



# INFORMATION SOURCES AND SYSTEM

M.LIB.-104



**DIRECTORATE OF DISTANCE EDUCATION**  
SWAMI VIVEKANAND  
**SUBHARTI UNIVERSITY**  
Meerut (National Capital Region Delhi)



**SLM Module Developed by :**  
**Dr. Ramkumar Pathak**

Ph.D., MLIS, PGDLAN

---

Copyright @ Publisher

**Reviewed by :**  
**Dr. Sapna Sharma**

**Assessed by :**  
Study Material Assessment Committee, as per the SVSU Ordinance No. VI(2).

No part of this publication which is material protected by this copyright notice may be reproduced or transmitted or utilized or stored in any form or by any means now known or hereinafter invented, electronic, digital or mechanical, including photocopying, scanning, recording or by any information storage or retrieval system, without prior permission from the publisher.

Information contained in this book has been published by Vidya Prakashan Mandir [P] Ltd. and has been obtained by its authors from sources believed to be reliable and are correct to the best of their knowledge. However, the publisher and its author shall in no event be liable for any errors, omissions or damages arising out of use of this information and specially disclaim and implied warranties or merchantability or fitness for any particular use.

---

**Printed and Published by :** VIDYA Prakashan Mandir (P) Ltd.  
Vidya Industrial Estate, Baghpat Road  
Meerut-250 002 (Delhi-NCR)  
Info@vidyaprakashan.com

---



(M.LIB.—104)

## Information Sources and System

### Syllabus

#### **Unit 1:** Information Users and their Information Needs

- Concept, Scope, Content and Methodology of User Studies
- Critical Review of Some Large Scale User Studies
- Specific Techniques of User Studies - Scenario Analysis, Intraction Analysis
- Delphi Method, Repertory Grids
- Evaluation of User Survey

#### **Unit 2 :**

- Information Sources: Types, Need and Purpose
- Primary Sources, Secondary Sources, Tertiary Sources

#### **Unit 3 :**

- Human Resource
- Information Centres
- Institutional Information Sources
- Mass Media
- Databases

#### **Unit 4 :**

- Information Product
- Information Services: Concept, Definition, Need and Trends
- Biographic Referral, Document Delivery and Translation Services

#### **Unit 5 :**

- Information Systems and Networks Organization: Need and Purpose, Study of Information Systems and Network: AGRIS, MEDLARS, ENVIS, NISSAT, OCLC, VINITI, NASSDOC

# CONTENT



---

<b>1</b>	<b>Information Users and their Information Needs</b>	...05
<b>2</b>	<b>Information Sources</b>	...44
<b>3</b>	<b>Different Type of Information Sources</b>	...59
<b>4</b>	<b>Information Product</b>	...105
<b>5</b>	<b>Information System and Network Organization</b>	...135

# Information Users and their Information Needs

**Note**

## 1.1 Introduction

In this chapter we will study information and information users. Why does the user need information? Users will also study about the methods of study. In addition we will study the Delphi method. Will study its repertory method.

## 1.2 Information

The functions performed by different centers are aimed at meeting the needs of a certain user group. This user group is sometimes a highly organized group of a certain number of knowledgeable individuals who have very similar information needs. For example, the users of a specific research library and their group are made up of so many different individuals and information needs that it becomes extremely difficult to estimate the different users and their information needs. Such as the public library user of a multilingual, multi-religious, industrial city.

### 1.2.1 Need for Information

The idea of information requirement is like the first step in the development of an information system. The main purpose of any information system is to satisfy some specific information needs. The main object of study of the user is also to know his information needs. In fact, the interest of information professionals in the user is only because of his information needs, otherwise he as an individual has no importance in the context of the information system. Information requirements have been defined in different terms by different experts.

## UNIT- 1

### Information Users and their Information Needs



**Note**

*"Information need can be seen as the-information [that] would further this job or this research and would be recognized as doing so by the recipient."*

—MB Line

M.B. Line, who is a famous informatician of England, says that the information requirement can be seen in such a way that information leads to this work or research and in doing so provides user identity. It is this information by which a person does his work effectively, solves problems satisfactorily or fulfills his interest and field in a pleasurable way.

*"It is the information that individuals ought to have to do their job effectively, solve a problem satisfactorily or pursue a hobby or interest happily."*

—David Nicholas

Therefore, it is only the information that each person needs to do his work effectively, find a satisfactory solution to a problem or to pursue a hobby or interest happily.

On the basis of the above definitions it can be said that information requirement is the information that he needs to do a job successfully. In other words, the difference between what a person knows and what he needs to know in order to do the job successfully. The difference is his information requirement. To fill this gap, individuals use various formal and informal information systems. All the actions that a person does in this process are collectively called his information behavior.

#### **1.2.2 Communication between Information Specialist and Users**

Libraries and information centers exist as long as they are used by its users. For continuous use of information and information services, it is necessary that there is a strong communication between the information experts and the users. However, this is possible only when there is trust between both of them and remove their pre-conceptions and establish understanding among themselves. Even today, many user communications are not classified as a categorical specific use of techniques and team work. They keep themselves busy in searching the desired information and shy away from taking the services of the staff. At the same time it is also alleged that the information staff gives more importance to their work, and their interest is less in understanding and fulfilling the need of information by the user. This situation can be dealt with in two ways.

If the information specialist feels that the purpose of his business is to serve the users, he should provide appropriate advice and assistance to the users in converting their needs into specific requests. These experts also need to be ready to make changes in their services as per the requirements of the users.

If the user wants any service according to the demand of his work or subject, then he should not hesitate to inform the knowledge transfer technology related to it to the information specialist. If any training related to information science is given, then definitely be ready to participate and develop understanding among themselves.

### **1.2.3 User Study**

The study of user's information behavior and its related aspects has been traditionally done under user studies in the field of library and information science. Herbert Mengele has divided different types of user studies into three groups - Behavior Studies, Use Studies and Flow Studies.

Those surveys can be placed under information behavior studies, which study the interaction of the user group with the information communication system. The purpose of their study is to identify a common pattern in the context of a specific user group and specific communication system. A pattern by which the general information behavior of users can be understood.

On the other hand, some such surveys are also conducted whose purpose is to study the use of an information medium or source, they can be placed in the group of use studies. A user can use various means to meet any information requirement of the Internet. For example, personal collection, expert advice, general examination of research journals etc., abstract and indexing, search in journals, etc. Their purpose is to study these different mediums in detail and try to identify a common pattern based on it.

The third category includes information flow studies which aim to study the flow of information in various sources of communication. The findings of such surveys reveal that the information sources and systems that there is a surprising orderliness in a complete knowledge communication system. According to a study by the American Psychological Association conducted by Garvey and Griffith, it is believed that the study published this month in the journal Research may have been started about 30 to 36 months ago. In the meantime, he/she must have gone through various phases such as preparation of the report, oral presentation, presentation in conference, technical report and finally writing for a research journal. Similarly, in the next 21 months, that article will flow to the Summarization and Review Services. Such studies have helped in developing a more effective information system for the user and in reducing the time taken for the flow of information across different media.

### **1.2.4 Other Names Used for Information User**

Although the term information user refers to a general category, it is not the only term used in this context. The user of information or its physical

**Note**



## UNIT- 1

### Information Users and their Information Needs



**Note**

medium, document, has been called by different names in different contexts or at different times. The names used other than User or User are—Client, Customer, Reader, Member, Patron, Stakeholder etc. Of these, the word Patron is more commonly used in western countries at the present time. The words reader and member are used with reference to the library. Whereas terms like client and customer are a product of the field of business management. The word user or user being a term used in a broader perspective remains relevant and acceptable. Recently David Nicholls has suggested using a new term Information Player or I-Player in place of User. According to Nichols, “User has lost much of its meaning. It is a tired, overused, cheap and misused word, which provides the information profession with a debased currency. It no longer reflects the close and complex engagement that takes place between a person and today’s interactive information in systems, according to him, Player is a term much richer in meaning, one that conveys action and individually.

#### 1.2.5 Relation between User and Information Unit

The relationship between the user and the information unit depends on the kind of needs and behavior of the user and the efforts made by the information unit to satisfy these needs and the general policies of this unit towards the users. How its rules help the users in fulfilling their needs. Sometimes in this information source and system it is observed that the information unit is fulfilling the needs of the users properly yet the number of actual users is less than the number of potential users. There can be both physical and psychological reasons for this. Another where students and researchers have access to more information it is observed that the information unit is fulfilling the needs of the users properly yet the number of actual users is less than the number of potential users. There can be both physical and psychological reasons for this. Another where students and researchers make more use of information than other workers. The direct reason for this is that the service provided is directly accessible to the first class users. Second, the services of these information units have been developed keeping in mind the future needs of these users. Other workers need quick and very precise information. Because services are generally lacking for such users.

This user contacts the information unit only when he needs any kind of information. The user is generally not concerned with other activities of processing the information. Although it is a universally accepted truth that these users have a central place in all activities, whether it is the creation of an activity or its maintenance or use (utilization). Decisions are made based on general assumptions in information units.

Therefore, there is an urgent need to establish a close relationship between the information specialist and the users, so that the understanding between the two parties is developed. Based on their intellectual needs, services should be started, extension, presentation. Study of needs should be done keeping in view the past and present needs and estimating the future needs. This requires special study in user behavior.

### **1.2.6 Users of Information Service and Products**

Traditionally, libraries have played a major role in the field of information collection and dissemination. Libraries have been known as a storehouse of knowledge for centuries. In the last century, after the Second World War, the information palace came to be accepted all over the world, especially with the formation of responsible governments in the newly-independent developing countries. The need was felt to use the information available in these countries for development works. Apart from some traditional information users like students and researchers, various groups of new users like industrialists, managers and policy makers etc. The information needs of some users could have been met through the availability of information sources and services in libraries, but the needs of these new consumer groups would be very different. For their fulfillment, new methods of processing and consolidation of information are needed, The newly generated information is suitable as per the requirement of the potential user information sources and systems, language, dialect, style, quantity, place and time began to be presented as well as in the desired form and medium. UNESCO also organized several workshops for proper consideration of these changes and their process. In which the definition and method of information integration were considered by experts from different countries. Identification of users of information integration products under this process was also tried.

Attempts have been made to categorize users of information integration products by various information experts. According to Tafco Sarasevik, these users can be divided into the following types of groups :

1. Scientists, engineers and other professionals concerned with research and development, construction, health services, planning, education, etc.
2. Managers and businessmen who are related to small and big business, commercial marketing, etc.
3. People engaged in policy making and decisive roles in government.
4. Technician, Supervisor, Paraprofessionals
5. Communicators such as extension workers, teachers, local people leading the way in adapting technology or methods.
6. Agricultural and industrial shortage of rural and urban areas.

**Note**



## UNIT- 1

### Information Users and their Information Needs



**Note**

According to Pauline Atherton, the users of scientific and technical information systems can be divided into the following three groups on the basis of their functions :

1. Researchers in Basic and Applied Sciences.
2. Professionals and technicians engaged in developmental and/or operational activities in various fields of technology and industry such as agriculture, medical, industrial production, communication, etc.
3. Managers, policy makers and other decision-makers who are involved in coordinating the developmental activities of science and technology in the private and public sector at the local, national or international level.

S. Sitharama has grouped users of information integration services into the following four groups : 1. Researchers and scientists, 2. Policy makers/planners, 3. Communicators/mediators, 4. Community groups.

#### **1.2.7 Researcher and Scientist**

Researchers, scientists, engineers and users of scientific and technology related information and other professional groups come under this category. They seek new information on various aspects of a specific subject.

1. Users of this category are mainly associated with three types of activities.
2. The first group consists of teachers engaged in academic activities, who perform both research and teaching responsibilities.
3. The second group is mainly made up of experts engaged in research work with the research and development mind of research institutes or commercial establishments.

In the third subcategory, there are such professional persons who have to keep themselves updated professionally in new ideas, techniques etc. These include professionals related to all professions like doctors, engineers, etc.

There are many similarities in the information needs of the above three groups. In the field of library and information science, the study of their information behaviour has been done continuously for the last half a century. It has been going. This has resulted in the identification of a number of general facts about the information behavior of these groups, and in the design and delivery of information centers' services and products as per their needs.

Mainly four types of information approaches of researchers and scientists have been identified.

- (a) **Current Approach :** Under this approach the user wants to make himself aware of the latest information about his subject. He wants to be aware of new ideas, techniques, processes etc. not just searching for any specific information so that he can be competent and successful in the role of a conscious professional in any respect. For the satisfaction of this approach of the users in the information centres, current awareness tables, notifications of future seminars etc., research-progress bulletins and selected information dissemination services, etc. are provided.
- (b) **Everyday Approach :** Under this, there seems to be a need for specific factual information mainly related to the business activities of the day-to-day. The nature of the information sought in this is such that less testing, more specific facts are required immediately, in the absence of which the normal work gets interrupted. To satisfy this approach, information centers manufacture or acquire products such as handbooks, manuals, critical data collections, data banks, etc. In addition, referral services are also provided.
- (c) **Exhaustive Approach :** This approach is used in the initiation of a new research project and in the arrangement of report writing. Under this, before doing research on any new topic, all possible available till now. An attempt is made to be aware of the literature, so that all aspects of the problem are covered so far. Based on the work done, a proper description of the problem can be prepared. Similarly, at the stage of report writing, a detailed approach is also used for verification of specific words of citation, verification of bibliographic details, etc. Various bibliographical products like verse catalog, indexing and abstracting services, library catalogue, federal catalog etc. are created or acquired.
- (d) **Catching-up Approach :** This approach is used by researchers before starting a research project. Nowadays the nature of research is multidisciplinary and interdisciplinary. He would like to be aware of their latest knowledge before embarking on a new research project. Here the priority of the researcher is to get the latest knowledge of those subjects as soon as possible so that he can proceed on his project. To satisfy this approach, various types of critical documents such as state-of-the-report and trend reports are prepared by the information centers to satisfy this approach.

**Note**

## UNIT- 1

### Information Users and their Information Needs



**Note**

According to Seetarama, the following types of information are needed by researchers and scientists :

1. Scientific and technical information
2. Experimental information
3. Know-why information
4. Know-how information
5. Know-who information.

#### 1.2.8 Policy Makers/planners

In the context of information users, apart from the field of research and development, another important group is policy makers, planners, decision-makers, managers, administrators, industrialists, entrepreneurs, etc. The size of their scope and information requirements are very wide, yet two distinct areas of work can be identified in the form of all types of industrial units, small and large, and local, state and national governments.

Two main elements can also be identified according to the information requirements. This is Decision Making and Problem Solving. Problem solving here means searching for the answer to a specific question or questions while in the decision making process the possibility of all others except one of the various options available is eliminated. Every step in the process of problem solving requires decision making, but both the decision work for problem solving is information based work. Proper information of the actions of all the members of the system may not identify the date, the problem and its magnitude. Similarly, the selection of the appropriate option without complete information is related to various indirect consequences.

According to S. Seetarama, the Information Consolidation Center should provide information related to the following areas for taking proper decisions in the industrial sector :

1. Engineering / Design
2. Manufacture/Process
3. Marketing
4. Finance / Administration
5. Project Appropriation / Delimitation.

#### 1.2.9 Communicator / moderator

Apart from the group of policy makers and managers of researchers and scientists, there are various community groups as the target users of utilizing the available technical knowledge. There are often so many educational, social, economic, geographical and linguistic differences among these groups that no one service or product may be useful for the whole group.

## UNIT- 1

### Information Users and their Information Needs

For example, the target users of any new research related to agriculture are different farmer groups, but that discovery is published in an international research journal. Whose vocabulary is the specific technical terminology of the English language, which is far from the understanding of anyone other than agricultural experts, even a person having good knowledge of the English language. Now if this research is converted into common language and a new information product is made, then its usefulness is also possible in a limited scope. Because there is a lot of variation among different farming groups. Some people have higher education, some are semi-literate and some are illiterate. Some people can write or speak normal Hindi language words, while some people are semi literate and some are illiterate. Some people can write and speak normal Hindi language words, while some people can speak and understand only the local dialect. Some people have the means of information like TV and computer, while some others do not even have the facility to listen to the radio. The population of some villages is in thousands, while in other areas especially inaccessible hilly areas, after walking, a small group of ten or twelve families meet. Due to such wide variation, it is not possible that any one service or product will be useful for the whole farmer group.

In these circumstances, individual mediators' groups can successfully serve as a useful alternative. Some of these groups such as teachers have traditionally been instrumental in the transmission of knowledge. In the last few decades the role of some other groups has also become clear. Among them, agricultural extension workers, people with knowledge of agriculture. In the field of health, paramedicals, rural development workers in the field of public welfare, etc. are prominent.

The main feature of mediator groups is that they are well acquainted with the scientific background of the concerned subject as well as the social, economic and educational environment of the local people and can establish effective communication with the local people at their level. Being from the same social and cultural background, they are more acceptable to the local people of these groups. The information requirement is mainly consolidated information related to their work. In which all necessary information related to new process technology, planning etc., if possible, is displayed in a single product. Like the process of producing a crop from a new hybrid seed. In this, in the product made for the agricultural extension worker, there should be special precautions related to seeds and all the important things related to them, from the characteristics of the role to the storage of the crop.

Similarly, any infectious prophylactic product made for auxiliary health workers may include possible conditions of disease, advanced methods of prevention of those conditions, government or other assistance related to



**Note**

## UNIT- 1

### Information Users and their Information Needs



**Note**

them and the latest sources thereof and the main symptoms of the disease and the precautions required by a specialist medical facility before disease.

#### 1.2.9 Community Group

With reference to the information needs of different user groups, it can be said that the information needs of the general public have probably not been given the required attention. Whereas in the concept of development, improving the standard of living of the economically weaker sections is an important component and this can be done by conveying useful technology and technical knowledge to these sections at the earliest in their acceptable medium and language style.

To increase the permeability of information to these target user groups, there is a need to use the latest techniques of restructuring and repackaging. For this, various experts such as experts in information presentation, creation of communication media. The cooperation of experts etc. is also required. For example, if there is a large number of illiterate and semi-literate members in a local group, then it can be effectively explained to them through some new method of farming and its benefits through audio-visual media such as film. However, assistance is taken from experts in these fields to present the film in an entertaining manner and for the technical aspects of production.

#### 1.3 Definitions of User Studies

User study refers to the study of the behavioral characteristics of the users. The highest and ultimate goal of libraries and information centers is user satisfaction. Therefore, user learning is directly related to the performance and effectiveness of the services provided by the libraries and information centres. In user study, not only is the study of the users of the library done, but through research, an attempt is made to find that there is a complementarity between the needs of the users and the available products and services. That is, whether they complement each other or not. Along with this, what are the improvements in the information transfer system, it is known. Today such studies are being done in abundance in the field of library and information science. User studies from these studies and satisfaction and dissatisfaction with existing products and services. level is known. Along with this, it is very important to conduct user studies to organize suitable and correct reader services. H.N. Prasad writes that user studies are similar to market research surveys in correlating products with demand and satisfaction. User studies have been defined in different ways by different scholars.

