, 1969. Print.

Singh, Gurdev. "Use of College Libraries by Faculty Members of University of Delhi". *Library Herald* 40.4 (2002): 267. Print.

Singh, Joteen, R. K. Madhuri Devi, and Arup Raychaudhury. "Use of Internet-based E-resources at Manipur University: A Survey". *Annals of Library and Information Studies* 56.1 (2009): 52-57. Print.

Singh, P. K. Nazim, and S. N. Singh. "Awareness and Use of Online Journals by the Faculty Members, Researchers and Students in the Faculty of Natural Sciences, Jamia Milia Islamia University: A Survey". *From Automation to Transformation*. Ed. Jagdish Arora, et al. Ahmedabad: INFLIBNET Centre, 2008. 541-550. Print.

Singh, Pankaj Kumar. "User Awareness and Use of Online Journals at the Jamia Milia Islamia Library : A Survey". *IASLIC Bulletin* 54.4 (2009): 210-218. Print.

Singh, Nirmal. "Use of the Libraries of Colleges of Education in Punjab". *Library Herald* 47.3 (2009): 233. Print.

Sujatha H. R., and Mahesh V. Mudhol. "Use of Electronic Information Sources at the College of Fisheries, Mangalore, India". *Annals of Library and Information Studies* 55.3 (2008): 234-245. Print.

Tadasad, P.G., and S. C. Talikoti. "Awareness and Utilization of Resources, Services, and Facilities of City Central Library, Gulbarga". *ILA Bulletin* 36.3 (2000): 80-86. Print.

Vashishth, C. P. "Use of Electronic Resources in Learning: Some Constraints". *Library Herald* 47.2 (2009): 97-103. Print.

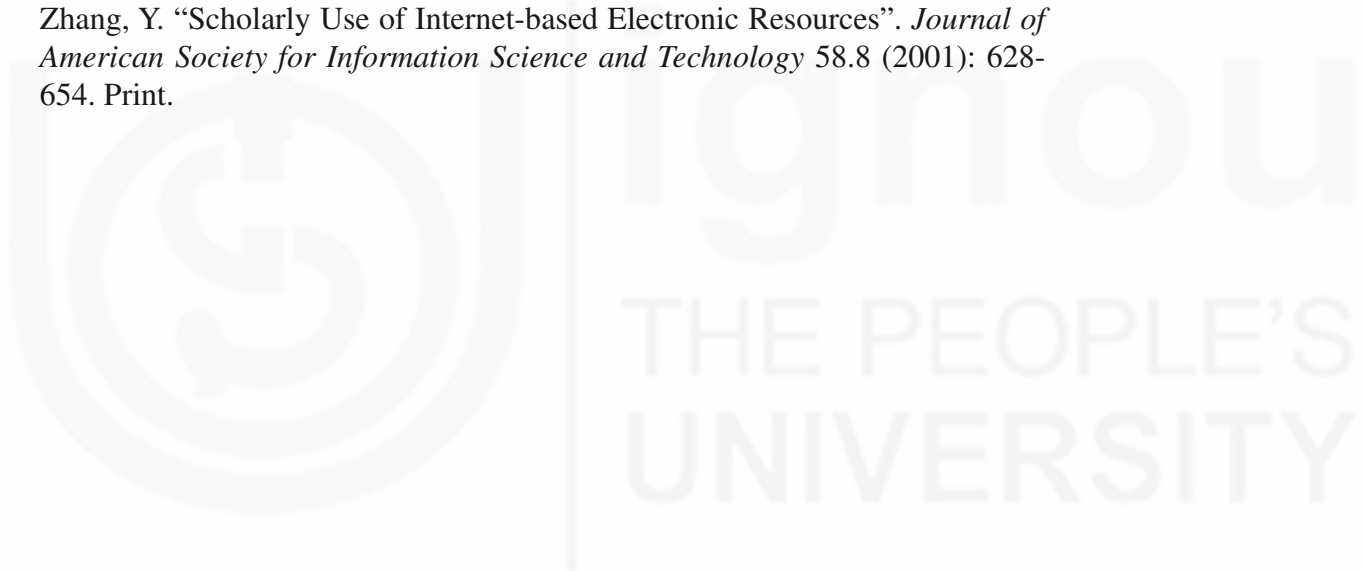
Veenapani, S., Khomdom Singh, and R.Devi. "Use of e-resources and UGC-Infonet Consortium by the Teachers and Research Scholars in Manipur University". *From Automation to Transformation*. Ed. Jagdish Arora, et al. Ahmedabad: INFLIBNET Centre, 2008, 563-568. Print.

Verma, Neerja, Rajnish Tamrakar, and Mridulata Shrivastava. "Use of Collection and Services of TIRC of DRDE Gwalior: A Case Study". *Library Herald* 45.3 (2007): 275-277. Print.

Viabolicova, D. "Bibliography and its Use in Work with Enquirers". *Citatel* 36.7-8 (1987): 250-251. Print.

Walmiki, R. H., K. C. Ramakrishnegowda, , and K. R. Prithviraj, "Awareness and Use of UGC-Infonet Digital Library Consortium by the Faculty Members of Karnataka State Universities". *Annals of Library and Information Studies* 57.1 (2010): 33-43. Print.

Zhang, Y. "Scholarly Use of Internet-based Electronic Resources". *Journal of American Society for Information Science and Technology* 58.8 (2001): 628-654. Print.



UNIT 14 MARKETING OF INFORMATION SERVICES

Structure

- 14.0 Objectives
- 14.1 Introduction
- 14.2 Need for Marketing of Information Services
- 14.3 Defining Marketing
- 14.4 Linking Marketing with Library and Information Services
- 14.5 Analysing Marketing Opportunities
 - 14.5.1 External Environment
 - 14.5.2 Internal Environment
- 14.6 Selecting Target Market
- 14.7 Developing Marketing Mix
 - 14.7.1 Marketing Mix in Services
 - 14.7.2 Marketing Mix Concept in Library and Information Centres
- 14.8 Developing a User/Customer Focused Approach
- 14.9 Implementing Marketing in Libraries
- 14.10 Summary
- 14.11 Answers of Self Check Exercises
- 14.12 Keywords
- 14.13 References and Further Reading

14.0 OBJECTIVES

After reading this Unit, you will be able to:

- explain the meaning of marketing and its need for a library and information centre;
- discuss how marketing strategies can be applied in a library and information centre;
- describe the concept of marketing mix as applicable to library and information services; and
- elaborate customer focus approach and issues related with implementation of marketing in a library set-up.

14.1 INTRODUCTION

By now you must have accustomed with the concept of information services. Generally, it refers to libraries and information services. Libraries essentially are social institutions and have contributed significantly towards the betterment of society by offering variety of resources and services. They, as information service provider, are under pressure due to various reasons such as: they have to mobilise resources, compete with the Internet and Internet support services, meet the rising user' expectations, improvise the professional image, etc. Therefore, library and

information centers need to evaluate their activities with respect to the external environment, get in touch with the users' needs and integrate them into day-to-day working of the library as well as offer / adapt services as per users' needs to integrate the concept of marketing in libraries. The first requirement for effective and successful implementation of marketing in library and information service is that the librarian should have a clear appreciation for what marketing is all about and how it can enhance the value of library and information services.

People usually relate marketing with increase of sales, profit, market share, etc. As you know that library and information services are non-profit services, therefore, there is a general perception that libraries do not need marketing. But the fact is that marketing is all around us and it is essential for all kind of organisations and individuals. Professionals like lawyers, accountants and doctors also need to use marketing skills so as to create and manage the demand for their services. Therefore, the libraries and information service providers should make efforts to:

- inform users about their role as an information service provider;
- attract users, understand users and their needs;
- motivate users to use the resources and services in different formats; and
- educate users with the help of latest tools and techniques in managing information in libraries and information centres.

If a librarian is performing all the above stated functions, one can say without any doubt that s/he is thoroughly involved in the marketing of information services.

14.2 NEED FOR MARKETING OF INFORMATION SERVICES

Presently, the need for marketing of information services is being felt by all types of libraries. Libraries are facing competition from other information service providers. They need to make daily decisions on the form and formats for acquiring and archiving information. Librarians are striving to provide free access to information. They are struggling with space constraints, shrinking budgets and rising cost of materials. At the same time, users' expectations are going high with the emergence of online access to information. In response to these factors, management philosophies and administrative operations of libraries have changed. Librarians are embracing marketing techniques to be more efficient managers and effective information service providers.

Thus, libraries are facing the greatest challenge that is as the financial provisions for libraries are being continuously curtailed and they are pressurised to be self-sustained. Librarians are hard pressed to mobilise financial resources. This requires an increased emphasis on marketing. Good marketing efforts can take care of all resources and how best these can be channelised in an efficient way.

Library services are valuable services but are undervalued because of lack of visibility among the users. Marketing efforts can help in improve the image of library and information (LIS) professionals by establishing cordial relations with the users and other patrons, good facilities, high standard of service, good discipline and well-behaved staff.

For a long time, LIS professionals had engaged primarily with suppliers and thus lost interest in working for the users/customers. But it must be kept in mind that only satisfied users come back and there are greater chances that dissatisfied users will find some other suppliers of information to meet their information needs.

The reasons for applying marketing techniques in any organisation, particularly in library and information centre, is not to achieve profit in financial terms, but to achieve high level of users' satisfaction and to enhance the perceived value of their services and products. The increased users' satisfaction will result in the increased willingness to use and pay for the services offered. Enhanced perception of the value of the organisation will translate into increased level of support to the organisation. As such, user satisfaction has direct impact with the support they get from the library. However, some efforts could be made to get such funding through dealing with funding bodies directly.

To meet users needs satisfactorily, the first thing the LIS professionals need to understand that: Whom are they trying to serve? What are user's interests? What can the librarians provide to serve these interests? Under what conditions can the librarians offer services and products? How do the librarians communicate with the users? How users communicate their needs to the LIS professionals? Librarian knows well about the library in terms of its resources, facilities, services, products, etc. There is nothing wrong if librarians tell their users about how well they can help them in achieving their desired objectives. However, librarians must capitalise their expertise in meeting users needs through the resources available. Marketing puts such concept into work. Particularly, in the information era, marketing's role in library and information centre is finding information/products for the users/customers and not users/customers for the information/product. It is to remember that no library "owns" its users to the extent that it determines their likes and dislikes. Librarians must pay attention to users' requirements and preferences.

Libraries want the user to come again and use their resources and services. Traditionally, libraries have very positive and favourable relationship with its users. Users are formally attached with the library as members of the library. Librarians have a great potential to transfer this positive, favourable relationship to attract users time and again. But users will come again only if their present needs are well met and in meeting the information needs of users, marketing attitude plays a vital role.

The world in which libraries exist has changed dramatically. It moves faster, relies on technology and competes more intensely. Fearful that change may threaten the existence of libraries, we must look to marketing to help us manage better.

Despite interest in marketing, there has been resistance due to a misunderstanding of marketing concept and its application in library environment; failure to recognise and understand a marketing orientation and its process even when they are present; and a disagreement with the basic tenets of marketing that places the emphasis upon the customer rather than product, the profit or the organisation itself. Many myths prevail in the minds of library professionals, such as marketing equates selling; promotion or advertising; marketing focus on customers;

marketing is about products and information is not a product; marketing requires good marketing persons; marketing is extra work to be done; marketing requires huge budgets; marketing is about making profits; library services are still free, etc. Many a times, these myths act as barriers to the development of the concept of marketing in libraries.

Self Check Exercise

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit.

1) Describe the need for marketing in library and information centres.

.....

.....

.....

.....

.....

14.3 DEFINING MARKETING

Marketing is a term which has different meanings for different people. Many a times, people see marketing only as selling, advertising or promotion. However, real marketing does not involve the art of selling what you make, as much as knowing what to make! Marketing is concerned with gaining market leadership, understanding customers and their needs, creating customer values and satisfying customers. Some popular definitions of marketing are mentioned below:

“Marketing is the management process responsible for identifying, anticipating and satisfying customer requirements profitably” (The UK’s Chartered Institute of Marketing).