1. According to Bowden, user study refers to systematic examination of the characteristics and behavior of users (and if possible non-users) of systems and services.

2. According to A. Wysoki – User study or usage study can be related with the study of the information processing activities of the users.
3. J. M. Britain, The empirical study of the use of information demand or need is often done by user studies.
4. According to G. Devarajan - In fact, a study that focuses on understanding the information needs, use behavior or usage patterns of the readers directly or indirectly, it is often called user study.

Thus, in order to know about the users, the way they use the library and information services, information gathering methods etc., the library should have the information which can be collected through user studies.

### **1.3.1 Genesis and Development of User Studies**

#### **International level**

If we look at the early efforts in the field of user studies, they appear in the 1930s and 1940s. In 1938, Louis R. Wilson (Louis R. Wilson) made an early attempt at user study under the name 'The Geography of Reading'. In this he studied the level and distribution of libraries in the United States. Considering its origin, initially two international conferences were held on user studies. The first was the Conference on Scientific Information of the Real Society in London in 1948 and the second Washington conference in 1958. Another major study by Rolf R. Shaw (Ralph R Shaw) did an important study in the field of user studies named "Pilot Study on the Use of Scientific Literature by Scientists".

In 1964, Davis and Bailey compiled "A Comprehensive Bibliography on User Studies". This bibliography is a compilation of 438 studies. Crawford said in a report that by 1977 over 1000 major studies had been done on user studies. Apart from this, Price, Shineborune, Taylor etc. worked on topics like user requirement, its relation to library etc. In 1965 W. J. Paisley (W. J. Paisley) reviewed the research literature on the flow of applied science information. In his study, he studied the literature related to the information gathering and dissemination behavior of scientists.

After this, in 1979, Hensley and Nelson focused their review on the elements related to reader success in educational processes. It emerged in this study that the researchers were of the opinion that the available information is not being fully utilized. In 1981, B. Cronin (B. Cronin) said in his article "Assessing User Need" that in the last five years the emphasis is shifting from systems or service oriented research to user oriented research.

**Note**

## UNIT- 1

### Information Users and their Information Needs



**Note**

#### 1.3.2 Indian effort

Considering the Indian scenario, there have been studies in the field of user studies in India since 1962. A title named "Users and Library and Information Service" was included in the Second ASLIC Seminar held in 1962. Krishna Kumar made a significant effort in this direction in 1968. He wrote "The Users Survey Concerning Teachers and Research Scholar" in the presented study titled "Field on Chemistry". After that Dr. S. R. Ranganathan did a study in 1970 under the name "Annotation of Users Survey". This was a critical evaluation of the authors' surveys. After 1970, many studies have been done in this direction. The main studies in which are :

1. In 1988 R. Lahiri studied university library users.
2. B. Guha published an article in Iasic Bulletin in 1995 titled "Ranganathan's Fourth Law and Contemporary User Study".
3. In 1998 A. Prasad and M. Tripathi wrote an article titled "Information Seeking Behavior of Physical Scientists and Social Scientists".
4. In 2003, P. Sethi Kumaran and V. Vadivel wrote an article titled "Use Pattern Information Channels by the Scientists and Engineers: A Case Study" which was published in the SRELS Journal of Information Management.

The Library Association of India titled its 19th All India Library Conference: Responding to Users' Need in Changing Information Landscapes. This conference was completely related to user studies. Similarly, the 21st National Seminar of ISLIC Kolkata held in 2004-05 titled "Information Support for Rural Development". In this, several articles were published on the information needs and information seeking behavior of rural people of different regions of India. The study was carried out with the financial support of Indian Council of Social Research, New Delhi, under the name "Information Seeking Behavior of Rural People". Studies are being done on topics like flow pattern, user information requirement and behavior etc.

#### 1.3.3 Need and Objectives of User Studies

User study is needed because of the following reasons :

1. To understand the psychology of information search of users.
2. There is a need to know the user attitude for the creation of library and information products and services.
3. Users not only think differently, but their way of working is also different. Knowing this the services can be scheduled accordingly.

## UNIT- 1

### Information Users and their Information Needs

4. To know the level of users.
5. To improve the quality of existing services and products.
6. To develop user oriented information systems and services.
7. To satisfy the first four sources of library science.

A major component of the library and information system is the consumer. In the past, the focus was on document oriented services rather than on the development of user-oriented or product-oriented services and products. Much attention was paid to bibliographic organization and control. Today libraries and information services are becoming user oriented. Dr. S.R. Ranganathan not only recognized the importance of the user long ago, but also propounded his first four sutras keeping the user at the center.

Sangameswaran and Gupta have described the objectives of the user study as follows :

1. Identification of potential users and their categories.
2. Identification of information needs.
3. Identification of existing resources and services.
4. Evaluation of various existing services.
5. To achieve complete reform of information systems.

The objectives of the user study are described by M. Krishnamurthy as follows :

1. Identifying the types and levels of user needs.
2. To increase the quality of resources and services.
3. Evaluate the limitations of library systems and its services.
4. To develop and design need based and user oriented information systems and services.
5. Reducing the time spent on information gathering.

The following areas of study have been included under user studies :

1. Information Requirements
2. Study Trends of Users
3. Information Seeking Behavior of Users
4. Evaluation of systems and services
5. Information Dispersion Studies
6. Elements hindering information dissemination
7. Channels of communication or media of communication.

**Note**



## UNIT- 1

### Information Users and their Information Needs



**Note**

#### 1.4 User Studies Methods

In today's information age the user is the focal point. It is very important to assess his information needs. On the basis of this assessment, the library and information center can organize the products and services accordingly. Readers' information needs, study habits, characteristics are different in different subjects. The information demand of the readers is different in every subject and situation. The second point is that in user studies we are studying human beings. The feelings of the honour cannot be controlled and it is not possible to exercise it under controlled conditions. In addition, social, psychological, etc. are also involved in user studies. Therefore, the follow-up of any one method or technique will not fulfill the objectives even in the society. Clemens, Kathleen, Parkhi, Raghavendra Sab etc. have used questionnaire methods for assessment of user information requirements. The following methods can be used for user study :

##### 1.4.1 Survey Method

Survey method is used to collect data in social and behavioral sciences. This method is used for user study. By using the survey method, user information needs, information seeking behavior, user study trends, communication channels and services can be assessed. In this, many techniques are used to collect primary information. They are questionnaire, interview, observation, schedule and diary maintenance. One or several of these techniques may be used for the purpose.

##### 1.4.2 Citation Analysis

Quotation analysis is an indirect method of assessing the information needed of the users. Bensman has reviewed the available literature on bibliographic formulas and citation analysis and its validity for user studies.

##### 1.4.3 Bibliometrics Study

In bibliography, the numerical or numerical study of various aspects of a subject or literature is done. It is used to model authorship citation publications and to identify secondary journals. Also it can be used in any field. It is also used in the field of user studies.

Magyar considered bibliographic analysis as an important tool for the study of literature. He says that the annual analysis shows the growth of research and scientific activities.

##### 1.4.4 Computer Content Analysis

Computer content analysis method can be used by the readers to analyze the literature using the internet and computer and by using this method the information requirement of the readers can be determined.

### 1.4.5 Techniques of User Studies

The same techniques are used to collect primary data for user studies as are used in other areas of the social sciences. Krishna Kumar has described the techniques used for data collection as follows :

1. Questionnaire and Interview
2. Observation,
3. Measurement

N.S. Guha divided the techniques used for user studies into three major headings, these are :

- (a) **Common or traditional methods :** Common or traditional methods include questionnaire, interview, observation, etc.
- (b) **Indirect Methods :** Indirect method includes analysis of library records and citation analysis. The main records of the library are : circulation statistics, inter-exchange records, reference department records, etc. These records provide the details of the user's requirement. Additionally citation analysis can be used as a user study technique.
- (c) **Specialized and non-conventional methods :** Special and non-conventional methods include computer feedback. Today computers are being used extensively in libraries for information retrieval. The analysis of information searched by the reader on the Internet and in databases is helpful in determining user information needs.

Today, questionnaire, interview and observation techniques are being used extensively for user studies. Their details are as follows :

### 1.4.6 Questionnaire

Questionnaire techniques are used to collect primary information on users' information needs, methods of information search, information-searching behaviour, reader satisfaction, dissemination of library products and services, etc. In questionnaire technique, facts are collected by asking questions to the users. There are many types of questionnaire technique, structured questionnaire and unstructured questionnaire, depending on the nature of questions it can be divided into limited, open, graphical, mixed questionnaires.

Mac Cornum has divided questionnaires into mail, group administered and personal contact.

**Construction of Questionnaire :** The following points should be kept in mind while preparing the questionnaire :

**Note**

## UNIT- 1

### Information Users and their Information Needs



**Note**

1. Before preparing the questionnaire, other tests should be studied and the advice of peers and scholars should be consulted.
2. Build the questionnaire according to the research objectives. Enumerate all the questions necessary to fulfill the objectives.
3. The questionnaire should be as short as possible.
4. The combination of questions in the questionnaire should be in a logical order. That is, if the topic is wide and the number of questions is more, then after dividing the topic into sections and subsections, the questions should be arranged in a logical order according to the title of the respective section.
5. Emotional or controversial questions should be avoided in the questionnaire. Such questions should also not be put which the respondent cannot understand.
6. The language of the questions should be simple so that the respondent can understand easily.
7. Avoid the use of double meaning and vague meaning words.
8. Which of the following is to be given as a limited or open option for the answer while framing the questions. It should be determined by the nature of the question.
9. Respondents should not be compelled to answer such questions which are not socially and psychologically appropriate to answer.
10. Questions in the questionnaire should be objective. They should not show any inclination or hatred towards anyone.

#### 1.4.7 Pre-test

Before finalizing the questionnaire, it is necessary to conduct a pretest or pilot survey. There are many benefits to doing this pretest or pilot study. Through these, the researcher can remove the mistakes made in the questionnaire, unwanted levels, shortcomings etc., as well as the important suggestions given by the respondents while filling the questionnaire can be included in the final questionnaire. Also, it helps the researcher to test the validity and reliability of statistical techniques adopted for data processing and analysis. Through pretest or pilot study, linguistic deficiencies such as incomplete sentence structure, spelling errors, lack of semantic expression, disjointed words, dichotomous words etc. can be overcome in the questionnaire. The questionnaire must be pre-tested. Because with this necessary amendments and corrections can be done in the questionnaire.

#### 1.4.8 Cover Page

After the questionnaire is finally prepared, it should be sent to the respondents. A cover page or letter must be attached with the respondent while sending it. This letter should contain the title of the research, the purpose and the assurance of the confidentiality of the answers and a thank you note for the cooperation.

Along with this self-addressed envelope (with stamps affixed on it) should also be sent along with the questionnaire. If the respondent is working in any organization, institution etc., then he should send the questionnaire through the president or administrative officer of that organization, institute etc.

#### 1.4.9 Distribution of Questionnaire

Questionnaires can be distributed in person, by post or by e-mail. Their detailed description is as follows :

- (a) **Personally :** The researcher can personally answer the questionnaire to the respondents. In this, the researcher goes to the respondent wherever available and gives the questionnaire to be filled. For example, if a research scholar has to fill out questionnaires from the staff or users of the library, he can personally go to the library and give the questionnaires to the users or staff. For this the researcher has to go again.
- (b) **By post :** The questionnaire can be sent to the selected respondents by post. In this, it must be kept in mind that along with the questionnaire, you must keep a self-addressed, stamped or pre-paid envelope. So that the respondent can send the questionnaire by dying the answer. In this, a letter or page must be included in which the title of the research, purpose, polite request for cooperation from the respondent, assurance of confidentiality of answers and full address of the researcher should be written.
- (c) **By e-mail :** Questionnaires are also sent to the respondent by e-mail. For this, it is very necessary for the respondent to have a computer etc.
- (d) **Response Rate :** Questionnaires, especially those sent by post, have a very low rate of return. This rate is further compounded by the low interest of the respondents. Therefore, if the questionnaire is not returned even after four to six weeks, the researcher should send the reminder letter again. Sending reminders increases the response rate.

#### 1.4.10 Interview

Interviewing has been considered as a primary data gathering technique. Interviewing has also been considered a tool of user study or a technique

**Note**

## UNIT- 1

### Information Users and their Information Needs



Note

for collecting research data. This technique is used in social sciences. Through interview technique, the researcher collects facts and information by interacting with the user. Many social science data are collected using this technique.

The following steps should be followed during the process of interview :

- (a) **Planning** : In this stage the researcher or interviewer plans the interview. Under this, he decides the date, time and place of the interview. The cost and travel time are also ensured. If more respondents are to be interviewed, then research assistants should be appointed and trained for that. Whatever instructions are to be given, they should be prepared.
- (b) **Construction of Interview Schedule** : The interview schedule is more or less a list of questions to be asked to the respondent. On this interview schedule the interviewer records questions from the respondent. The interview schedule should be prepared in time. While preparing the interview schedule, keep certain things in mind like :
  1. The sequence of questions in the interview schedule should be in a systematic order *i.e.* question subject sequence as well as their consistency among themselves. Otherwise it may throw up.
  2. While preparing the interview schedule, the research objectives and limitations should be clear in the mind of the researcher.
  3. Consideration of the ability of the respondent and his emotions while formulating the questions.
  4. Structured and unstructured, open or closed type questions should be made in the interview schedule.
  5. The Schedule should assure the Respondent of the confidentiality of the information received from him.
- (c) **Pilot Test of Interview Schedule** : Before the actual interview, the researcher should conduct a pilot test of his interview schedule. For this a small group can be selected and questions can be asked and the suggestions, shortcomings and observations obtained from this pilot test should be incorporated in the final interview schedule. It should be noted that this is an important function.
- (d) **Conduct of Interview** : While conducting the interview, the questioner or researcher should be very careful. Clarification of questions, counter questioning, encouraging, not getting angry, avoiding criticism, behaving in a timely manner, asking emotional questions etc. are such things which should be kept in mind during the

interview. Taking interviews is truly an art. Gradually, mastery comes in this art, so the interviewer should not only understand its process before taking the interview but should also acquire proficiency in it.

Word selection, tone, facial expressions, ascents, demeanor, body language, politeness, linguistic knowledge, etc., are some of the factors that can greatly influence the research results while conducting an interview. A successful interview can be done only on the basis of balance in all these things. The interviewer should talk less and listen more. As far as possible, the respondent should get full opportunity to express his point of view because conclusions will be drawn on the answers received from him. While interviewing, keep the following things in mind :

- 1. Word Selection :** The interviewer should pay special attention to the words in the conversation. Linguistic words should be adapted to the circumstances. The language should be such that it suits the tone and understanding of the respondent.
- 2. Voice:** In voice communication, the voice is more important than the word. The same type of words when spoken in different tones leave different effects. Therefore, the researcher or the interviewer should pay special attention to the tone while conducting the interview with the respondent. The tone should be effective, but it should not reflect the emotion of anger or annoyance.
- 3. Facial Expressions :** While doing the interview, there should be due control over the facial expressions. Successful interviewers can easily convey many things with their faces. It is important in the interview. Your facial expression may encourage or even discourage the respondent. Your facial expressions communicate more than words.
- 4. Body Gestures :** In the interview, the operation of the body parts *i.e.* the movement of the hands, walking, sitting, etc. are such things on which it is necessary to pay attention. The researcher should keep this in mind while doing the interview.
- 5. Knowledge of the Subject :** The researcher or the interviewer is doing structured or unstructured interview on any subject or topic, he needs specific knowledge of the related subject or topic. Otherwise the respondent may create a subject-matter. Whatever statement or facts are being asked should have a general familiarity with them.

**Note**

## UNIT- 1

### Information Users and their Information Needs



**Note**

- (e) **Data collection :** Whenever the interview is to be conducted with the responsibility, the date, time, place should be determined in advance. The interviewer should create a pleasant atmosphere while doing the interview. The interview process should take place in a smooth and easy environment. At the time of interview, permission for recording of the interview should be obtained from the person being interviewed. That is, if the voice recording or video recording of the interview is to be done, then its information and prior permission should be obtained from the respondent. In case the recording is not being done, the probable answers in the structured interview schedule should be ticked off immediately. Similarly, if the researcher is using an unstructured interview schedule, the respondents' statements should be recorded as they are at the time of interview or immediately after. The respondent avoids answering many personal, family or other questions correctly if it is being recorded while conducting the interview. Therefore, the researcher should decide the nature of the questions according to the situation of the self-respondents.
- (f) **Analysis of the Data :** The data should be analyzed using appropriate statistical techniques.
- (g) **Report Writing :** The last task of the researcher is writing the report.

#### 1.4.11 Observation

Observation is a technique of data collection in user study, in which the researcher observes a research situation. This method is useful whenever the behavior of a group or individual is to be observed. In libraries and information centers, various situations such as use of library catalogue, searching for books on funds, behavior of students in the study room, etc., can be observed. Reliable facts and data can be collected with the help of this technique.

Observation is done with the help of eyes. Eyes have their limits, but this human can be overcome with the help of modern equipment. In science, the help of microscopes and telescopes are taken to observe the subtle and very distant things. In the laboratory The scientist observes the events happening by observing the finer things with the help of a microscope. Similarly, observation of events and children is done with the help of binoculars. Along with this, the help of devices like tape recorder, thermometer, camera, video camera, stopwatch, etc. is taken. With the help of these devices, the truth and reliability of the incident can be tested again. For the success and reliability of observation, the researcher should keep in mind the following suggestions :

1. Personal influences and subjectivity should be avoided while observing.
2. While observing, observe the event closely so that no important fact is missed.
3. The observer should use audio-visual devices such as tape recorder, camera, video camera while observing. With the use of these devices, the user will not be completely dependent on his memory power.
4. The observer should be free from all prejudices while observing.
5. In observation the groups or individuals to be observed should be taken maximum from the heterogeneous background.
6. The observer should take minimum time to observe and record it.

#### 1.4.12 Classification and Planning of User Studies

Pro. Herbert Mazley has broadly divided the users into three categories, these are :

1. Behavioral Studies
2. Usage Studies
3. Information Drift Studies.

The study, which is done to find out the way of total interaction with the communication system of the user community, without any context of the event, is called information behavior study. The study which is done to find out the use of a communication medium like primary journals, secondary journals etc. is called use study whereas information flow study is the study which is done to find out the pattern of flow of information in the communication system. Mazel made another classification of user studies in information needs and uses in his 1966 article Science and Technology, which is as follows :

1. Channel Studies
2. Critical Context Studies
3. Extension studies have classified user studies under three heads :
  - (i) Behavior Studies
  - (ii) User Studies
  - (iii) Information Flow Studies

Saracevic and Wood under a plan in the context of user studies,

1. Surveying prior studies and literature in general and learning about all aspects of user studies.



**Note**

## UNIT- 1

### Information Users and their Information Needs



**Note**

2. Statement of the objectives of the study.
3. Determining the model to be adopted around the area being studied.
4. Selecting a sample from the whole being studied.
5. Determining the method of collecting data and observations.
6. Determining the method of observations and data analysis.
7. Determining the way results are presented and used, including dissemination.