“Marketing consists of individual and organizational activities that facilitate and expedite satisfying exchange relationships in a dynamic environment through the creation, servicing, distribution, promotion and pricing of goods, services and ideas” (The American Marketing Association).

“Marketing is a social and managerial process whereby individuals and groups obtain what they need and want through creating and exchanging products and value with others” (Philip Kotler).

The true essence of above definitions of marketing is that:

- There is demand for information products and services on offer;
- These products and services have ability to satisfy customer needs;
- The exchange of product or service is the primary consideration for payment;
- There is always a need to create an edge over competitors;
- The identification of favourable marketing opportunities;
- The resources are utilised to maximise a business’s market position; and
- The aim to increase market share in priority target markets.

The new definition of marketing by American Marketing Association released in 2004 addresses such concern:

“Marketing is an organizational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders”.

This definition sets many new dimensions to the concept of marketing. The emphasis is on that:

- Marketing serves as the overriding philosophy in conducting marketing task in the organisation as a whole.
- It is a set of processes which involves interactions among people, technology, methods, procedure, environment and material (information or information sources in case of libraries), by which any offer comes to the customer.
- Value is the basket of benefits or utilities which a user or customer gets by using a product or service. Thus, value is clearly communicated to customers so that it can be understood easily.
- A long-term relationship is developed among customers and marketers through deep understanding, reciprocal dependency and mutual trust (users and LIS professionals in case of libraries).
- Relationship is substantially beneficial to both the parties. From the organisation’s point of view, relationship is a tactical issue, but for customers, it is just a communication process.

Thus, it is clear that marketing is a wider concept and marketing techniques keep on changing. In the next section of this Unit we will be discussing the concept of marketing and its application in library and information services and products.

Self Check Exercise

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit

2) Explain the recent definition of marketing given by American Marketing Association.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

14.4 LINKING MARKETING WITH LIBRARY AND INFORMATION SERVICES

At first sight it may appear that ‘marketing’ and ‘libraries’ belong to different worlds. Thus, much of the debate surrounds just how marketing fits into library and information services. Many a times, marketing is considered an additional burden by LIS professionals. Many feel that marketing is not a natural activity for LIS professionals. If marketing is not seen as a natural consequence of what librarians do everyday, everytime, then marketing is misunderstood and misplaced. Most libraries take decisions about the location of the library, opening hours, planning a new facility or service, offering services according to users/ user groups, making free or priced services, etc. From the above discussion it is clear that marketing decisions are taken in libraries in day-to-day functioning.

The philosophy of libraries revolves around the Five Laws of Library Science. Many authors find these laws closer to modern marketing principles. The following Table 14.1 demonstrates the laws with their thrust areas and simplistic marketing implications.

Table 14.1: Five Laws of Library Science and Marketing Implications

| The Law | Thrust Area | Marketing Implications |
|--------------------------------------|--|---|
| Books are for use | Optimum use of resources, facilities and services. | Acquiring appropriate information material and ensuring sufficient resources and services are available for the use of users. Convenient location, effective signage and longer opening hours, human resource for using resources and services. |
| Every reader his/ her book | Meeting users need satisfactorily. | Collecting and interpreting information, understanding the needs of users and matching them with the organisational resources. |
| Every book its reader | Reaching out to users. | Publicising value and benefits, promotional campaign, advocacy, public relations, personal communication, etc. |
| Save the time of user | User benefits and preferences. | Repackaging information into appropriate form, availability of information when they need. Ensuring quality of services and products. |
| Library is a growing organism | Adapting to future user needs. | Mobilising resources, dealing with uncertainty about future user needs, new services, new customer groups, etc. |

Libraries have found various marketing functions essential and they have used them. Librarians, like all other business people, are into marketing, consciously or sub consciously. When it is done- the focus of the work, the outlook and service mindedness are derived to manage in entrepreneurial way.

The following are some basic questions which are often asked about the purpose of the library, its users and services. If you look at the answers, you will find that everything is dealt with marketing in some way or the other.

What is the purpose of the library?

Libraries are essentially service institutions but at the same time, there is no disagreement among library and information professionals about the ‘information’ as the *core* to the business of library and information centres. ‘Right information to the right user at the right time’ is the basic motto of the library profession.

What is the place of users in library service?

User is the central focus of library services. Users are the most important part of the trinity, i.e. users, staff and the information resources. The success or failure of any library and information services is gauged from the extent of the user’s satisfaction from person, process or product.

How do libraries serve their users?

Which service a library should provide and which not, has always been an issue of discussion in the professional circle. This is basically because a library needs to work for organisation as well as to provide user services. Therefore, users must be motivated, educated and empowered for the self- services.

How the nature of library service is changing?

The real challenge for the library is not to manage the collections, staff and technology but to turn these resources into services. Even the notion of service has changed from basic to value-added, from staff assisted to self-service, from in-house to out-reach, from free to priced, from reactive to pro-active and from mass-customisation to individualised service. In this context there is always a need for LIS professionals to develop a more responsible attitude towards users and serve them rightly to ensure credibility and a positive attitude to face new challenges and opportunities.

Self Check Exercise

- Note:** i) Write your answer in the space given below.
- ii) Check your answer with the answers given at the end of this Unit.
- 3) Describe thrust areas of Five Laws of Library Science with marketing implications.

.....

.....

.....

.....

.....

14.5 ANALYSING MARKETING OPPORTUNITIES

Analysing the environment for marketing opportunities is commonly done keeping in view many aspects. The tool often used to gather information about external forces and internal capabilities is SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which involves capturing the strength and weaknesses of an organisation or service and the opportunities and threats represented by environment trends.

All organisations, public or private, small or large, profit making or non-profit making, manufacturing or service, exist within an environment that affect the work they do and how they do it. Assessing the organisational environment is necessary to offer customised information services to users. This emphasises the importance of gathering information from a wide range of sources so as to make informed decisions. The past decade has witnessed significant changes and advancements in the various aspects of human life. The directions, restrictions and constraints that are imposed by the environment in which a library operates are not different from those in other organisations. Even a library operates in a wider context or environment forming a dynamic relationship with other organisations. This phenomenon determines the conditions, which have a direct impact on library management.

The Figure 14.1 gives an idea that library management interacts with the environment and is also influenced by it. Library management gets input, energy and materials from the environment. LIS managers need to be constantly active to be effective and efficient in the changing environment.

The overall environment, in which a library works, can be divided into two categories namely external and internal.

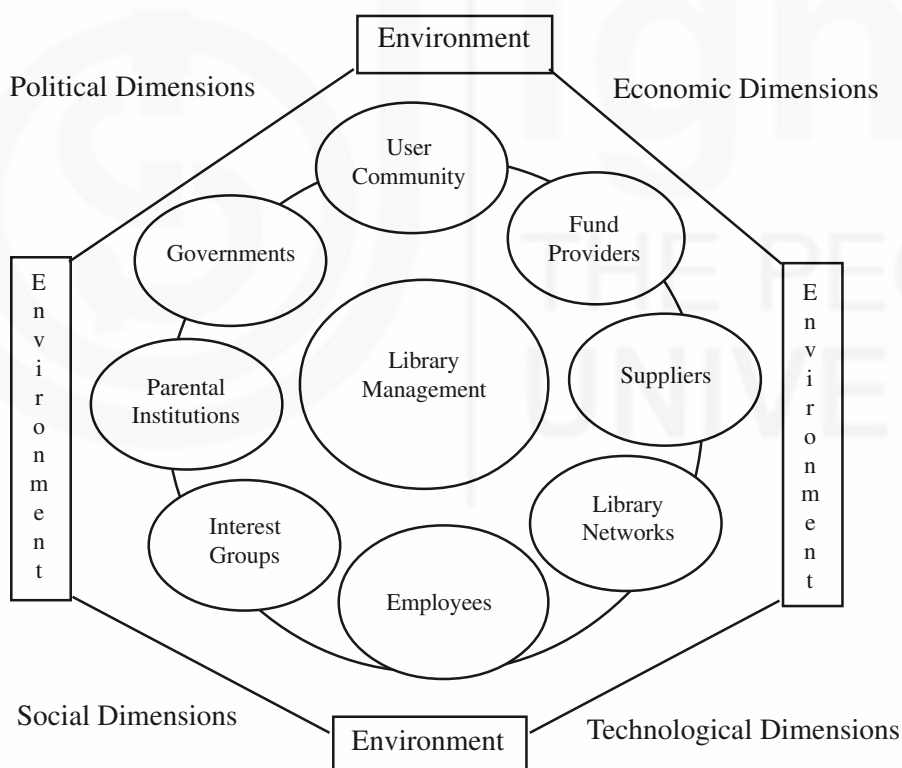


Fig. 14.1: External Environment

14.5.1 External Environment

External pressures on libraries come from the changes taking place outside the library world. It may be seen in context of local, regional and international impact on libraries and information centres. The different dimensions (see Figure 14.1) for example, economic, technological and socio-political dimensions embody conditions and events that have the potential to influence the organisation in many ways.

Technological Dimensions: Technology is the key to business of every organisation. Technologies offer better-featured products, needs less space but more capital and skills. The most noticeable developments are in the fields of information communication and networking technologies. They are used for processing, storage, retrieval and transmission of large volume of information across geographical zones within no time. New technologies offer new and improved services in a variety of ways, such as:

- Creation of new or improved services.
- More involvement of users/customers in operational tasks by offering self-service system.
- Bridging the gap between small and large libraries as IT provides an opportunity to use the resources, services, products from remote locations through resource sharing and networking.
- Accessible data bank, which would be helpful in recognising the users' information needs in a better way. Need recognition helps in strengthening relations with the users.
- Personalised direct mail communication and machine interaction is also possible.

Globalisation has resulted in ease of access to information around the world, round the clock. Many national and international information networks exist for free flow of information. The globalisation of information has created the quality consciousness among users and has also increased the expectations of the user groups to a great extent.

Technology is dramatically influencing service strategies such as:

- Modern communication infrastructures make possible service delivery at global level;
- The increasing reliance on IT in offering services not only globalises but also provides opportunities to know the services offered globally; and
- The changing nature of services due to advancement in technologies, which are radically altering the methods by which library and information centres can globalise their services.

Economic Dimensions: New economic thinking has resulted in numerous changes. Public sector enterprises involved in health, insurance, banking, telecommunications, public transport, universities and libraries are under threat and the governments of most of the countries now prefer as a matter of social as well as economic policies allows privatisation. Present day library and information centres are unable to maintain their acquisition and services at previous level with the finances made available by the state agencies, which has been cut down or have remained static for the last many years. A major portion of the library budget goes for the staff salary and it has become very difficult for libraries and information centres to cope up with the rising cost of literature with limited budget for acquisition. Similarly, there has been a great necessity of funds for acquisition of newer technologies to enhance service capabilities and output of products. There is also a threat from competitors to maintain quality services, as in market economy public and private sectors would co exist for free flow of information. Commercial firms engaged in production of information and its

organisation and retrieval would also charge for such services. Thus, the main challenges before libraries and information centres managers are to:

- utilise resources properly and efficiently;
- mobilise resources to meet financial needs; and
- make services and products qualitative and competitive through accountability.

This has put libraries to market their services and products and charge for value-added services, to enter into joint ventures and alliances and to bring operational efficiency and effectiveness, etc.

Socio-political Dimensions: The process of democratisation at the grass root level in the form of local bodies at village, block and district level, policies of up-liftment of weaker sections of the society, concept of social justice, total literacy campaign, etc. are leading to the change in people's attitude, habits, value and belief. At the same time, disinvestment policies of the governments affect ownership share of the enterprise and their libraries are to take the initiatives in tune with the organisation they serve. Such initiatives are needed with regards to goal-setting, developing vision, building cooperation, responding and reacting to the new situations in the new environment.