Here it needs to be kept in mind that the information requirement of the users is not constant but like a continuously flowing stream, that is, it is constantly changing. Therefore, whatever method is adopted, it will have to be amended and changed continuously according to the need.

The following steps should be followed by the researcher while planning the user study :

#### **1.4.13 Determining the Objectives of the Study**

The first thing to do is to set clear objectives. These objectives should clearly state what kind of information is desired and the goals to be achieved. Determination of clear objectives will provide the foundation for future studies.

#### **Literature Survey**

In this, the available literature related to the subject being studied should be surveyed. This survey will not only clarify all the aspects about that topic. But it will also facilitate future studies.

#### **Sample Selection**

In this step the sample is selected from the whole. Care should be taken that the size of the sample and the method of selection should be based on certain criteria. Sampling should be done with a view to the quality, nature, time, resources, etc. of the desired information, whether representational or random or purposeful.

#### **Data Collection**

In data collection, it should be mentioned how the facts and data will be collected. If questionnaire technique is to be adopted, then structured questionnaires or unstructured questionnaires are limited or open, structured interview, interview, effective, clinical etc. Observation techniques include participant non-participatory structural, non-structural, controlled, uncontrolled controlled observation, *i.e.* whatever technique or combination of techniques is to be used for data collection, it should be clearly mentioned.

Also, what is to be used for data collection should be clearly mentioned. Also, whatever procedure is to be followed for data collection. It should be clearly mentioned.

### **Data analysis and interpretation**

In this phase the data will be analyzed manually or with the help of a computer. Appropriate statistical methods for data analysis should be mentioned. With the help of these techniques, the researcher can present a logical and correct interpretation of the data and can draw authentic conclusions.

### **Report Writing**

The final stage of user study is report writing. In this, the researcher presents the work done by him in a scientific and logical order.

### **Evaluation of User Studies**

Research work is being done on user studies continuously. These research work is being done in various areas of user studies like information need, information search behaviour, information channel, barriers to information dissemination etc. Detailed comment on these studies by P.S. Yes. Kumar in his book "Library and Users Earth". The details of which are as follows :

### **User Studies are not User Oriented**

For the last three decades, research work has been done in the areas of user studies. Even after this, no universally accepted theory has been developed today. J. M. Britain (1982) states that user information sources and systems.

Studies have neglected potential users. The information needs assessed are general in nature and very few user studies have been related to information and data needs in a way. In fact the research being done in this area has been library and document oriented. Whereas they should have been user oriented. Along with this, he has not given much attention to the process of generation and use of information.

### **Studies Should be Behavioural Oriented**

Critics are of the view that user research needs to be applied science oriented. Parker and Paisley (1966) had pointed out the shortcomings of user studies almost two decades ago. He said that the scientists propounded the need for psychological research for the achievement of the mission of providing effective flow of information. In fact, psychological research is needed. Psychological research is necessary to test the behavioral presumptions of system builders.



## UNIT- 1

### Information Users and their Information Needs



**Note**

#### **Priorities to Users that Researches**

Britain (1975) has stated that the questions in the study should be based on the user preferences rather than the researcher should reflect. Questions should be asked that the user can answer. Today there is so much data gathering over the user requirement that it is touching the level of saturation. What is needed today is that studies support user preferences, not the information needed themselves.

#### **Need for Research in Cognitive Style**

Atherton (1975) has pointed out that cognitive style and other personality variables of information seekers such as the amount of motivation, opinions, eagerness, frustration, reassurance and reward requirement, task orientation and situational contexts such as time pressure, to obtain information. There is a need for research into motivation etc.

#### **Role of Environmental and Situational Constraints**

Mick et al. (1980) examined, for example, information used by scientists versus personal characteristics, work environment characteristics, assigned task characteristics, and concluded that environmental-situational constraints play an important role in determining information behavior.

#### **Psychology of Information Use**

Sarah Fine (1984) in her review titled "Research and the Psychology of Information Use" expressed the observation that this much larger question pertains to the way in which people interact with information in the environment. and affect each other under psychological conditions.

#### **Examination of Information Traits of Users**

Today there is an urgent need to test the acquired information characteristics of the users.

#### **Factors that Influence User Behaviour**

Versing and Wedel (1985) state that economic and cultural aspects and status, respect, group dynamics also influence behaviour. He proposed a complex model of information processing that includes individual, group and process methods, individual situations and psychological elements such as characteristics values, motivations, attitudes etc. and group dynamics such as level of work, organizational needs, etc.

Better Understanding of users' information behavior Information Behaviour of Users.

If a comprehensive study of the information usage attitudes of the users is done, it will come to the fore that how far the users are psychologically

compatible with the process of using the information source. The study done in this direction will throw light on better understanding of the information behavior of the readers.

### Feelings Users Need

User studies have been found to lack the fact that they have not focused on deeply experiencing the user's needs. The needs of the reader are constantly changing.

## 1.5 Delphi Method

### Definition

The Delphi method is a forecasting process based on the results of several rounds of questionnaires sent to a panel of users. Several rounds of questionnaires are sent to a group of users and a large number of responses are collected with the group. Users are allowed to adjust their answers in subsequent rounds based on how they interpret the 'group feedback' that is provided to them. Apart from this, questions of multiple rounds are asked. And the panel is told what the group as a whole thinks, the Delphi method tries to reach a consensus response.

A review of Delphi studies published between the years 1971 and 2019, using studies obtained from library and information science source databases. A total of 122 articles were studied and evaluated on a population basis. The means of identifying experts, the number of participants for each study round, the type of Delphi and the type of findings required, etc.

The Delphi method is used regularly by LIS when the area of investigation is novel or highly specialized or in cases when researchers are attempting to forecast future trends.

Westbrook used a Delphi method to conduct an exploratory study on the information needs of researchers in Women's studies. More recently, the Delphi method was used to investigate areas that are highly specialized.

### 1.5.1 Types of Delphi Methods

There are three types of Delphi methods :

- (i) **Policy** : Where, there is a need to devise a strategy to address a specific problem.
- (ii) **Classical** : The used to forecast future trends.
- (iii) **Decision-making** : The used to achieve better decision making.

It is a systematic interactive way of gaining opinions or forecasts from a panel of anonymous participants with relevant expertise to answer two or more sequential surveys to identify consensus or convergence. The methods



**Note**

## UNIT- 1

### Information Users and their Information Needs



**Note**

can be used to identify issues or outcomes of importance to stakeholder groups, allowing participants to reconsider their own views in the second survey round in light of those of other participants. The process is intended to lead to convergence towards identifying preliminary sets of core outcome domains. In healthcare, it is a good means to collate consensus on outcomes or care that is consistent with professional knowledge. The idea is that respondents can learn from view of others without being influenced by who speaks the loudest at a meeting (or has more prestige). Ideally, dissenters from consensus should be given the opportunity to explain their viewpoint as this is useful intelligence and can help debate and make expert's tacit knowledge more explicit.

The Delphi method is a type of consensus method which does not require face to face meetings. It can bring together and synthesize the knowledge of a group of geographically scattered participants that never meet. A large number of individuals across diverse locations and areas of expertise can be included anonymously, thus avoiding domination of the consensus process by one or a few experts.

#### 1.5.2 Use of Delphi Methods

As a didactic process, the Delphi method has been designed to offer the benefits of sharing and exchanging opinions, so that respondents can discover the opinions of others, without excessive influence of visual confrontations (which are usually dominated by those who speak powerfully or have the most prestige). The technique allows participants to deal with a complex problem in a systematic way. During each round, the relevant information is shared and enriches the knowledge of the panel members. They are then in a position to make recommendations based on more complete information.

Usually, one or more of these characteristics require the use of the Delphi method :

- (i) **Subjectivity of the subject** : The problem is not suited for precise analytical techniques but can take advantage of subjective judgements on a collective basis.
- (ii) **Need to engage people from different backgrounds** : People who are required to participate in the examination of a large or complex problem may lack communication experience and have different careers, expertise and skills.
- (iii) **Logistical constraints** : There are too many participants to interact effectively in a face-to-face exchange.
- (iv) **Need to prepare before a meeting** : The effectiveness of face-to-face meetings can be enhanced by an additional collective communication

**Note**

process. As a tool for decision-making, the method implicitly or explicitly leads to the creation of a consensus on the results of the process (choice, recommendations, opinions or action plans).

- (v) **Need for social acceptability of decisions :** Disagreements are so important or politically unacceptable that the communication process must be arbitrated and/or anonymity must be guaranteed. The procedure may also aim at raising the collective awareness of the public, as well as academic experts, industrialists or public agencies.
- (vi) **Collection of a plurality of opinions :** The heterogeneity of the participants must be preserved in order to guarantee the validity of the results, that is to say in order to avoid any domination imposed by a large group or by a strong personality. The emergence of the greatest possible diversity of opinions is promoted along with an awareness of the convergence and/or divergence of these opinions.
- (vii) **Exploration of possible scenarios :** Participation promotes the reduction of uncertainty and facilitates decision-making in complex and/or uncertain contexts. The actors associated with the panel are mobilized around possible and desirable future scenarios. They can co-construct them, or position themselves in relation to predefined futures, projecting themselves within them to establish a plan of action. The method allows the organization of the transition from collective reflection to joint action, through the definition and coordination of concerted action.
- (viii) **Seeking to gain knowledge :** Conducting a survey in several rounds promotes learning among the participants but also learning about the problem. For example, consultation can be a first approach to an adversarial debate within the panel before it is disseminated to public space.

### 1.5.3 Characteristics of Delphi Method

The Delphi method usually takes the form of a written questionnaire. This allows for anonymous and independent consultation and debate, thus avoiding pitfalls of direct confrontations, both social (e.g. power relations in a group) and practical (time-consuming activity, especially when it comes to geographically dispersed participants). The responses are only visible to the moderator and not to the participants, to avoid self-moderation bias.

In summary, the method allows an iterative consultation of experts and/or stakeholders, in the written form, with the aim of obtaining an increasingly consensual response (the ultimate goal being to get closer to a consensus among experts). The experts, ranging from a dozen up to hundreds of

## UNIT- 1

### Information Users and their Information Needs



**Note**

people, are invited, as the rounds go on (2, 3 or more) to position themselves in relation to a question according to the answers of the other participants. All answers are based on the principle of anonymity and independence of judgement. The presentation of the questions can vary: it can be open and/or closed questions (qualitative and/or quantitative).

#### **(i) Consensus / dissension**

The method has been constructed to encourage consensus on specific themes such as priority setting, technological foresight, or decisions about certain technical or medical issues. More precisely, the Delphi method creates conditions that are favourable to a convergence of opinions, while at the same time making it possible to clearly discern the points of dissension. The study of the latter is important, as it legitimizes the method and often leads to redefining the initial problem, again leading to consensus. Also, the key feature of the Delphi method is its controlled feedback process through several rounds.

#### **(ii) Multiple rounds and controlled feedback**

Unlike conventional surveys, the Delphi method consists of an iterative and interactive consultation: a panel of participants is consulted during several rounds, and in each of these rounds the panel receives the results from the previous round. They position themselves again in regard to the previous results (controlled feedback process). In addition to giving their opinion, participants should provide additional feedback to justify their responses. It is also important to preserve the anonymity of respondents. By combining closed questions (e.g. multiple choice) and open questions, the Delphi method produces both quantitative and qualitative results.

#### **1.5.4 Tools of Delphi**

Delphi tools are a specific set of tools that have been designed to work with pin and sleeve terminals. More accurately, they work with Delphi pin and sleeve terminals. Delphi tools, when used with Delphi terminals and seals, create environmentally sealed, disconnect-able connections. These inline connections can only be achieved by using the proper tools. This is why we carry Delphi tools. They are an important part of multiple industries and as such, they are important to our customers.

Delphi tools are available in several different styles including crimpers and removal tools to meet the needs of various electrical connections. Below we will take a quick look at the different types of Delphi tools and where you might want to use them.

- (i) **Delphi Crimper MP 150/280** : The Delphi crimper MP 150/280 is ideal for use with metri-pack 150 or 280 series terminals. This tool is designed to crimp the core and insulation wings in a separate motion. Simply place the terminal over the stripped wire and place the core of the terminal into the proper nest on the tool. Close the tool to achieve the proper crimp. Now you repeat the same process with the wings, and you are done.
- (ii) **WP Core INS** : Our Delphi WP core crimping tool is built to crimp terminals and seals in a single motion. This ratchet style crimper is made to work with: Weather-Pack Series, 20-14 AWG. Additionally, it is made to work with metri-Pack 280 Series 20-14 AWG terminals once the terminal locator has been removed. This tool is known for its repeatability and longevity making it the perfect choice for use in field service or in hazardous job sites.
- (iii) **Weather pack Terminal Remover** : Once inserted into a connector, Delphi terminals are made to stay there. That is unless you have the weather pack terminal remover. With this tool, you can easily remove terminals from your connector. To use the tool, you would depress the terminal retention bar with the tip of the tool and extract the terminal. It really is that easy. The weather pack terminal remover is built to work with all three sizes of weather pack terminals 22-18 AWG, 16-14 AWG, and 12-10 AWG.

**Note**

## Research Design

The design of this research followed the steps and addressed the anonymity of panelists, the interactions facilitated the researcher, the optimum numbers of rounds and the justifications of panelists of their choices.

- The Experts** : Experts were recruited by personal invitation from the researcher. The research process, the time allocated to complete each round, the time allocated to complete each round, the number of expected rounds the duration of the entire study and the time commitment required were all communicated in advance. All experts accepted the offer to participate. Participants signed an informed consent prior to completing the first round.
- The Rounds** : In each round the experts were presented with a list of reference sources and were asked to answer a single question. The researcher developed the list of references sources using several sources. It featured reference materials covered in two popular reference textbooks as well as a textbook for online searching and

## UNIT- 1

### Information Users and their Information Needs



**Note**

panelists suggestion. The list of sources was designed for LIS students who are taking a required general reference course and have no clear idea of where they will be working in the future.

- 3. Limitations :** The research design took into account the short comings and weaknesses previously identified in Delphi studies and addressed them in the planning stages. Panelists used this to express reservations and very characteristically.

#### **Check / Result**

Any type of general librarian, academic librarian, and information science researcher is the most common population in the LIS Delphi study. An average of 14–36 experts are used in the first round of the LIS Delphi study. Employment in a specific role and publication in scholarly journals is the most popular means of identifying experts. Variants of the e-Delphi (online survey/e-mail) method are common in LIS Delphi studies that focus on general informatics. Although the LIS Delphi studies are a relatively small number, they have a consistent record of being published in some of the most prestigious LIS journals.

This paper provides an introduction to the Delphi method for LIS research and also provides an overview of the literature available in LIS. No overview of this limitation is available in the LIS literature and thus the method serves as an important information source for LIS researchers.

### **1.6 Repertory Grid**

#### **1.6.1 Repertory grid technique**

RGT represents the practical application of George Kelly's personal construct theory (Kelly, 1955). Kelly argued that we understand the world through our own personal construct systems which are formed of a "personal, internal set of theories, which in turn become hypotheses, governing our expectations of the world" (Crudge and Johnson, 2004). This theory is cognitive constructivist in nature (Gergen, 1999 p. 20), constructivism being the idea that the mind creates an understanding of reality, "within a systematic relationship to the external world" (Talja, Tuominen, and Savolainen, 2004). Kelly's theory was influential on Kuhlthau's information search model (1993). It was Kuhlthau's work along with an early version of Dervin's sense-making theory (1983) that have been particularly influential in driving the adoption of constructivism in information science (Talja, Tuominen, and Savolainen, 2004) and have informed the author's own view of information seeking.

RGT in the context of mental models of information retrieval is suited to the inductive, flexible qualitative approach advocated by Fidel (1993), because we expect that a picture of participants' individual mental models will only be elicited during testing. RGT uses a semi-structured interview including a 'grid construction' phase that will compare catalogue interfaces by rating each construct on a scale (Fransella, Bell, and Bannister, 2004). Also, it was anticipated that much qualitative data would be generated at this stage. This combination of methods will provide a measure of methodological triangulation (Fidel, 1993). Because the RGT interview provides a structured framework which allows the participant to describe their understanding of the subject in their own terms rather than using the interviewer's, it is seen as a particularly good way of avoiding bias introduced by the interviewer's own understanding of the topic at hand (Pervin, 1973).

### **1.6.2 Repertory grid Technique Methods**

The topic under discussion was library catalogues, with the more specific intention of looking at user experience of a next-generation library catalogue. This was pre-determined by the author as the area of research of interest. Within this topic, elements were chosen for investigation that represent the sample in some way. It was expected that at least Encore and the previous WebPAC Pro OPAC interface would serve as elements. In addition, the concept of the participant's 'ideal' library catalogue was introduced. This follows Crudge and Johnson's (2007) approach of using an ideal search engine introduced due to the low number of elements involved, which gives a useful "comparison anchor" (Hunter, 1997) to relate the real elements to the participant's conception of the ideal catalogue. It was expected that the concept of an ideal library catalogue would vary widely between participants and there is no suggestion of considering the ideal catalogue to be the same across grids; the ideal is used within the individual participant's grid only.

Although a baseline of elements was provided, some participants wanted to include their own elements – search engines or library catalogues they had used elsewhere including the Copac union catalogue of UK national, academic, and specialist libraries (Mimas, 2010), the WebVoyage OPAC from the Voyager library system and the Web OPAC from the Aleph library system. Including elements generated by the participant was very welcome as this improves the extent to which the topic under discussion is seen from their point of view.

The basic method of the repertory grid technique used was to create a grid where the participant will rate elicited 'constructs' on a five-point bipolar



## UNIT- 1

### Information Users and their Information Needs



**Note**

scale. This scale is similar to the rating scales used when constructing questionnaires. A construct, or personal construct, is in Kelly's terms "a way in which some things are construed as being alike and yet different from others". Constructs can be thought of as representing contrasts between different things - perhaps opposites (Jankowicz, 2004 p. 11), as they are bipolar. Kelly theorised that constructs actually exist within an individual's complete personal construct system which is evolved out of hierarchical relationships between different constructs

Constructs elicited during an interview can only really be considered as giving an insight into the way the individual perceives and construes the world, not a full picture of the individual's understanding of the topic.