Many of the library and information centres have taken serious initiatives and have attempted to serve in such an environment. Many are yet to formulate their response to the changing environment. They need to think through their vision, goals and objectives, organisational culture, organisational and functional strategies, etc.

14.5.2 Internal Environment

Alongside external dimensions of environmental changes, there are also internal dimensions which library and information managers need to take into account. The internal dimensions include physical resources, systems and people. The whole spectrum is shown in the following Figure 14.2.

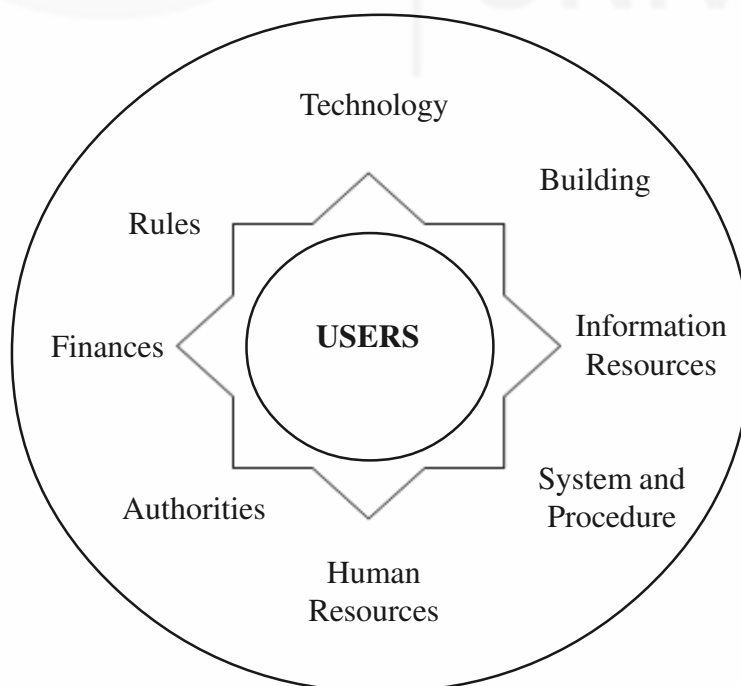


Fig. 14.2: Internal Environment

All the internal resources, for example, human, finance, information systems and procedures, rules, technology, facilities, etc. are there to serve users better. Thus, the important elements of the internal environment may broadly be grouped into three, namely physical resources, systems and people. These are influenced greatly by user's choices, preferences and needs.

Customers: User is considered the king around whom all activities of the library revolve, library and information centres exist to meet the needs of all its users, user is the focal point of all information activities and library and information centres are incomplete without users. It is mainly because of central position of user in all components of the library. User is "the most important entity in all kinds of libraries- public, academic and special. User may be a reader, patron, customer, client or anyone who makes the use of services in a library set-up."

Physical Resources: The most important dimension of the service quality that represents evaluative criteria being used by users are physical facilities, information sources, equipment, communication material, etc. These are required for the comfort of users to sit and study in the library and for producing value-based services /products for them. All aspects of physical facilities must be planned and maintained to ensure convenience, safety, cleanliness and comfort. Information resources must be exhaustive, up-to-date, and balanced in order to provide pin-pointed and timely delivery of information and services with the help of modern equipment. Cozy and inviting atmosphere of the library will attract users to come again and again and value-based services will ensure increased satisfaction among them. The concept of library is changing to the extent of library without walls. Library services offered online must also address the requirements of the users and geared towards meeting them efficiently.

Systems: In a library, systems comprise of the service operations, where inputs are processed and the elements of the service products are created and service is delivered. Activities include classification, cataloguing, indexing, charging and discharging, rules and regulations. Every system and procedure must be designed and operated to meet the needs of users, aiming at making simplicity in use, accuracy, reliability, timeliness, completeness, etc. so that some trust about the services is developed among users.

People: People, include library and information professionals working in various sections of the library working at different levels, i.e. lower, middle and top, skilled, semi-skilled and unskilled, professional, semi-professionals and non-professional. It is the value, belief and approach of employees that will reflect in the organisation they work. The management structure and style must support each employee to give some intangible value to its users – internal and external. People involved in library and information services require good knowledge of both systems and physical resources and must be competent to use their knowledge to create customised offerings to users and an ability to communicate about the value of services to them.

In formulating a marketing strategy, the library management has to adapt to its environment as understanding the environment would help the library in not only altering its existing marketing mix but in identifying new opportunities by selecting an appropriate market to serve.

Self Check Exercise

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit.

4) List out factors that affect external environment of an organisation.

.....

.....

.....

.....

.....

14.6 SELECTING TARGET MARKET

Selection of an appropriate market is important for the success of marketing efforts. A market includes all the people who have some stated interest in a particular product or service or who could be expected to have one in future. The process of market segmentation is fundamental to the whole idea of marketing as it focuses on the user, i.e. a library’s present or prospective user, rather than the product, i.e. the library’s collection and services. A basic tenet underlying marketing strategy is that there are distinct market segments each with its own needs, wants desires and interests. Market segmentation is the division of market into distinctive groups of buyers who may require different products or marketing mixes. It is the division of market into homogenous groups, which will respond differently to marketing mix variables i.e. the 4Ps of product, price, promotion and place. It is the division of heterogeneous market into homogenous groups. Segmentation is important from the point of view of marketing as different buyers have different needs. Each group or segment can be targeted by using different marketing mix to reach potential buyers with most customised offering as possible. Very often, a librarian builds up library collection by assuming the needs of the users. Library market segmentation takes into account the fact that library users who request a product or service are all individuals who are unique in some way.

Market segmentation is done on the basis of the two market variables: classification variable and the descriptive variable.

I) Classification variable is used to divide the market into following segments:

Geographical segment – This involves division of the market into different geographical units e.g. states, regions, countries, etc. It consists of users who live in a particular geographical locality. These markets determine the type, size and site of the library and information centres as well as opening hours and services offered. The managers of public libraries should look out for geographic location requiring library services and serve the user community accordingly. Rural area which is remote and isolated can be best served by mobile library services. Special libraries serving industries and R&D organisations having branches located in different regions will have to consider specific needs of each location and develop services accordingly.

Demographic segmentation – In this case the market is divided on the basis of demographic variables like age, sex, occupation, income, race, etc. Demographic market segmentation is one of the most popular methods of

distinguishing market segments in libraries. They are often associated with clear market needs and information relating to these markets is readily available. Demographic markets may be identified by age, sex, nationality, income, occupation, religion, social needs (like hobbies, sports, some form of entertainment, etc.) and physical needs (for physically handicapped).

Psychographic segmentation – Dividing the buyers on the basis of socio-economic status, lifestyle, hobbies or personality traits is psychographic segmentation. This type of market segmentation examines attitudes, living styles, personality and social classes, people who have a past history of using libraries have to be reminded of the library services and their use.

Behavioural segmentation – Buyers are divided on the basis of their product knowledge, usage, brand loyalty, attitude, response to marketing factors, etc.

- II) Descriptive variables are used to describe each segment and distinguish one segment from the other. Descriptive variables must be easily available measures and it can be linked to easily obtainable measures that exist in the secondary sources.

The strength of market segmentation lies in the fact that it is based upon the end user rather than on products or services. The end user is assured of a service which satisfies her/ his individual needs rather than a mass market general offering.

Once the library identifies the potential market to serve, it needs to select those for which it will provide a product or service. This process is known as ‘targeting’ which involves strategies for appropriate market segmentation, for example:

- bringing all users at one place who have similar or identical needs and the organisation goes after the whole market with single offering;
- dividing the mass market into smaller groups or segmenting and designing separate services and programmes for each group; and
- concentrating upon a small number of users or specific areas of services and providing in-depth services in a few areas or serving a small percentage of the users.

Once it is decided about the target group and the service (new or existing) to offer to the target group, it is required to put all efforts to make it qualitative. Everything done by the librarians about the library and its services must support and reinforce it.

Self Check Exercise

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit.

- 5) Define market segmentation.

.....
.....
.....
.....

14.7 DEVELOPING MARKETING MIX

Marketing mix is one of the most important and fundamental development in the area of marketing. Marketing mix is a set of controllable, tactical marketing tools that the firm (organisation) blends to produce the response it wants in the target market. It consists of everything the firm can do to influence the demand for its product. Marketing mix is commonly referred to the four P's of marketing – product, price, place and promotion. This is a simple, yet effective means of considering the key elements necessary and the emphasis to be placed on each, in order to ensure effective implementation of marketing strategy.

Marketing mix is an important tool for creating and maintaining an offering that is of value to customers. Successful marketing depends on 'the right mix'. In other words, a product that lacks visibility among the potential customer group will fail and a marketing message that evidently does not reflect the product, will suffer the same fate. All elements of marketing mix are interdependent and must be consistent with one another. The most appropriate marketing mix depends upon the customer and is influenced by the marketing environment. An organisation needs to design and combine elements of marketing mix so as to create an offering that differentiates it from its competitors or to create a competitive advantage.

A strategy that is based on an excellent product supplied at an unsatisfactory price is a failure even if the other elements in marketing mix are properly calculated. The ingredients must produce a smooth mix working together to create an effective strategy. Each element in the mix is composed of sub-elements which form a mix such as: a 'product mix' a 'distribution mix' a 'communication mix', etc.

14.7.1 Marketing Mix in Services

In context of the service, product refers to the service and pricing of services can be different from pricing of goods due to the difference in tangibility, industry tradition, etc. Promotion partly occurs during the service creation and delivery process, partly through traditional promotion channels such as personal selling and advertising. Place represents the distribution and availability of the service. For many services, for example, telecom services and certain financial services, it is a matter of applying information technology in the distribution for others, the physical proximity of a service-producing unit to the local market is an absolute necessity.

With the growing interest in services marketing, around 1980s it was felt that an important element with respect to services was missing the people "P". This then became the fifth "P" of the marketing mix. Recognising the importance of packaging in the marketing of branded packaged products, practitioners and researchers recommended that packaging be treated as separate variable. Packaging was considered to be treated as separate variable and was removed from 'product' and this gave birth to the sixth "P" of marketing mix. Soon this sixth "P" was modified to "physical evidence" in the case of services marketing. The six "Ps" however, appeared inadequate when researchers discovered that consistency in services couldn't be ensured without the support of "process". This brought in the seventh "P". The extension from 4Ps to 7Ps has been displayed in the Figure 14.3.

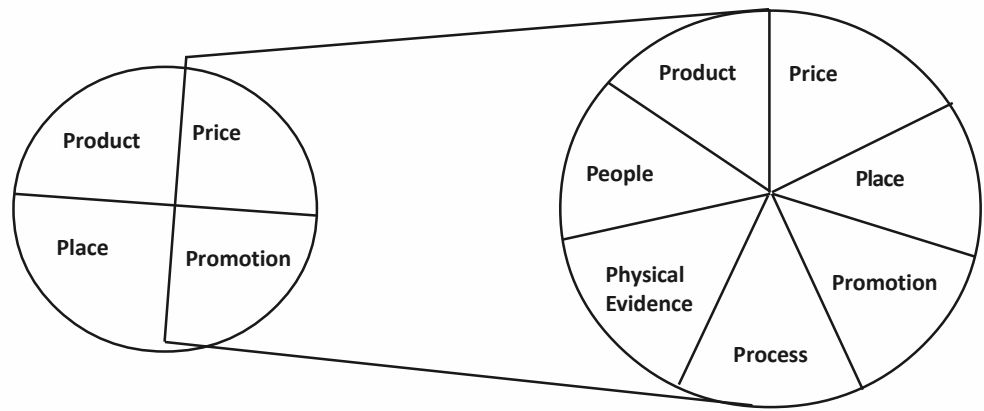


Fig.14.3: Extension from 4Ps to 7Ps

In this way, four Ps have been expanded into seven Ps, adding the following three 'service Ps': **people** (the service provider's employees and customers who participate in the service delivery and thus influence its quality and present future purchases): **physical evidence** (the environment of the service organisation and all the physical products and symbols used in the communication and production process): **process** (procedures, mechanisms, flows of activities and interaction that form the service production and contact with customer).