In the context of a library catalogue, the following are some example constructs :

<i>Simple, clear interface</i>	<i>versus</i>	<i>Unclear, cluttered and busy interface</i>
<i>A specialist tool</i>	<i>versus</i>	<i>A general search tool</i>
<i>Terms in catalogue are easy to understand</i>	<i>versus</i>	<i>Stuffy or outdated jargon</i>

This basic method is Kelly's original "triadic difference" approach (1955, p. 223). Other approaches have been devised since, for example a "triadic opposite" where the participant is asked for a way in which two elements are alike, but different from a third element, then asked what the opposite of that difference is (paraphrased from Fransella, Bell, and Bannister, 2004 p.29). It was decided to concentrate on the triadic difference method to elicit constructs as this remains the most widely-used approach in RGT work and it was expected any future studies on RGT in library catalogues would likely use this same approach, additionally there is some evidence the "difference" approach produces a better-differentiated picture of the relationships between the elements investigated than do the more extreme contrasts invited by the "opposite" approach (Neimeyer and Hagans, 2002). It was found in a few cases the participant had trouble comparing Encore and the WebPAC with a hypothetical ideal catalogue, so to keep the interview moving a "dyadic difference" approach was also employed. This is based on asking for a difference or similarity between two elements which is used to find the two poles of the construct (Fransella, Bell, and Bannister, 2004 p. 29-30).

The model for this study is Crudge and Johnson's (2004; 2007) use of RGT to determine user mental models of search engines, a novel use of this methodology. Their earlier study demonstrated that RGT is, "a suitable method for elicitation of a finite set of constructs from an ordinary information seeker", and furthermore that a relatively small sample size produced a set of constructs that was considered a good representation of the complete set of constructs that would be elicited from the population the sample was drawn from (Crudge and Johnson, 2004). Their later study built upon this and used the RGT technique of laddering. This technique is used to elicit constructs of a higher and lower order of abstraction than those elicited from the original elements. Laddering upwards is done by probing the interviewee about which side of the elicited construct is preferred, and why that is. Laddering downwards is based on asking 'how' questions about the emergent pole of the construct to find more detail out about it, for example for the above, "How can I tell a catalogue is a specialist tool?", might be used. (Fransella, Bell, and Bannister, 2004 pp. 39-43; Jankowicz, 2004 pp. 64-67).

Using data gathered using laddering techniques, Crudge and Johnson were able to describe a composite mental model from their interviewees based on three layers :

- (i) The evaluation layer, which represents the user's assessment of the search engine. The authors describe this is a pyramid of increasingly complex evaluations of the catalogue. Examples of evaluative constructs are: Finds relevant results and Offers additional information to judge item.
- (ii) The affective layer, representing the user's emotional response. An example of an affective construct is Pleasant look and feel.
- (iii) The procedural layer, representing the user's actions or processes while using the search engines to carry out queries. Examples of procedural constructs are :

Ability to pre-limit search and Has working save / export features.

(Paraphrased from Crudge and Johnson, 2007 with own examples added)



**Note**

# UNIT- 1

## Information Users and their Information Needs

**Note**



A graphical representation of this model is shown below.

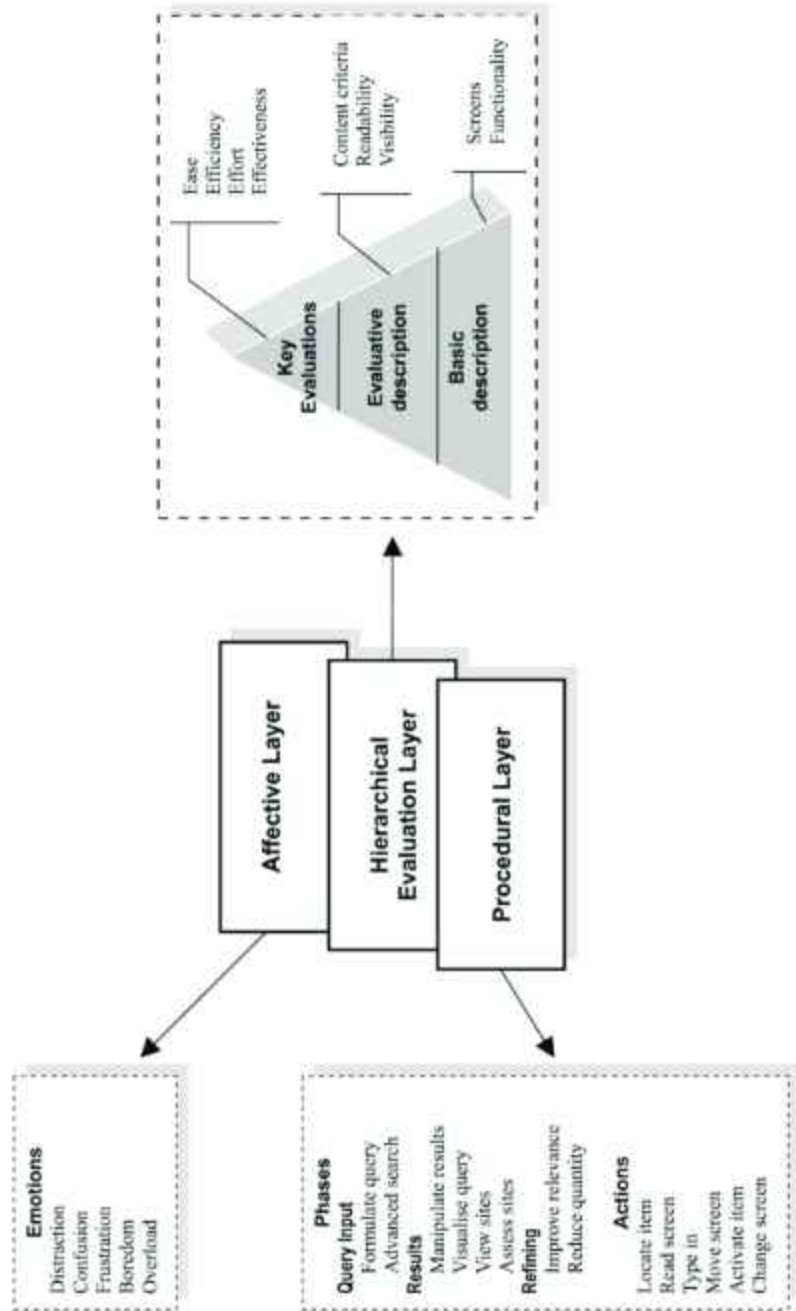


Figure : Representation of users' "evaluative mental model" of search engines, showing hierarchy of affective, evaluative and procedural layers (from Crudge and Johnson, 2007).

Laddering was not used in this investigation due to the wish to keep the interview sessions reasonably short. A normal RGT interview can be expected to last up to an hour (Jankowicz, 2004 pp.15-16), but laddering

is more difficult, described by Fransella, Bell, and Bannister as “an art not a science” and one that should be considered a skilled rather than a standard procedure in RGT interviews (2004, p. 42). However, Crudge and Johnson’s coding approach that allowed for describing a model including layers or emergent themed groupings from the RGT interview was key to analysing the data gathered during this investigation.

### **1.6.3 Repertory Grid Software**

An initial questionnaire was used to gather information about existing familiarity with IR systems and information about the subject’s background (for example, their area of study), this is shown in Appendix B. This also acted as a final filter check to confirm they did actually make use of the current library catalogue at ULRLS.

The questionnaire included some demographic data and questions about use of the Web as a possible aid to understanding and analysing replies given during the interview. There was no plan to carry out data analysis on the basis of this information, but it was thought this might assist with the understanding of replies given during the interviews and was therefore worth collecting.

Although most repertory grid software includes functions to assist in eliciting a grid, the researcher felt it would be quicker and less intimidating to record the grid on a paper template, allowing the participant to see what was recorded and show how the grid developed over the course of the interview.

Additionally, sessions were recorded on tape to provide a high fidelity record of what subjects said during walkthroughs and interviews, plus their non-verbal communication including any gestures at the computer screen. A small MiniDV video camera was mounted on a tripod and placed in a corner of the room, this provided an adequate field of view while minimising the intrusion of the camera into the interview session. Camstudio software (Smith, 2010) was used to record Web browsing activity in more detail than was possible using a camcorder. For coding and analysing data, recorded sessions were transferred to a PC from the camcorder which allowed them to be viewed side-by-side. At the start of the searching part of the session, the participant’s Web browser was maximised on the screen which allowed the video recording and the screen capture to be synchronised. Written notes made during the session were later scanned and transferred to a PC so they could be easily linked to the video and screen captures. These effectively formed field notes including both observation and more subjective analytical notes, and were intended to bring an additional element of trustworthiness to the interview process (Gorman and Clayton, 2005 pp. 186-192). In line

**Note**



## UNIT- 1

### Information Users and their Information Needs



Note

with requirements of Northumbria University's Ethics Policy (Northumbria University, 2009a), subject data was anonymised. Further, participant data was kept confidential, stored securely and in the case of electronic documents on a password-protected computer, and will be disposed of in accordance with the guidelines in the Northumbria University Research and Ethics handbook.

#### 1.6.4 Advantages and disadvantages of the Repertory grid Method

The presented two-stage repertory grid method is a suitable alternative to exploratory methods such as the Delphi method and extends them by quantitative evaluations. Here, the main advantage is that construct systems - that have to be evaluated by the experts - are not named by the survey organizer rather by various experts. The clear structure of this method allows a goal-oriented approach and minimized - through the development of a common terminology - misunderstandings during the interviews. An upstream consultation with technical experts in terms of the considered innovation field to specify the element types (here the expert brainstorming) is however advisable to ensure a common understanding of the questionnaires by the subjects. The achievement of overindividual comparable levels of abstraction is also promoted by using the laddering technique in the interviews.

However, the repertory grid method also shows some weaknesses. So generally, the determination of classes for elements and constructs results an information loss. As work continues in the featured two-staged method, using only the most named elements and construct classes, also the risk exists that special innovative and important constructs and elements are not considered. For example, the construct of 'Detectability' of civil drones which was only named twice in the presented survey - is currently hotly debated in the media and an essential element in the - outstanding - determination of a complete legal framework for the use of civil drones. However, an additional specification of the constructs by the interviewer is inadvisable because in this case the creative and knowledge-generating triad comparison and the method itself would be reduced to a semantic differential.

Furthermore, the high demands on the interviewer can be considered as a negative point of the repertory grid method. Especially when applying the laddering technique, the quality of the results depends largely on the interview management.

A final criticism of the presented investigation is certainly the highly complex innovation field of civil drones. The diverse application areas have - also in differentiation according to user groups - a considerable room for interpretation and thus are responsible for different evaluations of the requirements by the expert subjects.

### **1.6.5 Repertory Psychology**

Repertory grid is a technique developed in psychology in the 1950s but it is scarcely known amongst management researchers. This is surprising, as it has important advantages for exploratory research, since it significantly reduces researcher bias by eliciting constructs from respondents, and it generates both qualitative and quantitative data. Through this paper we aim to promote a more widespread use of the repertory grid technique and to enhance rigor in its application. To do so, we build on the experience gained from three major empirical studies we conducted over the past 15 years in which we utilised multiple repertory grids to elicit key constructs. Specifically, we describe how to analyze and present grid data; how the ratings in repertory grids can be used to identify key constructs; how data coding by different researchers can lead to greater reliability; how Pareto analysis can be used to demonstrate theoretical saturation; and how conceptual models can be derived from multiple grid data. Our findings have significant implications for both scholars using multiple repertory grid interviews, and researchers looking for more effective ways to conduct qualitative research.

### **1.6.6 Main Component of Repertory Grid**

The main components of a repertory grid are :

1. **The Topic :** What the interview is about
2. **Elements :** A set of elements are examples of the topic. The grid has been used in much wider settings and well-defined set of words, phrases or even brief behavioural vignettes can be used as elements.
3. **A Set of Constructs :** These are the basic terms that the client uses to make sense of the elements and are always expressed as a contrast.
4. **A Set of Ratings of Elements on Constructs :** Each elements is positioned between the two extremes of the construct using a 5 or 7 point rating scale system. So its meaning to the client is modeled and statistical analysis varying from simple counting, to more complex multivariate analysis of meaning is made possible.

A major advantage of the repertory grid technique is that it allows interviewees to articulate their experience in the way they see the world



**Note**

## UNIT- 1

### Information Users and their Information Needs



**Note**

according to their own personal constructs. In doing so the interviewer avoids biases, as it also uses differences and similarities with other examples. So it becomes easier to tease out the thoughts of the interviewer than to talk in abstract words. It is also good for teasing out different dimensions of a question.

For example, a student is asked about their lecture experience. If the student struggles to respond, the interviewer can mention a few pointers. With the repertory grid technique, the student and the interviewer agree on a range of particular interpretations and then use the technique of compare and contrast as a way of talking to the student.

Hence, repertory grid technology is a rich source of qualitative data and allows people to express things according to their own terms. It also uses rating scales so it is analyzed statistically which combines both qualitative and quantitative methods.

#### **Conclusion**

In this chapter we studied information and information users. We also studied the relation of the user to the information unit. At the same time, we also studied in depth the methods of user study. Apart from this we also studied the Delphi method and the Repertory method.

#### **Important Terms**

1. User study is called empirical study of the use of information demand or need.
2. User study is done by survey method, citation, bibliographic study etc.
3. User studies are classified on the basis of behavior, information flow, etc. on the basis of usage.
4. The Delphi method is the method based on the results of a questionnaire sent to a panel of users.
5. The repertory grid is the method in which the interviewer allows one to articulate one's own experiences.

 **Exercises****VERY SHORT TYPE QUESTIONS**

1. Why is information needed?
2. What do you understand by user study?
3. State the definition of user study.

**SHORT TYPE QUESTIONS**

1. Write a short note on the classification of user studies.
2. Write a short note on the repertory method.

**LONG TYPE QUESTIONS**

1. Explaining the classification of user studies, describe in detail the evaluation of user studies.
2. Write a detailed note on the Delphi method.

**UNIT- 1****Information Users and  
their Information Needs****Note**



**Note**

# Information Sources

## 2.1 Introduction

In this chapter, we will also deal with information sources. Also learn about the documentary source and how the descriptive source is different from the documentary source. Will study about this too. We will study in depth about primary, secondary and tertiary sources of information.

## 2.2 Sources of Information

Literature is the basis of any subject. Through this information about human achievements can be obtained. Generally the nature of literature is varied and multilingual. In modern times literature is being published in more than 80 languages. Therefore, due to this explosion of knowledge, the nature of literature is becoming interdisciplinary. This sharp intelligence of literature can be experienced in such a way that in the field of science, literature doubles in 8 years and in the field of social science this growth takes place between 8-10 years.

Documents are various sources of information and important means of information dissemination and communication. The collection and retrieval of information through these sources provides a non-dual, expeditious service to the nascent subtle thoughts. Therefore, information fields mean such documents. The sophisticatedly presented sources of data and information meet a variety of creative needs of the users.

### 2.2.1 Type of Documents

There are many sources of knowledge and information sources. Full knowledge of development of script, paper and printing arts and from the original sources of information, the original and the means of hearing were the main ones information sources from many scholars.

### 2.2.2 Classified or Graded in Many Ways

1. According to Dr. Ranganathan, documents can be divided into the following four categories on the basis of physical appearance, nature of presentation, similar characteristics, behavior, etc.
  - (a) **Conventional Document** : Under this, books, contemporary forms, maps, cartography etc. are included.
  - (b) **Neo-conventional Document** : Standard, Authenticator, Specification facts etc.
  - (c) **Non-conventional Document** : Audio-visual material etc.
  - (d) **Meta Documents** : These are direct documents, in which there is no human arrangement.
2. According to Grogan,
  - (a) **Primary Resource** : journals, research reports, conference proceedings, monopoly, standards, professional literature research dissertations, etc.
  - (b) **Secondary Sources** : abstracting and indexing magazines, progress reviews, reference books (encyclopedias, handbooks, tables, formulas etc.), management, essays, text-books, etc.
  - (c) **Tertiary Sources** : glossary, directory, bibliography, guides of literature, list of progress in research, guides of libraries and other organizations, list of progress in research, guides of libraries and other organizations.
3. **According to Hension** : "The personal service rendered to persons engaged in the search of information for any purpose within the library and various activities carried out for the purpose of making information easily accessible are also called reference work."
4. There is a need to review and categorize these information sources in the context of the modern era because today new and latest types of sources are emerging in the source of information. Therefore, these latest information sources can be divided into the following two categories :
  - (a) Documentary sources
  - (b) Non-documentary sources.
  - (a) **Documentary Sources** : These are the printed forms of documents. These are documents that are a means of exchanging ideas in print form information sources and systems. Traditional documents include books, magazines, newspapers, etc., which

## UNIT-2

### Information Sources



## UNIT-2

### Information Sources



**Note**

are considered as original documents. In the modern era, there is a continuous change and increase in the nature and nature of the sources of information. On the basis of which documentary sources can be divided into the following three parts :

- (i) **Primary Sources** : The major examples of this source are : Magazines, research reports, conference proceedings, standards, patents, dissertations, specifications, business literature, unpublished literature, etc.
- (ii) **Secondary Sources** : The main sources of secondary sources are as follows : periodical publications, indexing and abstracting journals, reference books, text-books, monographs, tables, handbooks, progress reviews, etc.
- (iii) **Tertiary Sources** : Under tertiary sources, directories, research progress list, list of bibliographies, annuities etc. are included.

2. **Non-documentary Sources** : Non-documentary sources are those sources which are not usually in printed or published form. These forms are in obscure forms and these sources are not easily accessible. Much important information is contained in these non-documentary sources. These sources form an important part of communication, especially in the field of science and technology. These sources can be divided into two parts :

- (i) **Formal Sources** : In formal sources, research institutions, scholarly institutions, industrial institutions, state departments, university consultants etc. are included. Information is obtained by these organizations in the form of pamphlets, newspaper clippings, plans and charts, manuscripts, dissertation retrieval and print copies.
- (ii) **Informal Sources** : Informal sources are living sources. Formal sources include conversations with classmates, meeting in person, attending business conferences, telephone messages, work progress, etc.

Non-documentary sources are more convenient because direct explanation cannot be obtained from documentary sources whereas information needs can be clarified by direct explanation in non-documentary sources.

## Different Types and Examples of Information Sources

Information Sources				
Documented			Non-documented	
Informal	Formal	Tertiary	Secondary	Primary
Periodical Publication	Secondary Periodical Publications	List of reference bibliographies	Half Institutions	Conversation with classmates
Half report	Indexing Journals	Directories	Delinquent entities	Conferences & Committees Membership
Conference Papers	Abstract magazines	Annuities	Industrial Institutions	Meeting with persons
Half-Disposal	Reference Text	Literary Guides	University	Technical gatekeeper
Authenticator	Text-Book	Half Progress Lists	State Department	Telephone messages
Standard	Disposal			
Business Literature	Reviews			
Unpublished Literature	Bibliography			
Half-Mangement				

### 2.2.3 Classification of Information Sources

Information is a power. Information is said to be that information or specific knowledge which is related to a specific subject, fact or event and can be communicated for use. Source means the medium to provide information which can be any document. Information source and reference source are the same but in modern perspective information source is more important and their utility is also more than reference sources.