14.7.2 Marketing Mix Concept in Library and Information Centres

Libraries take decisions about the location of the library, opening hours, planning new facility or service, offering services according to users/ user groups, making free or priced services, etc. These are simple examples, but, are **marketing decisions** and may be well covered in the elements of marketing mix if thought from marketing perspective. Libraries have found various parts of marketing functions so essential that they have used them.

Library and information centres are required to choose appropriate programmes relating to marketing mix so as to avail opportunities for optimum use of resources and to increase user satisfaction. The marketing mix in library and information services may be:

Product: All products or services or offers, present and potential, aimed at meeting the needs of the users.

Price: All costs put in by the user to find relevant information or service or product, may be money, time, efforts.

Place: The way in which information product/ service is made available to users, on campus or remote location, online or virtual.

Promotion: All methods of communicating with users one-way, two way and both.

People: People who are involved in the delivery of service.

Physical Evidence: Surroundings of the library, within and outside, through which users make use of it.

Process: Interaction of various activities by which services are created, performed and delivered.

Marketing mix approach has been criticised for being incomplete and manipulative and for not properly considering the needs of the user/customer. The marketing concept postulates that once you know your customers, through market research or otherwise, you can design, price, promote and distribute a product that matches their needs and become a success in the market place. The seller is considered the active party and the customer has to be persuaded to buy. The empirical base of marketing mix theory is mass manufacturing of standardised consumer goods. It has never become particularly successful for services as it disregards their unique features.

Four or seven ‘P syndrome’ is also criticised on the ground that it has more focus on the product or the producer and not on the customer. Interestingly, Kotler has attempted an update of 4Ps concepts to reflect this into 4Cs:

| Four Ps | Four Cs |
|----------------|----------------------|
| Product | Customer value |
| Price | Cost to the customer |
| Place | Convenience |
| Promotion | Communication |

At first glance, some of these concepts in the marketing mix, whether they start with a P or a C, are only applicable to a commercial environment. However, they can also be useful tools for a library service to meet the needs of its users/customers. Many libraries are already using these techniques in an intelligent and focused way.

Self Check Exercise

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit.

6) Describe marketing mix as applicable to services.

.....

.....

.....

.....

.....

14.8 DEVELOPING A USER/CUSTOMER FOCUSED APPROACH

Every library has its main drive, the principal reason for its existence, from which all aspects of its policy, procedures and activities, which determines its culture and the attitude of its staff at every level. Many libraries either are collection centered or technology centered and some are organisation centered. Those libraries that will succeed in the future seem likely to be are user-driven and with a focus towards user satisfaction. User satisfaction has to be the focus of all thinking and activity for the survival of such a library. Excellent user service is

the key to user-driven service strategies. There is a continual discussion on making libraries user-centered and building a successful user-service culture while managing libraries. The satisfaction that a user or customer gets in a library will help in building loyalty that is the key to promoting a library. No one can afford to lose users. Excellent user service is the basis for effective managing library services.

LIS professionals must always remember that:

- Customers/users are the most important people to be served in a library and information centre.
- They are not dependent on the library rather the library depends on them.
- They are not just outsiders but part of the library.
- They are not just statistics, but also they are human beings.
- They are the people who come with certain needs and libraries and information centres are there to meet such needs.

Present day users want individuality, responsiveness and relationship that will last long.

Individuality: The new generation of user is a global citizen who is more individualistic, change seeking and value conscious.

Responsiveness: It is the willingness to help users and to provide prompt service. This dimension emphasises attentiveness and promptness in dealing with users' request, complaints and queries. Responsiveness is demonstrated in terms of access to employees, least waiting time and attention to problems. It also captures the notion of flexibility and ability to customise the service to users needs.

Relationship: To measure user satisfaction, the relationship between user and the library must be understood. A user relationship comprises a series of encounters through facilities, resources, services and service providers.

Therefore, the question to be answered is how can libraries become user/customer focused? Library and information service managers should begin with the identification of users and their needs. Identifying and understanding of needs require prior knowledge about the characteristics of users. This difference is borne out by the extensive surveys that many libraries carry out on their users, in order to establish their distribution by different characteristics. Unfortunately this kind of data reveals nothing about the individual users. Most of the time individual user remains invisible. Is it a right way to understand the users and their needs or could there be any alternative to such system, which help us in recognising, their needs properly in order to meet them. Libraries and information centres must start by providing quality services, because users *do not know what good service is -until they get it.*

User/customer satisfaction is the current day approach in library and information centre. The success or failure of any library and information centre is gauged from the extent of the user is satisfied from person, process or product. User satisfaction has a close linkage with the expectations of the users and their perceptions. Every user has some image of the service even before it is offered. Non-users are also aware that such service exists. However, they have never

crossed the threshold of a particular library nor have used resources somewhere else. Marketing promises may affect the image and the interaction with the services will redefine the image, every user expects some benefits from the service s/he uses or purchases and expectations are not static but have a direct relation with the image a user holds. To measure user satisfaction, the 'relationship' between user and the library is important. The sustainable relationship with user provides library managers to understand user's needs and expectations in a better way and make it possible to offer customised services and commitment to user's satisfaction.

14.9 IMPLEMENTING MARKETING IN LIBRARIES

Peter F. Drucker rightly said 'Sooner or later all thinking and planning has to degenerate into work' and all marketing thinking and planning accordingly has to be put into work. Effective implementation of marketing largely relies upon the following aspects:

- Developing a marketing culture throughout the library; everyone must realise this and work for the marketing success.
- Promoting service culture.
- Developing growth oriented, services oriented staff, as the staff makes marketing success in any service unit.
- Developing a clear statement of the expenditure to achieve the desired level of marketing success.
- Developing and implementing the marketing plan and actions associated with it.
- Asking for feedback, reviews and insights to help achieve the targets more efficiently.
- Putting marketing efforts consistently over a period of time.
- Monitoring marketing efforts as to know how the outcome of marketing activities has been effective.

14.10 SUMMARY

In this Unit, you have studied that marketing is an important activity in libraries. Marketing helps librarians prove their worth, mobilise resources, building a positive image and to become efficient managers. Marketing is no longer confined to mean promotional effort but is built on interaction with users, whether they are actual users or potential and are in the library or outside. The purpose of the marketing information services is to make such services more responsive to user needs and to increase user satisfaction. The information managers must employ well-integrated marketing approach to make full use of information products and services.

Marketing involves analysing marketing opportunities, selecting target markets, developing marketing mix, bringing out customer focus and implementation of marketing efforts. Marketing offers flexibility, responsiveness, market focus, service orientation and optimises decision making.

14.11 ANSWERS TO SELF CHECK EXERCISES

- 1) Marketing is necessity for libraries these days. Libraries are facing competition from other information service providers, their financial support is being curtailed. Libraries are under pressure to make optimum use of resources and they are also supposed to offer user-oriented services. There is a need to improve the image and develop confidence among users about the service so that they can make use of them.
- 2) American Marketing Association offered definition of marketing, recently, as 'Marketing is an organizational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders'.
- 3) The thrust area of five laws include: optimum use of resources, facilities and services, meeting users need satisfactorily, reaching out to users, reaching out to user benefits and preferences, and adapting to future user needs.
- 4) An organisation is affected with the changes in the external environment caused by technological, social, economic and political factors.
- 5) Marketing segmentation is the process of dividing market into meaningful smaller groups or parts or segments.
- 6) Marketing mix is popularly known as 4Ps, i.e. product, price, promotion and place which has been extended to 7Ps adding three more Ps, as people, process and physical evidence.

14.12 KEYWORDS

| | |
|----------------------------|--|
| Customised | : To make or change information products/ services according to users' preferences. |
| Demands | : Human wants that are backed by buying power or resources. |
| Exchange | : The act of obtaining a desired product or service by offering something in return. |
| Markets | : The processes by which individuals and groups obtain what they need and want by creating and exchanging products and value with others. |
| Marketing Mix | : It is the combination of product, price, place and promotion. |
| Market Segmentation | : It is the act of dividing market into meaningful parts or segments. |
| Needs | : Represent a state of felt deprivation; there are two ways of responding to it. One is by satisfying the need, the other is by reducing the need. |

- Products** : Anything that can be offered to satisfy a need or want. It can be a service.
- Quality** : Quality is the totality of features or attributes a product or service has to offer.
- Transactions** : The trade of values between two parties. It is the unit of measurement of marketing.
- Value** : Value is the bundle of the benefits from a service or product a user is looking for.
- Wants** : Human needs that are shaped by experience, culture, peer group, etc. Wants are satisfied through appropriate products or services.

14.13 REFERENCES AND FURTHER READING

Coote, H. *How to Market your Library Services Effectively*. 2nd ed. London: ASLIB, 1997. Print.

Cronin, B., ed. *The Marketing of Library and Information Services*. London: ASLIB, 1981. Print.

---. *The Marketing of Library and Information Services*. 2nd ed. London: ASLIB, 1992. Print.

DeSaez, E. *Marketing Concepts for Library and Information Services*. 2nd ed. London: Facet Publishing, 2002. Print.

Fisher, Patricia H. *Blueprint for your Library Marketing Plan*. Chicago: American Library Association, 2006. Print.

Gupta, D.K., and A. Jambhekar, eds. *An Integrated Approach to Services Marketing: A Book of Reading on Marketing of Library and Information Services*. Mumbai, India: Allied Publishers Private Unlimited, 2003. Print.

---, et al., eds. *Marketing in Library and Information Services: International Perspectives*. Munich: K. G. Saur, 2006. Print.

---, and Rejean Savard. "Marketing Library and Information Services". *Encyclopaedia of Library and Information Science-3 (ELIS-3)*. Taylor & Francis. (Forthcoming)

Hart, Keith. *Putting Marketing Ideas into Action*. London: Library Association Publishing, 1999. Print.

Jain, Abhinandan, et al., eds. *Marketing Information Products and Services: A Primer for Librarians and Information Professionals*. New Delhi :Tata Mc-Grawhill, 1999. Print.

Kapoor, S. K., and Amitabh Chatterjee, eds. *Proceedings of the IASLIC 13th National Seminar on Marketing of Library and Information Services in India*. Calcutta:IASLIC,1988. Print.

Rowley, Jennifer. *Information Marketing*. Adlershot: Ashgate,2001.Print.

Renborg, Greta. *Marketing Library Services: How it all began. Proceedings of the 63rd IFLA General Conference*,1997.Web.<<http://www.ifla.org/IV/ifla63/63reng.htm>>.

Savard, Rejean.*Guidelines for the Teaching of Marketing in the Training of Librarians, Documentalists, and Archivists*. Paris: UNESCO,1988.Print.

Siess, J.A. *The Visible Librarian: Asserting your Value with Marketing and Advocacy*. Chicago: American Library Association, 2003.Print.

Ranganathan, S. R. *Five Laws of Library Science*. Madras: Madras Library Association, 1931. Web.< <http://dlist.sir.arizona.edu/1220/>>.

Walters, S. *Marketing: A how-to-do-it Manual for Librarians*. NY: Neal-Schuman, 1992.Print.

Weingand, D. *Marketing for Libraries and Information Agencies*. Norwood, NJ: Ablex Publishing Corp, 1984.Print.

--- , *Marketing/Planning Library and Information Services*. Littleton C.O.: Libraries Unlimited, 1987.Print.

Wood, E. *Strategic Marketing for Libraries*. Westport, CT: Greenwood Press, 1988.Print.