According to Denny Grogan the three-category division of documents can be done as follows :

- (i) Primary source
- (ii) Secondary source
- (iii) Tertiary source

## UNIT-2 Information Sources



**Note**

## UNIT-2

### Information Sources



**Note**

#### 2.2.4 Primary Sources

Any information/knowledge that is published for the first time is the primary source. That is, the documents in which the findings of the original research and the information related to the use of the findings in the field of industry and technology are published for the first time, those documents are called primary sources.

In this way, original research, development of new methods or new interpretation of old ideas, etc., include the first published document in the category of primary source.

Latest information is stored in these sources. A researcher gets the latest information with the help of a source. These sources are widely scattered, discrete and disorganized. The information contained in these is not adjusted with the mainstream of scientific and technical knowledge. Although such sources are very important. But finding them and using them would have been very difficult. The secondary source helps in utilizing these.

The primary source is the most important of the information sources. At present, basic reports of science, technical and social science research form the main part of the primary source. Some of these are in the form of records of observations and some are descriptive. Thus, with the help of these sources, the researcher benefits by getting up-to-date information. With its help, the researcher avoids duplication.

1. **Periodicals** : Among the primary sources, periodical publications are the most important. Periodical magazines are published in weekly, fortnightly, monthly, quarterly, semi-annual or annual forms. A large proportion of primary sources are published in the form of periodicals. Generally, research results are first published in current publications. Articles in these publications are the main means of communication and exchange of scientific information. Current publications have different subject information and objectives. On the basis of information characteristics, periodical publications can be of different types, such as specialized research journals, technical, business, popular and institution journals.

The information contained in periodical publications is more up-to-date than texts. The main feature of primary periodical publications is that they are used in two different forms. The information contained in periodical publications is more up-to-date than texts. The main feature of primary periodicals is that they can be used in two different forms. Its new issues meet the contemporary needs of the readers of the region and at the same time old issues are also important means

## UNIT-2

### Information Sources



**Note**

of providing specific information. Therefore, current publications serve to provide both new and insightful information. for example,

- (i) Indian Journal of Pure and Applied Physics,
- (ii) Nature,
- (iii) Journal of Documentation,
- (iv) Journal of Librarianship,
- (v) Journal of Electronics Engineering.

2. **Research Reports :** At present, research reports are being used more than journals. According to one study, in the first decade, such reports accounted for more than 10% of all documents collected. Thus research reports became a powerful medium of scientific communication. In the midst of the Second World War, the discovery report appeared. The main reasons for the emergence of these types of documents have been the lack of paper, limited distribution and long time taken in magazine publication etc. Therefore it was thought to develop such a medium which could be distributed in limited copies on less paper and at a faster speed and these documents were very useful. The information contained in research reports is original. Sometimes these are available only as typed copies on the report. Some reports contain haphazard preliminary information about a work, while others give authentic and detailed information about a work, which is difficult to get from any other source. Most of the literature on subjects like Legal (Acronaulet) and Applied Atomic Energy is available in the form of reports. In social science, government reports which are published under a project, they fall in this category. Reports published in the field of education and economics come under this.

The NASSDOC has a large collection of such research reports. The institution encourages research work by being the financial assistant of the individual and the institution. ICSS publishes regular reports on research work. for example :

- (i) Scientific and Technical Aerospace Report, National Astronaut and Space Administration (NASA),
- (ii) Government Reports, Announcement and Index (GRA & 1),
- (iii) Physics Reports, Amsterdam.

3. **Conference Proceedings :** Conferences, seminars, studies organized at various national and international levels are the primary sources of information articles written in seminars. It is not right for every person or researcher to be present in these events himself.

## UNIT-2

### Information Sources



**Note**

Therefore, proceedings are published in these conferences, which the researcher can use in his research work.

The articles presented in such conferences bring the latest inventions, discoveries to light first. Apart from this, questions and answers related to the article are also included in the proceedings. In addition to the conference proceedings, the objectives of the seminar include the presidential speech, the list of participants and the suggestions of the conference, etc. for example,

- (i) Proceeding of Science Conference,
- (ii) Communication : A Conference Proceeding Report,
- (iii) ICCP : A Conference Proceeding.

4. **Patents :** This is a certificate of agreement between the authentic government and the investigator. Through this, he gets a monopoly for a certain period to make, sell and use the patent process, machine creation, production. The government provides such a certificate to encourage the new discovery of scholars and workers to produce the latest work or production. It is a government document and government currency is also attached to it. It is published by government and semi-government organizations from time to time.

Authenticators are the result of the latest research, so they are an important form of primary source. Certified chemists are very useful for engineers and doctors. Patent papers in India are granted and published by the Indian Patent Office. Indexing and versioning services are also included regularly to Authenticator. for example :

#### World Patent Index

5. **Standard :** Standardization is a simple means of maintaining uniformity. This uniformity should be in each area and in each side of the functions. This maintains uniformity and equality in the form of activity and commodity, there is a definite and continuous increase in production and there is a direct vision of efficiency. Therefore, the macro body, government or authorized body, fixes the standard of every work or thing and the thing manufactured according to it is called standard commodity. Such standard goods get confidence in the consumers. The result is that the goods which do not follow the standard are eliminated from the market.

Standards are such official standards, which are prepared by an industrialist, businessman or specialist to test the size, type, importance etc. of a particular item. Their development takes place



**Note**

after an extensive research programme. Generally, a standard is a booklet of a few pages, in which definition, method, properties, measurement, etc. are included. They are also depicted with tables and pictures. They can be classified as follows :

- (i) Dimensional Standard,
- (ii) Quality Standard,
- (iii) Standard Test Methods,
- (iv) Standard Terminology,
- (v) Code of Practice,

**6. Physical and Scientific Standards :** These records are very important for research work. National level institutions have been established in different countries only for standardization. For example, British Standards Institution (BSI), Indian Standard Institution (ISI). This organization provides 300 standards annually to the International Standards Organization (ISO).

**7. Industrial and Trade Literature :** Commercial literature is an important source in getting information about a particular product. When no material is to be found, specialized commercial literature is useful as a primary source.

The main purpose of the commercial literature is to elaborate on its production equipment, commodities system. The main reason for this is that in order to increase the sales of its products, it is necessary to establish credit in the market before production. This information is provided by the dealers of the producers. They are available in the form of literature, technical bulletins, price lists, jata seats, scent lists, hand booklets, magazines, etc.

Generally booksellers do not reduce this type of literature. Because of this, such literature could not get a proper place in the library. But this is the only literature through which a complete description of the description, principle and procedure of a highly sophisticated device is obtained. Sometimes this type of information is not published in any other source.

Organization magazines are the main source of such documents. Such magazines are Shell Magazine, Atom News (UKARA), Shri Ram Patrika etc.

**8. Clippings of Newspapers :** Newspaper-magazine clippings are a major primary source. The specific, intended information published in dailies or magazines or specific articles or pieces of account are collected and adjusted in view of various library needs and utilities.

## UNIT-2

### Information Sources



**Note**

9. **Dissertation or Thesis :** Generally, the university gets the dissertation written for the degree of doctor, which is prepared under the direction of a scholar. It is believed to contain information about original work done in a specific subject. Its main objective is to test the proficiency of the researcher in that subject and research method.

A new technical method or principle is invented from the findings in these thesis. It is difficult to get information about them due to their lack of public publication. Various measures are being taken to overcome this difficulty. The NASSDOC is collecting a large collection of such dissertations. About 2,000 dissertations have been collected by NASSDOC. ICSSR, New Delhi has prepared a classified list of this type of literature. Similarly, 'Dissertation Abstract International' is being published by Microfilm University of America. The importance of research dissertations has increased significantly in such services.

10. **Correspondence File :** Correspondence file also has an important utility of its own in various industrial organizations. It is related to technical issues, sometimes information on old subjects is obtained through them.

11. **Maps, Atlas and Charts :** The depiction of the surface of the earth on any flat object is a map and their collection is called cartography. They are needed for carrying out various types of research work about tourism, excursion, civilization and culture. These sources provide geographic information.

12. **Manuscripts and Unpublished Material :** Many primary sources are also unpublished, these sources are used for historical interest. In social science, 10% of the total literature is unpublished and handwritten. These sources include handwritten texts, manuscripts, unprinted texts, personal diaries, inscriptions, old coins, etc., which are very useful for research work.

#### 2.2.5 Secondary Sources

Information published in primary sources on a particular subject is widely scattered and is available in large number of sources like primary periodicals, technical reports, dissertations, conference paper, patents, standards and so on. The research results are published in different languages. This makes it is very difficult for a researcher to keep track of what is latest in his field of interest. To solve this problem there are other set of publications called secondary sources. Secondary periodicals, bibliographies, books, reviews, treatises, state of the art reports, reference sources etc. come under secondary sources.

The material to be collected from primary sources to refer to the primary sources is called secondary source. This material is arranged according to a definite plan. In these sources the basic information is selected for a certain information or user.

Secondary sources are easier to obtain than primary sources. It not only provides a compendium, but also serves as a bibliographical key for the primary source, which facilitates access to the primary source. Secondary sources are divided into the following categories :

1. **Periodicals :** There are many periodical publications which do not provide original information. These publications are specialized in interpreting and providing feedback on developments recorded in primary information sources.
2. **Indexing Periodicals :** Indexing periodicals are important secondary sources. In this type of journals, reports of articles published in primary journals are regularly compiled. Under these, stories of new texts, pamphlets, etc., are also included.

A large part of the primary sources are not accessible to the readers. Therefore, this new method of information transmission between information generation and information user has been presented.

Example :

- (i) Library Literature,
  - (ii) Reader's Guide to Periodical Literature.
3. **Abstracting Periodicals :** This is the best method to save the invaluable time of scholars and users. In this type of journals, a summary of articles published in primary sources is provided. Its main purpose is to provide information to such readers who cannot read or access the original document due to busyness or any reason. Under abstract journals, important articles of primary journals, new dissertations, proofs, reports and other publications of the field are compiled. Abstract magazine acts as an index to get information on a specific topic and through this it also helps in solving the language barrier to an extent. Example,
    - (i) Chemical Abstract,
    - (ii) Biological Abstract,
    - (iii) Library and Information Science Abstract
    - (iv) Physics Abstract,
    - (v) Engineering Abstract.

**Note**



## UNIT-2

### Information Sources



**Note**

4. **Secondary Periodicals** : Secondary periodicals regularly scan the literature published in primary sources, select the relevant items, arrange them in helpful sequence and bring them to the notice of researchers at weekly, fortnightly or monthly intervals. These publications contain bibliographical references of each item with or without abstracts.

5. **Bibliographies** : A bibliography is a systematic list of documents that share a common factor that may be a subject, a language, a period, an author or some other criteria. The list may be comprehensive or selective. The list is arranged by some order.

Such bibliography known as enumerative or systematic bibliography, attempts to record or list. Each entry provides bibliographical details of the document.

6. **Books** : A book can be broadly defined as a written or published document of at least 49 text pages that communicates thoughts, ideas or information. Pages of the book are glued or sewn together along one side called the spine or back. Two covers of the book are joined by hinges to the spine. Books are either hardbound or softbound, depending on the cover. Most of the hardbound books have a cover made of cloth, plastic or leather cover cardboard. A paper cover jacket is often added to protect the cover of a a hardbound book. Most of the softbound books are called paperbacks.

7. **Reviews of Progress** : Progress review, different from book review, is a critical summary, which is an account of the progress and development made by a scholar of a particular subject in this subject. The importance of this type of literature is increasing significantly and reviews are being used more for literary search in many fields than indexes and abstracts.

Ranganathan called these reviews descriptive bibliographies. After analyzing and evaluating the information, it is arranged in the proper context. In this, only important information in a large part of primary literature is conveyed to the readers along with bibliographic details. This literature is published in many titles. Like – Annual Review, Year Progress or Work, Advances, Progress in Development of and Survey of.

8. **Book Review** : Under this, the critical details of the published books are given. Hence they are called book critical social journals. The opinion of scholars about newly published books is published in these journals. Example,



**Note**

- (i) Prakhar, Delhi (Navbharat Prakashan, Monthly),
- (ii) Book Introduction, Delhi (Rajkamal Publications, Monthly).

9. **Reference Books** : These sources of information present the information published in the primary sources in a very systematic order. These are also kept in the category of secondary sources.

### Definitions

A reference book is a book that the researcher uses only when necessary. In simple words, it can be said that a book which is immediately helpful in clarifying or confirming any subject or topic is called a book.

According to Dr. Ranganathan, "Reference books compile and organize knowledge information in such a way that the intended information comes to the fore immediately and in a specific form." Reference books can be divided into the following categories :

- (a) Dictionary,
- (b) Encyclopaedia,
- (c) Hand Book, Manual,
- (d) Tables etc.

(a) **Dictionary** : A dictionary is an important secondary source. These dictionaries are needed to know the meaning and usage of any general or specific word. These dictionaries can also be related to specific subjects.

*Example :*

- (i) McGraw Hill Dictionary of Scientific and Technical Terms,
- (ii) Dictionary of English Language.

(b) **Encyclopaedia** : The synthesis of all knowledge in encyclopedias is presented in an organized and systematic way. Encyclopedias are storehouses of knowledge. Generally used to find information related to background and history. In this type of reference texts, long articles on subjects and sub-topics are presented. They are arranged alphabetically. Encyclopedias are of both general and specific types. Under the general encyclopedia, knowledge of all subjects and subject areas is provided. A specific encyclopedia is organized by collecting information related to a topic or subject group.

*Example :*

- (i) British Encyclopaedia,
- (ii) Encyclopaedia Americana,

## UNIT-2

### Information Sources



**Note**

- (iii) Encyclopaedia of Library and Information Science,
- (iv) Encyclopaedia of Physics.

(c) **And Book, Manual :** This is a short book, in which the depth of the subtle subjects of knowledge is revealed briefly. Most commonly used by scientists and technicians. Handbooks contain factual information, data, drawings and formulas. There are two types of handbooks :

- (i) General Handbook,
- (ii) Handbook on the subject.
- (iii) Tables : The books in which facts are presented in the form of tables are called tables.

**Example :**

- (i) Tables of Logs,
- (ii) Table of Atomic Weights,
- (iii) Table of Melting and Boiling Points,
- (iv) Steme Tables.

#### 2.2.6 Tertiary Sources

**Tertiary Sources :** Tertiary sources are based on primary and secondary sources and serves as a key to the primary and secondary sources. These sources consist of information which is distillation and collection of primary and secondary sources. Tertiary sources are third in the order of appearance. First in the order of appearance are primary sources, next are secondary sources and come the tertiary sources.

Tertiary sources help to locate primary and secondary sources. Sources like bibliography of bibliographies; guides to the literature; directories listing primary and secondary periodicals etc., are placed under tertiary sources.

The sources of information, which help the reader to use primary and secondary sources, are called tertiary sources. Such sources do not provide most of the subject knowledge but provide additional information. The main function of these sources is to assist the researcher and experts in obtaining and searching the desired information for the use of primary and secondary sources. These sources are as follows :

1. List of Bibliography (Bibliography),
2. Directories,
3. List of Research in Progress,
4. Guides.



**Note**

- (i) **Bibliography of Bibliographies** : When bibliography indexes tertiary sources, it is used as tertiary source at that time. This is called a list of bibliographic lists. *E.g.* A World Bibliography of Bibliography by Besterman, T.
- (ii) **Directories** : Directories are the list of names and addresses of individuals, organizations, institutions, producers and current publications. The information of this reference source is arranged alphabetically or classified as per the requirement of the consumer. Directories also provide information other than names and addresses. As,
- (a) Information about the various products of a company,
  - (b) Information about the activities of employees of national and international organizations,
  - (c) Educational qualification, designation etc. of scientists etc.

### **The directories are of the following types**

- (a) Industrial and business directories,
- (b) Directories of Scientific and Technical Organizations.

### **Conclusion**

In this chapter, we have studied information sources and learned about non-documentary sources along with documentary sources. The primary sources of information, secondary sources and tertiary sources were also studied in depth.

### **Important Terms**

1. Information source refers to the documents that separate the data and information to meet the different needs of the users.
2. The sources which are available with us in print form are called documentary sources.
3. The source which is not available with us in print form is called a non-documentary source.
4. The primary sources include magazines, research reports, etc.
5. Summary journals and indexing journals in secondary sources. Text-books etc. are included.
6. Tertiary sources include dictionaries, encyclopaedias, etc.

## UNIT-2

### Information Sources



**Note**



### Exercises

#### VERY SHORT TYPE QUESTIONS

1. What is an information source?
2. What is the primary information source?
3. What is a secondary information source?

#### SHORT TYPE QUESTIONS

1. Explain the usefulness of information sources in a library.
2. Explain the source of documentary information.

#### LONG TYPE QUESTIONS

1. Explaining the different types of information sources, explain their usefulness in the library.
2. What are the sources of information called? What do you understand by documentary and non-documentary sources? Explain in detail.

**Note**

# Different Type of Information Sources

## 3.1 Introduction

In this chapter, we will learn about human resources and also study about institutional information sources. Also what is a database and what are its types? Will study them too. What are information sources? Will study about them too.

## 3.2 Human Resource

The result of effective participation and qualitative performance of human groups in various activities of an organization or institute is related to the process of human resource development which is built into the managerial operating structure and which gives credibility to the organization and for its future growth and development provides guidelines. It is essential for organizational success and it suggests diversity in products and services and directs them to advance growth. As a result, this thinking benefits the employees of the organization in many ways. Hence, human resource at all levels of an organization is desirable for every group and individual. Human resource organization is the process of helping the employees of the organization to continuously enhance their skills and competitive spirit. The organization should provide the following facilities to its employees systematically and sequentially :

1. for the effective enhancement of their abilities and skills to perform various tasks related to their present and future roles;
2. to discover and harness their inherent strengths for the purpose of developing common abilities for their own sake and/or for organizational development;

## UNIT-3

### Different Type of Information Sources



**Note**

3. Measures to create an organizational culture in which there is strong cooperation among all the inter-units and which includes probationer-subordinate relationship, group work and contribution to professional welfare and self-pride among employees,
4. Facilitating skill enhancement through machinery and equipment, and
5. strategizing and operating, improving capabilities through components involved in human resource development planning.

#### 3.2.1 Need and Objectives

The personnel of an organization play a major role by converting all other resources into tangible products and services. Therefore, it is useful to focus on human resource development planning and policy to achieve success in every aspect of the development sequence of an organization. Continuous enhancement of skills and knowledge of employees is essential to ensure the desired results. It is necessary not only to increase the strength and capabilities of the employees, but also to create a sense of motivation, dedicated participation, involvement and commitment and also to encourage and enrich the efforts made towards achieving the goals and objectives of the organization.

The couple factors of user satisfaction and the quality of services and products provided increase the goodwill and fame of an organization in that area and ensure its success. Involvement of employees along with increase in knowledge and skills is clearly the achievement of the above objectives. Therefore human resource is essential for any type of organization to ensure the following things :

1. existence and stability; growth and development;
2. change and diversity,
3. re-coordinate the activities to make them more effective;
4. to play a leadership role in the field;
5. To earn goodwill and fame by the satisfaction of the users.

The organization should realize the philosophy of human resource development by providing adequate resources for human resource development that their consensual participation can be ensured only by giving due importance to human beings. The basis of this thought is the three fundamental concepts of human resource development. These are :

1. Considering it an invaluable resource among the personnel of an organization, time, money and the need to put effort.

## UNIT-3

### Different Type of Information Sources



**Note**

2. Human resources have special characteristics which require special treatment and which cannot be operated like other resources.
3. To employ human resources, it is necessary that they are treated as human units of the organization and not just as individual employees. Therefore, the human resource development program for an organization is a well-planned activity. These should include a clear description of its objectives and goals, strategy and active planning and appropriate means, machinery and equipment for its implementation.

#### 3.2.3 Human Resource Development

Human resource development is a continuous process, not merely the planning of a set of procedures, tools and techniques. Design mechanisms and processes and techniques like performance appraisal, counseling, innovation in organizational development, etc., carry forward the process of implementation. These procedures, tools and techniques need to be constantly reviewed for effectiveness. A healthy environment plays a vital role in the growth and success of an organization. To improve the effectiveness of the organization, activities, measures and techniques will have to be constantly reviewed. This is done through organization development, which is related to capacity development, in which the task of identifying problems and initiating the process of collective use to deal with them is done by the effective team. Improves process efficiency aimed at maintaining and monitoring organizational health, helping disabled units, helping healthy units and departments with self-renewal processes, being alert to conflicting management and creating powerful teams, etc.

Organizational knowledge acquisition is the process in which knowledge is acquired by gaining valuable experience by engaging in work. A way to make every job valuable in the organization. This is greatly assisted by the research department in the organization. One who collects and analyzes data at various points to solve the problem, interprets them and evaluates them.

In essence, strategic planning and operational planning should be discussed in relation to the integration of procedures, tools and techniques, not in isolation. Yet here, for their presentation, they are divided into sections and subsections has been divided. Such concepts as evaluation, service assessment, training, job analysis, organizational and work culture, self-renewal, etc. need to be superimposed on organizational planning and operational analysis and planning.

## UNIT-3

### Different Type of Information Sources



Note

Generally, it is the top management who is responsible for elaboration of strategies for a well defined program and for the goal achievable objectives, but those working at the lower level of management, on whom the responsibility of implementation rests.

#### 3.2.4 Basis of the Human Resource Program in the Library and Information Centre

The situation of libraries in India is generally not favorable. Most of the libraries are without resources in terms of staff strength and budget. However, there is also the National Library and some information centers which function independently and as separate institutions. There are large libraries and information centers in universities and institutes of technology and other similar educational and research institutions. But even in these big institutions, well-planned ideas of human resource development are not working. As is the practice, in most libraries and information centers, the affairs of the employees are handled by their parent bodies. The administrative departments of these parent bodies, their salary and allowances, discipline and control, training and delegation in conferences, evaluation of performance to some extent and other such matters are dealt with by the employees themselves. Opportunities for personnel development are limited and they are also available only up to a certain level and are rarely available to lower level employees. There is no department of Human Resource Development which is concerned with all these aspects.

Library and information centers at the national higher education and research level are growing in size, diversity, and services with computerization and network. Personnel problems (not necessarily to deal with large numbers of employees but to evaluate performance), model appropriate tools, information sources and systems and development of training, organizational and work culture for all levels of employees are some of the other aspects that are being considered. In the development and manufacturing of high quality products and services, it is necessary to pay attention to the following factors, which are the basis of development of human resource programmes.

1. personnel planning;
2. familiarization with modern information products and services;
3. productivity;
4. reader satisfaction;
5. the quality of products and services;
6. Accumulation of new skills and knowledge
7. job analysis for hiring personnel;



**Note**

8. Performance Appraisal, Counseling and Teaching;
9. Catalyst Approach;
10. Organizational development and
11. To undertake research and development.

With the aim of excellence, emphasis should be laid on quality and value-oriented information systems and services. Human resource development is the only important policy which creates a high potential professional workforce.

### **3.2.5 Human Resource Planning**

As human resources are invaluable in any process of development for any organization, the work related to getting the right people is an essential effort for an organization. The whole sequence of activities is involved in this process of mobilizing qualified and capable employees. Those various activities are called human resource planning, which helps the organization to provide an adequate number of potential persons and to provide them continuous facilities to raise the level of their performance to meet the future needs of the organizational development.

When the employee puts all his strength in achieving the definite results. Then the organizations should also respond appropriately so that the loyalty of the employees towards the motivation of giving their best services to the organization is not diminished at any point of time. Therefore, all the tools, tools and techniques that are used to manage the organization's information sources and systems.

Ensure smooth and voluntary participation of employees in the organization must necessarily be based on well thought out programmes. The preparation of techniques and methods of such thoughtful planning constitutes personnel planning.

In order to present our views on human resource planning in proper perspective, it is necessary for us to present the idea of planning and its process here. Planning includes the following :

1. Firm determination of goals and objectives and time-frames of targets,
2. Forecasting the future with respect to changes;
3. Selection of activities, programs and projects to achieve the set goals;
4. Estimation of the resources required to complete the assigned tasks and
4. To make a program for the implementation of the plan.

## UNIT-3

### Different Type of Information Sources



**Note**

#### 3.2.6 Need and Objectives

A library and/or an information center is essentially a service institution. It allows users to store their documents based on their information needs.

Naturally, those persons who are engaged in this service should be knowledgeable of both the branches and sub-branches of the concerned subject and the sources from which the information sought can be gathered. Intellectual abilities alone are not sufficient to fulfill the library and information service. It is necessary to have a sense of service to deal with different classes of persons with different temperaments, who seek information for different purposes. The equipment and techniques required to provide such a high level of efficient service are included in the infrastructural facilities created in an institution. Presently the library and information institute is in a constant state of change. Information technology plays a major role in the reorganization and transformation of libraries and information institutions. Only a group of persons having specialization in a subject and having the same level of proficiency in information technology, oral and written communication and management techniques, as well as having vocational education and training, may be the appropriate group for a library and information centre.

Such a mix of talent is not easily available in the current state of the country's commercial market. Therefore, in selecting the right persons and modern libraries, information sources and systems and to appoint and prepare the information centers as per the challenging demand, requires special attention. Therefore special care, consideration and attention are required in planning. The scope of this activity is very complex.

#### 3.2.7 HR Planning and Elements

Following are the various elements of human resource planning :

1. Outcome and qualitative assessment of manpower requirement;
2. Recruitment and selection of personnel;
3. Mounting and posting;
4. Development of Knowledge and Skills;
5. Performance appraisal, counseling and training and
6. Observation.

#### 3.2.8 Human Resource Planning : Laws and Techniques

Human resource planning and policy making are two sides of the same coin. They complement each other. Ethics are guides which are helpful in the course of action. Policies can be specific or general. General policies are detailed and concrete that guide the course of action for the entire



**Note**

organization. Special policies are related to the operational level of those operations. The areas of work in which they are meaningful. Rules and procedures should be framed as per policy guidelines.

Personnel policies serve a variety of functions. The first is the formulation of policies regarding interaction between employees and employers. Second, it helps to enforce the same rules and procedures for all employees. Such policies will ensure continuity of work in any department or division without worrying about change in supervisors.

Policies should be communicated to employees through channels of communication and should be conducted with uniformity and consistency.

### **3.2.9 Human Resource Planning in Libraries and Information Centers in India**

Most of the libraries/information centers in India are functioning as part of various institutions such as Research and Development (R&D) institutions, universities, government departments and business institutions, public and private industrial undertakings etc. Therefore, the general plans and policies governing the parent bodies are also applicable to all their constituents, keeping in view their special needs.

With the growing and changing nature of information institutions, it is necessary to prepare management planning and policies for libraries and information institutions according to the new conditions. In addition, various requirements and in-service training (implementation of information technology), financial contraction, expansion and diversity of information, increasing demand for information as a result of wide-reaching readership, increasing information business due to information of products and services, and marketing and quality. Forces, such as several elements, are moving towards restructuring the management, strategies and operational structures of information institutions.

In the changed scenario, a well-designed approach to personnel planning will have to be based on such a broader objective that the users and their information needs are centralized, appropriate information collections and stores are designed to suit their needs, wherever the information is that the users have easy access to information and services by using information technology facilities (reader counseling services). The following steps are involved in personnel planning.

Establishment of result-oriented recruitment processes;

- Proper mobilization of new recruits;
- Enhancement of skills of employees through training;
- Assuring quality of products and services;
- Periodic outcome evaluation;

## UNIT-3

### Different Type of Information Sources



**Note**

- Assessing the needs of employees for the present and the future and
- Reorganization of the organization from time to time.

#### Various Types of Information Institutions

Information plays a very important role in the development of any nation. In the present era, information material is available in many forms. Their number is so large that in today's scientific era, every businessman, scientific researcher, student, teacher, etc., all need new and updated information related to their subject.

Keeping this importance of information in view, many information centers have been established. Especially in developed countries the network of such institutions is very modern and is strong. On the contrary, efforts are being made to modernize and strengthen the developing countries.

Information institutions can be divided into the following types, which work to provide information in different areas :

1. Libraries,
2. Documentation Centres,
3. Information Analysis Centers,
4. Data Centers

#### 1. Libraries

Information in the library is stored in the form of books, periodicals, monographs, records, microfilms, sketches, maps etc. In this, not only are standard memories, ideas and records preserved, but they are arranged, stored and distributed for future use. Libraries are social institutions which perform the important function of providing knowledge and information to the society. The growth and development of the library has a direct effect on every individual and the activities of the society. With the development and progress of knowledge and science, there has been an increase in the institutions of users and libraries, but the information needs of users and libraries and the type of library services gradually changed. Different users of the society have different needs, due to which many types of libraries have been developed in the society and mainly four types have been determined.

- (i) Public Library,
- (ii) Academic Library,
- (iii) Special Library.
- (iv) National Library.

All the above mentioned libraries provide services to different sectors of the society. In the modern era, with the advent of information technology, electronic technology is transforming books and libraries into a new form. New information technology is expanding its field multidimensionally. In

## UNIT-3

### Different Type of Information Sources



**Note**

this development of technology, communication, satellite communication, cable, TV, many types of mass storage including optical digital video discs and microcomputers on chips etc. are prominent.

In the present society, the influence of electronic technology is increasing from libraries, due to which the future of books and libraries is being threatened. Dr. F. W. Lancaster, "We are gradually moving towards a paperless society, in which all the text material will be recorded in machine tools only. As a result of the development of computer science and communication technology, the existence of a world-class information system has come into existence." With the advent of world-class R & D activities in electronic form, its publication and transmission will be possible very quickly. We are now on a middle path – paper printing and electronic printing.

**Status and Future of Libraries :** Infact, libraries are such institutions that provide library services to the users. In order to modernize the libraries, it is necessary to make many changes in their activities, otherwise these libraries will become useless. For this, future plans will have to be made from now on, so that libraries can be converted into electronic media.

In the context of America, Giuliano has clarified that the budget of libraries will be reduced in future and the number of employees will be reduced as has been done in banks and other institutions in India. For this reason, it will be an impossible task to save the present form of traditional libraries. In this context, librarians still have time to convert libraries into information centers and make them state-of-the-art by using new technologies. As a result of this, it will be possible to provide new and mechanical information to the user. Giuliano has clarified that the role of libraries in society is declining. It is worth noting the fact that as information institutions are developing and prospering in our society, the importance of libraries is also decreasing day-by-day. The use of computers has increased so much that by getting instant access to any field of world literature, information can be obtained as per the requirement by on-line searching. Apart from these, vendors can make available books, documents and articles of magazines quickly through a computerized ordering system.

In the present era, the value of books, magazines and other printed materials is increasing day-by-day at a fast pace, so reducing them is a very difficult task for all libraries. It is said that the Library of Congress, which has an annual budget of crores of rupees and is the world's largest library. It is also not possible for that to buy all the literature published in the world. On the other hand, there is an unprecedented increase in the publication of literature, which is also a formidable problem to organize systematically. Therefore, it is very necessary to minister these libraries.

## UNIT-3

### Different Type of Information Sources

**Note**



Libraries are often non-profit organizations. Their main objective is to provide library service to every person of the society and the main work is to acquire, preserve, organize and distribute the books. Libraries preserve our culture, but the traditional libraries which will not equip themselves with new trends and new equipment, those libraries will not be able to survive in future, so they have to bring various changes to survive. In this way, according to the need and demand of information, it is necessary to bring changes in their condition and situation and use of new technology will have to be done only then their future and existence will remain.

#### 2. Documentation Centers

The process of collecting and organizing various types of documents and other information materials and making them available to experts and researchers as soon as possible is called Documentation.

Collection, acquisition, processing, analysis and communication of documents is a specific process, many organizations and institutions are involved in this work. The main objective of the documentation work is to reach the latest and minute knowledge related to any specific subject to the experts and scientists of that subject. Documentation Center for this work :

- (i) Ensures the process of selection, acquisition, storage and retrieval of specific types of documents on demand and on request.
- (ii) Indexing and summarizing useful articles stored in documents and making them available to specific users.
- (iii) Keeping in view the pre-demand or post-demand situation, the smallest ideas published in the documents are communicated and disseminated.

Documentation centers provided highly specialized services to experts and scientists. Services are provided, such as, Timely Alert Service (CAS), Selected Dissemination Information Service (SDI), Abstracting and Indexing Service, Reprography and Translation etc.

#### Information Sources and Systems

Documentation centers are established in any nation at international, national, regional, etc. levels. All of them provide information in their respective fields. They are established keeping in view certain specific objectives. Local Documentation Centers are established by Research and Development Institutes (RSPs), Industrial Institutes, Government Departments etc. Similarly, National Documentation Centers are established by government agencies. Their burden is borne by the government.

**Note**

### 3. Information Analysis Centers

In the modern era, information and analysis centers hold a very important place in the field of science and technology. Such centers not only perform the task of retrieval and transmission of information, but also create new information and make it available to the users. A large number of data received in these institutions are processed and tested and normalized as needed. In this work, scientific interpreters who can collect relevant important data, review their field and distill the information obtained and make it according to the technical requirement. This information is important for scientists.

Skilled and skilled scientists and engineers are appointed in these centers, through which new and updated information can be provided to the scientists and researchers in the shortest possible time.

The following major activities are performed in the Information Analysis Center. For example, analysis, interpretation, synthesis, evaluation, repackage of information which the subject-matter expert has to result in, resulting in a new product. Evaluation of information can be in any form, such as critique review, state of the art, monograph, etc. Activities and Products - Following are the functions of the Information Analysis Center :

**Activities and Product :** Information Analysis Center has the following activities and products :

Activities		Product	
(i)	Selection and collection of information and documents	(i)	Bibliography, Current Awareness
(ii)	Tabulation and Indexing	(ii)	Indexed Bibliographies
(iii)	Abstract	(iii)	Descriptive Reviews :
(iv)	Evaluation		(a) Criticism of the subject area
			(b) Critical compilation of data
			(c) Experimental recommendations
			(d) problem solving
			(e) Interrelationship of data
			(f) Prediction of properties

## UNIT-3

### Different Type of Information Sources



**Note**

#### 4. Data Centers

In the present information technology era, data is needed for many activities for planning, progress development and decision making in various areas of human development progress.

Data is of many types and found in different categories, which can be divided into scientific data, technical data, business data, industrial data, social data, economic data, techno-economic data, demographic data etc. In many ways, all these data are obtained through the process or method of observation and survey for use in different fields. Data is collected from different sources by different methods. This data is processed and modified. It is then organized and made for effective use. The institutions which are established for this whole process are called Data Centers. Thus in other words it can be said that the centers where data/information is acquired, stored, processed, information retrieval and communication is done, is called a data center.

The size of the data center may vary depending on their services and area. These centers are established at local, national, regional and international level. There are generally three main components in a data center :

- (i) Collection of organized data.
- (ii) Relationship with data source which can cater to the database.
- (iii) Contact with a user who is expected to interact with the database through a variety of queries. The structure of a data center can be expressed as follows :

In this way databases of data sources and users can be created.

Any Data Source → Database → User

The main functions of the data center are as follows :

- (i) To perform the work of collection of data,
- (ii) Controlling data,
- (iii) Codification of data,
- (iv) Organization of data and database structure,
- (v) Retrieval of data,
- (vi) Transmission of data.

To carry out all these activities, it is very necessary to have efficient and efficient staff, suitable equipment and suitable working buildings at the data centers. Many databases have been established in India under the NISSAT program.

**Note**

### 3.3 Referral Centers Meaning and Definition

The Harrod's Librarian's Glossary .... defines Referral Centre as follows :

1. "An organization for directing researchers for information and data to appropriate sources, such as, libraries, information evaluation centres, documents and documentation centres and individuals. A Referral Centre' does not supply data or documents.
2. A Referral Centre is some sort of an "Information Desk" for the scientific and technical community which does not provide enquirers directly with the information they need, but suggest sources (organisation, facility individual) likely to satisfy the users/clients.
3. Referral Centre is an organisation for the indication. of sources (of persons, institutions and publications) from which scientific information may be obtained on a given subject."

It provides a mechanism for switching to such sources.

#### 3.3.1 Need and Purpose of a Referral Centre

A single institution or organisation like a library, cannot cater to the users increasing and varied needs of information. It cannot also perform every function. Even the large computer systems and/or networks, are unable to cope-up with growing mass of information and simultaneously meet the user demands. This calls for division of labour in information handling. A switching and control mechanism is introduced to ease this complexity of information handling-activity. A new type of information system known as Referral Centre came into existence to satisfy this need.

The basic purpose of a Referral Centre is to ease the stress on a single Information System which is being loaded Withall services. Libraries are integral and fundamental components of the information network system. They are unable to handle dynamic needs of users, which sometimes fall outside the contents of documents alone.

Some of the factors of change in this context are :

1. Bulk factor;
2. Time factor;
3. Current information factor;
4. Evaluation factor; and
5. Personal factor.

These factors have yet another dimension to create-and establish Referral Centres. The help, and guidance often sought from experts, specialists and individuals, is another influencing factor necessitating the establishment of Referral Centres.

## UNIT-3

### Different Type of Information Sources



**Note**

#### 3.3.2 Functions of a Referral Centre

1. To collect on a world-wide basis information about information/data sources within the subject or mission.
2. To prepare a comprehensive inventory of the types of information/data services available from these sources with a detailed subject index to facilitate its access.
3. To guide users to the appropriate sources where from the required data or information may be obtained.
4. To function as an intermediary between enquirer and the organisation and/or individuals who possess specialised knowledge on the subject of enquiry.

#### Basic Tasks of Referral Centre :

1. To take stock of all significant information sources in all subject fields; i.e. in Physical Sciences, Social Sciences and Engineering, etc;
2. To compile directories of information sources; new and revised (to fill-up the gaps); and
3. To analyse the operative relationship that exists in the scientific information complex.

#### Functional Differences between Library and Referral Centre

	Library	Referral Centre
1.	Provides not only sources of information but also documents as well as the needed information.	Provides source of information alone.
2.	Stocks primary, secondary and tertiary literature.	Stocks only access tools, such as directories guide and lists.
3.	Provides enquiry, reference bibliographical and other range of services.	Provides only enquiry service.

#### 3.3.3 Activities of Some Notable Referral Centres

- (a) **National Referral Centre, Library of Congress** : The National Referral Centre for Science and Technology of Library of Congress was started in 1963. The Referral Centre of Reference Department works closely with another division, viz. Science and Technology Division of the Library of Congress. This is designed and developed as a clearing house. It facilitates comprehensive coordinated access to the nation's resources of scientific and technical information. This centre is one of the most active wings, and maintains an comprehensive

## UNIT-3

### Different Type of Information Sources



**Note**

inventory of significant information resources. It has developed a very exhaustive Register of Information Sources of different kinds. Information source in the context of Referral Service is defined as :

"Any organisation, facility or individual willing to and able to give authoritative response to scientific and technical enquiries out of an existing store of know ledge or expertise."

This centre maintains a file of a large number of experts to provide information to the users which contains details of names, addresses and a brief description of the information source.

- (b) **International Referral Service of UNEP** : The United Nations Environmental Programme (UNEP) has established International Referral Service covering all sources of environmental information. In every country, a National Group through various local centres provides details about the information. Library of Congress has established one such centre, which is actively cooperating with the Special Committee on Environmental Information of the Special Libraries Association (SLA). It obtains detailed information of different organisations and their sources.
- (c) **Referral Centre of Israel** : The Science and Technology Referral Centre of Israel performs the following functions. This centre :
  - (i) provides information relating to information services available to or from other information centres of Israel;
  - (ii) collects and disseminates information from sources both in Israel and abroad which are not available through commercial channels or whose acquisition requires, national, international or governmental participation; and
  - (iii) brings out directories, and other reference materials which are of national and interdisciplinary interest.
- (d) **Information Referral Service System (INRES)** : The WIDE Initiative (Web of Information for Development) was launched by the United Nations Development Programmes' (UNDP) Special Unit for Technical Cooperation among Developing Countries (SUrrCDC). In the year 1974, SU/CDC was established within UNDP by the United Nations General Assembly. The WIDE Initiative was launched to support and to further, technical cooperation among developing countries (TCDC). It introduced Internet-based services and efforts to give more visibility to developing country expertise, foster communications and promote more effective technical

## UNIT-3

### Different Type of Information Sources



**Note**

cooperation among developing countries. In the year 1977, a Public Access Database, known as WIDE Online, service was started. This service is concerned with collecting and accessing biographical information of experts (expertise, locations, contacts, publications, etc.) and information on institutions, products, services and best practices. It includes TCDC/WIDE Innovative Experiences, which is a database of experiences and projects demonstrating innovative development activities or cooperation carried out by institutions and professionals in developing countries.

WIDE Online is also providing paper-based Information Referral Service System. This system has built up a database of new sources of information of 3400 institutes in various developing countries. TCDC has also been undertaking WIDE In terL ink to enhance the visibility of developing countries expertise and knowledge. It is a programme of strategic partnerships with TCDC stakeholder organisations. It has been designed to promote stakeholder participation in the WIDE Initiative by using WIDE Online, or its offline version, to raise the profile of developing countries expertise and knowledge; and to provide assistance to stakeholders in strengthening their capacity for sharing expertise and promoting technical cooperation among developing countries.

*WIDEFORUM-L* is a forum for policy dialogue and knowledge networking for strengthening the WIDE Initiative TCIDC.

*GOODWIDE-L* collects and critiques innovative experiences in technical cooperation among developing countries.

Presently the WIDE Initiative is working with partnerships across three continents, and it has planned to expand its partnerships and services to other continents.

Referral Centers are those centers which do not provide their desired information to the scientists and researchers. But provide information about the place of receipt of the source, library and information centers related to that information. Such centers are not provided by the general library. Such centers are called switching centres. Today many organizations are doing information retrieval and collection work. To make the organization system of all these institutions more agile, agency is necessary. In this situation a new type of organization is emerging which is called Referral Centre. Such centers guide the information users and advise them to contact the concerned institution, organization or person. Referral Centers do the following to provide necessary instructions Acuvate Window :

## UNIT-3

### Different Type of Information Sources



**Note**

- (i) To prepare a list of important information resources of various subjects,
- (ii) Publishing directories by collecting information of various scientific and technical literature.

Universities, professional societies, research institutes, libraries, government agencies and other professional information sources, such as information centres, in addition to personal characteristics, for information resources for referral centers.

Services to the users at the Referral Center by letter, telephone, fax, SMS. M/s. (SMS) is provided. Apart from this, users also come personally to get counseling. From these services, instructions are provided to the users immediately or shortly that their desired information/documents may be the name, address, telephone number, fax, mobile etc. of the concerned institution.

### 3.4 Clearing House

This is the central agency for selection, acquisition, classification and distribution of information involving specialized information centers.

Clearing home is a new concept in the present era. It is expressed as a depository of documents. An archive is a type of archive where documents are stored for specific purposes. In addition to the collection of documents, such centers also perform the function of dissemination of information. Thus it can be said that the purpose of the clearing house as a central agency is also to do the work of document distribution. Documents related to different areas and subjects are collected in such centers. From this, the records of research and development (R and D) of different areas are collected of this type :

- (i) Defense Documentation Center in the USA is the alimony of the US Department of Defense.
- (ii) Smithsonian Institute of Science Information Exchange Services is a clearing planet for progress in research.
- (iii) The National Referral Center of the Library of Congress provides consultancy services to experts in the field of enquiry.
- (iv) The British Library Lending Division (BLLD) acts as a referral center in the United Kingdom (UK).

Most of the clearinghouses store material for specific and scientific use. They have a well organized network of specialized information. These centers provide specialized services in certain specific and selected areas. In the modern era, their importance is increasing in developed countries.

## UNIT-3

### Different Type of Information Sources



Note

### 3.5 Database

Various types of services are provided to the users through libraries and information centers. All these services and products are provided through the database. Generally a database is a stored form of records of a subject. Which is constantly updated at the national and regional level.

The database is in computer readable form. Collection of information or data in a computer printed in graphical, numerical and graphic formats. occurs in electronic form. Information can be obtained as per their requirement. which is called a database. The collection of documents at libraries and information science centers which are referred for bibliographic details is called a database. In the context of computer science, a database management system (DBMS) is considered to be a logical record of the database. In this, the number of records is fixed. Presently databases are being developed by many agencies. Primary and secondary advisory publications are being published by these agencies. Such agencies are government, non-government and semi-government departments. Their job is to collect information from various sources and build a database of this information.

Thus, the main features of the database are as follows :

1. It is stored in computer readable format.
2. Through this information about various services and products is obtained.
3. It can be produced in printed and electronic formats.

#### Types of Database

Database can be mainly divided into two parts :

1. Reference database,
2. Source database.

**1. Reference Database :** In this type of database, only reference is provided without providing complete information. Therefore, in this, users are only instructed as to where and from which source their related information can be obtained. Such sources can be documents, organizations and individuals. Reference databases can be divided into two parts :

- (i) Biblical database,
- (ii) Instructional Database.

**(i) Bibliographic Database :** By this type of database, information about the bibliographic details of a document, such as author, publisher, page number, editor, co-editor, compiler etc. is provided. Thus, it can contain books, journals, reports, dissertations, small dissertations, parents, conference proceedings, government publications, etc. Abstracting and

## UNIT-3

### Different Type of Information Sources



**Note**

Citations are also included in some databases. In the present times, this type of database is used for providing book selection, bibliography compilation, Current Alert Service (CAS), Selected Dissemination Service (SDI), etc.

(ii) **Referral Database :** This type of database provides reference about unpublished sources. Sometimes descriptive information is also provided by this type of database. The sources of this type of database can be organizations, audiovisual materials, research projects, individual sources, etc. Through these sources, accurate information about the source is made available to the users. Therefore, the main function of this type of database is to bring in contact with such sources which provide the most precise information to the user. The main examples of this type of database are :

(a) Research in Progress,

(b) Chemical Abstract Service Source Index (CASSI).

2. **Source Database :** Information source and system created for publishing the entire text of the original document or distributing the material electronically within the source database. Is performed. Such databases can be of different types of organizations and government organizations. The main objective of these organizations is to collect, develop and disseminate information. Major Types of Source Databases are the following :

(i) Numerical Database,

(ii) Full Text Database,

(iii) Textbook Numerical Database,

(iv) Image Database,

(v) Software Database,

(vi) Full Text Image Database,

(vii) Other Types.

(i) **Numerical Database :** Numerical Database are those databases which present data in numerical form. These data are collected from research, testing, statistical data surveys, etc. This type of database is used in many tasks like research and development work, decision making, presentation of numerical details.

(ii) **Full Text Database :** In this type of database, the basic texts of all the aspects of information are recorded. Under this, magazine articles, newspapers etc. are included. This type of

## UNIT-3

### Different Type of Information Sources



**Note**

database is used by most of the users. The main reason for this is that researchers and scientists have less time. So they want to avoid the difficulty of getting the original document. Through this type of database, he can get the information in the shortest possible time. Major examples of full text databases are as follows :

- (a) Chemical Journal On-line,
- (b) Business Computer,
- (c) Census Information Service.

**(iii) Textual Numerical Database :** Textual Numerical Database is a mixed form of Full Text Database and Numerical Information Sources and Systems.

Under this type of database, the data is in numerical form and descriptive information in text form. Hence, it is also called a factual database. Explanation about numerical data is provided through this database.

- (iv) Image Database :** This type of database stores graphic material. It includes photographs, charts, figures, maps, etc. This type of database is mainly used in medical and engineering fields.
- (v) Software Database :** These types of databases are created by computer programs. They are used locally.
- (vi) Full Text Image Database :** Actually this database is a full text database only. This includes full text images, art, shapes, photographs, etc.
- (vii) Other Types :** In the modern era, compact disc (CD) is used for storing the database. With this technology, a large amount of data can be stored in a minimum space. In this type of database, information is searched by computer.

#### 3.5.1 Use of Database in India

The era of information revolution has started with the use of computers in libraries and information centers. This is the result of information technology itself. NISCAIR of Bharatvarsh (NISCAIR) [formerly INSDOC] and D.R. Collection by T.C. (DRTC) The computer was used for collection and retrieval of information. Computers are used for publishing and compiling the Union List of scientific research papers and periodicals available in Indian libraries. To accomplish this task, Computer Readable Database was developed by NISCAIR as a project. Taking a step in this direction, BARC (BARC-Bhabha Atomic Research Center) is also in nuclear physics. information sources and systems.

## UNIT-3

### Different Type of Information Sources



**Note**

Computer readable database was created. ICA in India R. (Indian Council of Agricultural Research-ICAR) and BARC (BARC) provide Indian databases to AGRIS (AGRIS) and INIS (INIS). On this basis Agris and Gyanis also provide their database to India. This data is made available by these organizations through magnetic tapes. This database is also made available as per the demand of the user. The Directory of Science and Technical Information System in India maintains 90 databases. These databases are maintained by 58 organizations.

Following are some of the databases prepared by NISCAIR, which are accessed through the Approach network :

1. Polymer Science Database,
2. Material Science Bibliographic Database.

Apart from this, many databases are also made available by NISSAT. Different types of databases are also provided by many organizations, such as INDONET, NICNET, DELNET, INFLIBNET, CALIBNET, BONET etc.

Several details are presented in each database. Such as database name, region, subject, name and address of the creating organization, language of the database, communication language, updating speed, annual growth in number of records, code of classification method, search method, type of indexed documents etc. information is provided.

While creating a database, it is essential to keep several important facts in mind. Chief among them are the following :

1. Training should be given to provide database services.
2. The database should be established on national and international networks.
3. Proper standards should be followed while creating the database.
4. Software and thesaurus should be used while creating the database.

#### **3.5.2 International Standards for Database Design and Development**

In the modern era, databases are being prepared by many organizations and some are being taken and made available to the users. The search service is made available to the users through these databases. These databases are also exchanged. This exchange is done globally in machine readable format. Standards are given importance in all these organizations. When there is a standard in different databases, it can be easily exchanged from one institution to another. Thus the records of information services are displayed in different physical formats. Such as books, magazines etc. All these records

## UNIT-3

### Different Type of Information Sources

Note



are included in the database. Therefore, there is a need for standardization to organize all these records in one format. A number of parameters are used for the structure and size of the records for database design.

### 3.6 Mass Media

Mass media is defined “as the institutions of public communication that have as their physical channel of transmission a mass medium – television, radio, motion pictures, newspapers, books, music and recordings. It is these institutions and organisations that use print and electronic devices to produce contents for use of audiences. When mass medium becomes the channels in mass communication, they bring three characteristics to the process namely :

1. A complex technology becomes involved;
2. The velocity of the process increases in order to reach a huge audience; and
3. The amplitude increases because the potential to be read, heard or viewed, is powerful.”

Mass communication is the process whereby mass-produced messages are transmitted to large, anonymous and heterogeneous audiences. The word ‘mass’ refers to people in a large number. The large number, usually, indicates or implies mostly to the lower strata of society who are unlettered or ignorant in many ways. But in today’s context, ‘mass’ includes every section of the society, irrespective of their status or knowledge perceptions. Apart from laypersons, they include a wide audience of scholars, professionals, scientists, artists, musicians, in fact, every group, young and old. Mass media serve the interests of individuals and groups. It is so because today mass media offer services informing people about current events, and every significant natural phenomenon and such other information of common public interest.

Mass media generate a vast amount of information and knowledge. Apart from the volume generated, the variety, every subject of human interest, programmes mirroring life of societies, reporting every natural phenomena, etc. make the generated information a virtual treasure. In fact, mass communication appears to be giving a running commentary of human events and activities that are continuously recorded to make them invaluable sources for studying the contemporary life of a society and are worthy of preservation for historical studies.

#### 3.6.1 Characteristics, Scope and Functions

Mass media offer a current awareness service, e.g. instantaneous service, like reporting of current events and activities by radio and television. Radio

## UNIT-3

### Different Type of Information Sources



**Note**

and television are faster means of communication than the print media such as newspapers. They are inextricably so interwoven with modern society that one cannot survive without the other. They are purveyors of information; providers of pleasure and enjoyment; changers of perception and behaviour.

The newspaper industry is in the private sector and enjoys considerable freedom. It is regarded as the Fourth Estate that shapes, influences, and indirectly govern public affairs in a democratic set-up, although it has no constitutional authority to control the affairs of a state.

There are instances in recent years where mass media, including the press, have played a vital role in delivering justice. There have been a number of examples wherein the mass media have been instrumental in creating public opinion about several criminal cases, which has led to speedy justice. Thus, media play an important role in publicising cases which require public attention. All media are expensive and need huge organisations to collect, process, formulate and disseminate information, views, entertainment to enormous, scattered, heterogeneous audiences simultaneously.

They encompass almost all conceivable subjects to include everything of interest to the audiences such as news of current events and activities, art and music, language and literature, science and technology, business and industry, travels and tourism, transport and communication, computers and telecommunication and so forth.

Information contained in mass media has very important archival value, as they are invaluable primary sources for recording contemporary history. Their functions are to inform, educate, instruct, motivate, persuade, influence, mould or shape, entertain and sell information to large audiences. They generally absorb intellectuals and researchers and persons of academic perceptions and scholarship, besides expert technologists, technicians and managers and professionals.

### 3.7 COMPONENTS OF MASS MEDIA

In this section we shall study the components of mass media in detail. Mass media, both print and electronic, comprise predominantly the following :

1. Print Media
2. Radio Broadcasting
3. Television
4. Recordings on such as CD, DVD, etc.
5. Motion Films

## UNIT-3

### Different Type of Information Sources



**Note**

#### 3.7.1 Print Media

Print media of mass communication comprises of newspapers, popular magazines and periodicals, trade journals, posters, leaflets, books, in particular paperbacks and other printed materials. Of these, newspapers, magazines and periodicals are most extensively used.

Two notable developments in the Indian context witnessed in newspaper industry are commercialisation and the introduction of information and communication technologies. Beginning from the fifties there has been a rapid growth of newspaper industry to withstand the challenges and fierce competition from the newer electronic media, particularly, radio and television. They have adopted the latest information and communication technology in their production process, to speed up their production and circulation and improve their physical get up. This is required to face the competition of the electronic media. On account of commercialisation, the competition among the newspapers themselves has been stiff which has not only aided their sales but also improved the quality of production.

Daily newspapers are the most predominant ones among the print media; they have large circulation and wide audiences. In India, newspapers are published in most of the regional languages and they also have very large circulation. Some of the top newspaper agencies publish their dailies from different cities in multiple editions to focus attention on regional news, events and activities. Sunday editions carry weekly magazines, special advertisements, and other supplements.

#### Scope, Coverage and Functions

Large newspapers have their own mechanisms to get news through their own reporters from different parts of the country and also from foreign countries, in addition to their contracts with news agencies, (national and international), for the supply of news and information. Almost all newspapers have their websites to get instantaneous news round the clock. They are also accessible through the Internet.

Everyday the dailies publish one or more supplements on specific topics such as education and training, economics, industry, business and trade, science and technology, sports and games, art, entertainment, and music. There are also newspapers exclusively specialising in economics, sports and games, films, TV programmes, music, business and trade, employment, government memoranda and orders and the like.

The print media, newspapers in particular, have the greatest advantage that they can be used with ease and convenience. Newspaper can be easily carried and can be read anywhere, at anytime.

## UNIT-3

### Different Type of Information Sources



**Note**

Generally, the daily newspapers carry news, commentaries and analysis on political, economic, social topics on current events, personalities, feature articles of subjects of current topical interests, general information on weather, business information, share market data and analysis, local programmes and events, sports and games, films and such other topics of public interest. Editorial on current specific topics are a daily feature, except on Sundays, which have a very special value as they express views and comments in consonance with the general policy of the newspaper.

Weekly editions of newspapers carry feature articles on various topics of public interest contributed by well known journalists and column writers. Reviews of films, books, arts, paintings, music, etc. are also published. There are review articles which are contributed by specialists in the field and hence are very authentic.

For those who prefer light reading material, there is a great variety of jokes and humor, fun, cross-word puzzles, quizzes, comics and satire, including something that interests the children. We have already mentioned that newspapers as a mass media, function to inform, educate, instruct, motivate, influence, persuade, entertain, etc.

As sources of information, newspapers have the highest archival value as they form the primary sources for recording contemporary history. Modern libraries and information centres preserve them in microforms and /or in digital form.

They are virtually current awareness services, reporting current events and activities all round the world, carry news on every significant natural phenomenon and focus on a wide audience.

Among the mass media, newspapers have the highest credibility, among the other mass media, in terms of authenticity, collecting news and information from dependable sources, comments and analysis current events contributed by persons of reputation and eminence in public affairs.

#### 3.7.2 Newspaper

The newspapers institutions are well structured and well managed through a complex organisation and functioning. Usually the operations are divided into four major blocks, viz. news and editorials, administration, business, and production.

Although the most important of the four blocks is the editorial wing in our context, the other blocks are equally important. The business manager is in charge of promoting, selling, and proper distribution of newspapers. Advertisements are the vital lung of all mass media, without which mass media cannot function. A large share of the pages of newspaper carries

## UNIT-4

### Information Product



Note

various types of advertisements. The business manager is in charge of advertisements. The administration takes care of the maintenance function as well as finance and personnel management. The production block takes care of printing the newspaper and to maintain its physical quality.

As noted earlier, newspapers institutions have a well-qualified staff. They comprise of journalists with good academic and professional background and high proficiency in writing reports with speed and fine drafting quality. There are language and content editors, external column writers who write regularly, high level production staff and managers. These persons have special skills and constitute very good human information sources. Most of the large newspaper organisations have a library and an archival unit. Some of newspapers have a well organised indexing and retrieval systems of their own newspapers for internal use.

#### 3.7.3 Magazines and Periodicals

Another class of print media of mass communication is magazines and popular periodicals, which also reflect the functions and activities of societies all over the world. Magazines and periodicals are popular publications issued periodically, usually in paper cover, typically containing stories, essays, poems, etc. by many writers, they may be general, political, economic, social and other subjects of public interest or in specifically in a subject like business and trade, sports and games, music, cinema, religion and philosophy, etc. They can be specially oriented towards subjects of interests of women, children and men. Most often they are of light reading nature but periodicals like *Economist* carry writings of serious nature, which are even cited in learned periodicals. Typical examples in English are *Readers Digest*, *Life*, *Time Magazine*, *Fortune*, (US Publications) *Economist*, (England) *India Today*, *Outlook*, (Indian), etc. which are very popular and have wide circulations.

Magazines and periodicals comprise mostly of weeklies, monthlies but also include bi-monthlies, quarterlies. Special annual editions are not uncommon. These types of publications are in every Indian language and have regional orientation and widely read. They bring out festival editions, which may be their annual features. Many of the house journals and newsletters of institutions are also of this nature. These types of publications have increased phenomenally in recent decades and also have wide circulations and various types of audiences, as newspapers. They are also valuable source materials, for contemporary historical writings.

Modern printing technology is used in the production. They are physically quite attractive, printed colour photographs and pictures on glossy paper

with beautiful outer covers. They are distributed through their agents in different parts of the country and usually displayed in news-stands where single issues can be bought. They also carry advertisements which support their publication costs.

Many of these magazines and periodicals are indexed in secondary publications and are available in the electronic form also. Most of them have their websites and can be accessed through the Internet. They have archival value as newspapers are preserved in libraries and information centres in microforms and/or digitised forms.

### **3.7.4 Radio Broadcasting**

Electronic media, comprising of radio, television, satellite TV, cable TV, motion films, recordings, etc. is distinctly different from print media, as it provides news and information instantaneously. It is essentially entertainment media but has many other features, which are both instructive and informative. It carries information across distances and to the masses that are geographically, culturally, intellectually and emotionally separated from one another. It is the fastest media much quicker than print media. Its impact on audiences is decisively much greater than print media. In this section, we shall discuss the characteristics, scope, coverage and impact of radio broadcasting. It is also a valuable source of information of mass media as much as print media.

#### **Characteristics, Scope and Functions of Radio Broadcasting**

The radio is an aural medium; there are no visuals. It is a sightless medium. Its impact, therefore, is less than visual media, very much less than audio-visual media. Its success has to be achieved only through voice of the announcers, newsreaders, and performers in a play, music and sound effects. Notwithstanding these limitations, radio has been a success before the advent of television.

As sound and voice of participants in the various programmes of radio broadcasting are the physical aural media, persons with voices suitable for broadcasting are very carefully selected through audition tests. Radio listeners must be aware that, in the past, some of the best newsreaders, announcers, anchor persons of programmes, and such other participants who have excellent voice, articulation abilities and such other skills have left a lasting impressions.

The appeal and impact is achieved through voices suitable for microphones, delivery with voice modulations, accents and emphasis on words and phrases, tonal variations, sensible pauses. These are some of the essential skills required for good broadcasting. With good, artistic and musical sound effects, some of the radio programmes have been hits.

**Note**



## UNIT-3

### Different Type of Information Sources



**Note**

The language of the scripts is another important characteristic of radio programmes. The contents have to be user friendly, written by persons who have a good command over the language and written in an appealing style as required in different contexts.

A radio set or a transistor is far cheaper than a TV. The portable quality of transistors makes it possible to listen to radio programmes anywhere, at home, at work places, in office premises, at a picnic spot, at bedside, etc.

Radio is a medium of immediacy. It can report events almost instantaneously, as they happen. The reporting staff of radio station can reach the place of events immediately and start disseminating news of the event. It takes more time for TV crew to reach the spots of the events and set everything to take shots and operate. Radio is, therefore, much quicker in reporting such events.

#### **3.7.5 Scope, Coverage and Functions**

The portable radio set has become a constant companion to farmers who listen to farm bulletins; workers for recreation; travelers for various information and such others. Because of low costs of radio transistors, broadcasting reaches quite far and wide, particularly to the poorer sections of people, living in remote places. Programmes of right mix of news, music, talks on specific issues public interests, running commentaries on sports and games events, etc. interspersed with well addressed commercials are quite successful in attracting listeners.

Radio stations broadcast news round the clock, give periodical summaries of news, reviews and analysis and critical comments on current events and activities, entertainment programmes of various public interests like music, serials, plays, several programmes of interest to special groups such as women, children, farmers, industrialists, and many others. Thus, broadcasting has entertained listeners for several decades from the beginning of twentieth century.

Like newspapers, radio as a mass media, functions to inform, educate, instruct, motivate, influence, persuade, entertain, etc. to the extent it can compete with other media, possibly with greater effect on the audience than print media.

Like advertisements sustain the newspaper industry; radio broadcasting also thrives on numerous aural advertisements which are quite attractive because of the sonorous voice of the speakers.

#### **3.7.6 Structure and Management of Radio Broadcasting**

There are three major components in the structure and organisation of radio viz., the local station, the networks and the programme execution, operations and presentation. There are a variety of radio networks and

## UNIT-3

### Different Type of Information Sources



**Note**

agencies providing an array of programme services, including music, sports, features, and commentaries. Like the newspaper, the structure of radio broadcasting organisation is complex, requiring a variety of expertise of several specialists and professionals, specialists in radio journalism.

Radio broadcasting services are offered mostly by private sectors. Until recently, in India, Akashvani was the only government sector involved in this business, but now private sectors are also offering broadcasting services, introducing the element of competition to market their services.

The personnel in radio broadcasting include producers, directors, programme specialists of different categories besides artists, musicians, scriptwriters, engineers and technologists, newsreaders and commentators. Invariably, it is teamwork and astute team management in terms of producing, best programmes. Many external experts and professionals contribute in programme planning, execution and production.

The use of satellites for programme distribution, multimedia access through the Internet and websites, the rise of broadcast technology particularly digital audio broadcasting and its widespread use not only have added to programme options but have also improved radio stations ability to give quality, besides controlling costs and stay in media business despite fierce competition from TV.

Archives of radio stations have stocked a very large number of recorded cassettes and CDs, of speeches of eminent persons, programme events, music, etc. providing invaluable source materials for contemporary and historical studies and organising a variety of useful programmes of past activities.

### 3.8 Video Media

#### 3.8.1 Television

Of the electronic media of mass communication, the most powerful and influential media having impact on society is the Television (TV). Borrowing certain features from the earlier media of communication like the theatrical stage, the film and the radio, it has amalgamated them into a new media with its own identify. For example, from stage it has borrowed movement, from the film the camera and from the radio the microphone, integrating all these into a unique medium, quite different from the other media, thoroughly telegenic i.e. most suitably attractive to be displayed on the screen. In nature, in idiom of expression and receptivity, arithmetic communication, it is distinctly different from the other media. This section deals with some of these matchless characteristic features of TV, its scope, coverage and functions:

## UNIT-3

### Different Type of Information Sources



**Note**

#### 3.8.2 Characteristic Features of TV

Television occupies a dominant position in our lives with its multi-dimensional attractive features. Despite its dominant position in our lives, it is still young, fast growing and developing with the rapidly advancing information and communication technology. TV's sweeping dimensions can be gauged by the lively pictures it brings with camera, man walking on the moon, visuals of planets, telecasts of living creatures under sea or ocean, magnificent stars in the sky. We are able to see live telecast of Gulf War, natural disasters like earthquake or tsunami, terrorists' attacks all over the world, world cup soccer or cricket played in any part of globe and other events and activities almost instantaneously. People who could never know or even imagine the affluence of western life, are able to witness through TV the amazingly rich life of people there. Eminent persons of the world, their public performances and speeches are heard daily by the ordinary folks of villages. Thus, TV impacts its audiences so strongly that it has led to many societal changes both desirable and undesirable.

Many of the TV programmes are highly informative, instructive, expands our perceptions and knowledge, and indeed very educative. These positive features could be used effectively to change the entire mode of learning, making people more knowledgeable and contribute to better living conditions. TV entertainment features are numerous and people are glued to TV to view soap operas, serials with various social, and cultural themes, music, classical and light, various types of dances, quiz programmes for young persons and many others. Interestingly, TV programmes are so attractive that have made people even neglect their important responsibilities and commitments to give exclusive time to watch TV. All age groups watch these programmes, without the distinction of gender, although every group has its own choices.

To keep well informed of current events and activities, there are round the clock news bulletins, news analysis, interviews, panel discussions on political, economic and social issues, live telecasts of various tournaments of games and sports. Thus, these kinds of programmes are endless, covering practically every subject of human interest. Like the newspapers and radio broadcasting, TV functions to inform, educate, instruct, motivate, influence, persuade, entertain, etc. with much greater force of impact on society than either newspapers or radio.

#### 3.8.3 TV Channels

There are hundreds of TV channels, telecasting twenty four hours, seven days a week (24X7). In English language alone, there are scores of channels operating in India, with sub channels exclusively devoted to news, movies,

## UNIT-3

### Different Type of Information Sources



**Note**

serials, sports and games, etc. The programmes of these channels are listed in the daily newspapers for viewers to make their selective choices and prepare their schedule for watching them. Besides these English channels, there are language channels almost in every Indian language, more than one, in fact, making it bewildering for the viewers to choose from to make their watching schedules. These language channels also have their sub channels devoted exclusively to news, serials, motion films, etc. Apart from these types of channel distribution, there are English channels specialising in world news, wildlife, cartoons, fashions, life style, movies, sports and games, real estate, etc. Some of the popular channels of this class are NDTV, BBC, National Geographic, CNN, ESPN, Zee TV, Sony TV, and such others.

Commercialisation of TV is in its zenith with advertisements forming a major share of the time of programmes, in fact, in every TV show, including news, nearly fifty per cent of its time is given to advertisements. Some of the live telecasts such as Soccer Leagues, World Cup Tournaments, Cricket Twenty 20, One Day Internationals are money spinners for some of the TV channels. As a result of commercialisation of TV, there is a fierce competition among channels. Until recently Doordarshan had the monopoly of TV in India but now a number of private channels, English and language ones, besides the international channels, have come up, posing a severe challenge to Doordarshan to compete in the market.

#### 3.8.4 Cable TV

Cable TV is another dimension of TV media with advances in ICT. Satellite and fiber optics communication have opened up to viewers to a number of internal and external TV channels. Cable TV is operated by linking the viewers' TV sets through cables to a common antenna. It is operated through a dish antenna and from a control room. The dish antenna, placed in a particular angle, can catch signals from broadcasting services like Doordarshan or foreign services like Star TV, CNN, BBC, MTV, Prime Sports, etc. These broadcasts can be relayed through cable to individual customers of a cable operator. Cable operators also provide what is generally called 'domestic TV'. In this service, they show films and other programmes according to the demands of their customers. The customers are charged for laying the cable and also a monthly fee. The fee or rent would depend on the cost of providing the service, quality of the service, number of channels made available to customers and such others.

Cable TV has become so popular among viewers that along with video cassettes, it is increasingly being used by political parties, especially during elections. Industrialists, business persons and professionals like medical

## UNIT-3

### Different Type of Information Sources



**Note**

doctors, architects, consultants and such others also have started using these media.

#### 3.8.5 Non-Broadcast TV Channels

In the international context, there are also non-broadcast television channels. Educational institutions were among the first users of non-broadcast television, using video to communicate both internally and externally. Business and industry are major users of non-broadcast video. Some of the other institutions in nonbroadcasting TV are government agencies, social service agencies, professional organisations, production houses, medical and health organisations, religious groups. The Red Cross has studios in Washington D.C. (USA) where it produces a variety of tapes on such topics as blood donation and disaster relief. Hospitals, clinics, medical schools, and individual physicians use these video programmes in numerous ways. Plastic-surgery technology is documented by a hospital in Springfield, Illinois (USA) for distribution to other hospitals and surgeons. Despite increasing competition and criticism, television today is a huge, complex, expensive, continuous and competitive medium. It is society's mass entertainer, mass informer, mass persuader, and mass educator. It is a universal medium.

#### 3.8.6 TV Archives

The information and knowledge generated by TV is a veritable source of information for all kinds of contemporary writings such as political and economic analysis, consolidation of many current events and activities, trend reports in many fields, etc. Archives of TV channels, TV networks like Doordarshan and others are mine of information source for contemporary and historical studies.

The kind of expertise, special knowledge and skills required to produce captivating, informative, instructive and knowledgeable TV programmes can be easily imagined. Designers, developers, scriptwriters, technicians and technologists, artists, musicians, photographic artists, camerapersons and numerous other specialists involved in TV are invaluable resource persons.

#### 3.8.7 Recordings on such as CD, DVD, etc.

Recordings here refer to audio, video and audio-visual reproductions on magnetic tapes or discs as well as on laser tapes. They are all part of the home entertainment environment which gives consumers direct control over what, where, when they view or listen to them.

Among the many record media of mass communication, are the video cassettes, CD-ROMs and DVDs (Digital Versatile/Video Discs) that are most influential. They are highly user friendly and closely linked with individual and group use. Most of these audio-visual media are designed

## UNIT-3

### Different Type of Information Sources



**Note**

with great care and the audio support enhances their value to a very great extent.

The production of multimedia CD-ROMs and DVDs is a complex and intricate affair. Many types of specialists are necessary to produce a good video programme either for entertainment, news commentaries or analysis, learning kits, course materials for distance education and many others. Screen scriptwriters, design and development experts, production and marketing experts and a host of others are normally involved in the production of audio-visual items.

The technologies applied are varied and complex. The complexity increases particularly with the multimedia used for producing audio-visuals. The marketing of these types of media is again a work of specialists. They are commercial ventures of high investment in terms of finance, manpower of quality and production.

CD-ROMs and DVDs are extremely valuable for archival purposes as sources of information. They occupy very little space. Reference materials like encyclopaedias and other types of reference works are preserved in these media and stocked in libraries. There are also private or commercial video libraries that supply CDs and DVDs on hire, especially films.

It is said that the media is changing fast and will be more powerful in the future than it has been in the past, mainly because it puts control and time in the hands of the consumer.

#### **3.8.8 Motion Films**

Motion films are an important medium of popular entertainment because of their wide mass appeal and influence on society. Combined with TV, films constitute the most powerful media that impacts every section of the audience in all possible ways. In India, with all its cultural and linguistic diversities and the problems of illiteracy, films are the most powerful of all media, cutting across the linguistic and cultural diversities with a universal emotional language. Commercial cinema is all charming and romantic and fanciful. The usual ingredients are songs, group dances, crime, fights, melodrama and comedy, all bordering on imagination and unreality. The idea of film makers, in general, is to prepare a show of popular entertainment to ensure financial success and box office hit.

#### **3.8.9 Characteristic Features of Motion Films**

Although every mass media is a team effort, a film is the most collaborative medium of much bigger magnitude than any other media. The huge financial investment, the number of persons involved, time required for shooting a film, complexity in production and distribution make it totally different from other media.

## UNIT-3

### Different Type of Information Sources



**Note**

Hundred of persons collaborate to make a film in its production process. The group includes producer, director, story writer, dialogue writer, actors both male and female, specialist persons in various aspects such as art, music, dance, fights, illumination, sound, costumes, make-up, scene set up, cameras, etc. in making a film.

Thus a motion film is a product of interaction between technical and artistic persons. It uses many devices like cameras with several lenses, microphones, dubbing machines, editing or cutting machines, projectors, mixers, sound tracks, trolleys to mount cameras, celluloid, laboratory equipment, etc. The combined work of artists and technicians result in a sophisticated film of quality.

The director of a film is central to the success of a film. The director's artistic, aesthetic and technical skills will determine the quality of the film both in terms of its production and actors' performances. Some of the celebrated among film directors, to mention just a few are Hitchcock, Cecil D'Mello, in the international context and Satyajit Ray, Bimal Roy, Balachander, Mani Ratnam in the Indian context.

Apart from the entertainment value of films, it has also become an art medium today, just as painting, sculpture, architecture, drama, poetry and music. It has become, in fact, a discipline in its own right, in which scholars and intellectuals participate in its growth and development. Film training institutes have developed, treating film production as an academic and professional discipline.

Today films are considered an effective medium for development. Films can contribute modernising a traditional society into a modern society by helping to change the attitudes of people relating to work, gender, religion, customs, harmonious relationship among communities, beliefs, etc. Films can promote national integration by producing well thought out and relevant themes, proper direction and performance of artists.

#### **3.8.10 Scope, Coverage and Functions of Functions of Motion Films**

The scope of film production includes almost all subjects of human interest. Films have a universal acclaim and are a versatile means of communication. They include not only feature films for entertainment but also documentaries and newsreels. Feature films range from the sublime to the ridiculous to represent films of artistic and aesthetic tastes appealing to sophisticated intellectuals but also not so artistic ones to cater to the tastes of ordinary folks for fun and entertainment. In the Indian context, the coverage of films comprise mythological, religious, war, social, historical, patriotic, romantic, political, humorous themes, catering to the tastes of different kinds of

## UNIT-3

### Different Type of Information Sources



**Note**

audiences. With photographic tricks, camera lenses, shots from various angles, sound and light effects, music and dialogues, fight sequences, films create enchanting and exhilarating experiences and appeal emotionally to the audiences. Social and political films reflect contemporary events and activities of real life. Like the newspapers, radio broadcasting, TV, films also function to entertain, inform, educate, instruct, motivate, influence, persuade but with far more greater impact on the audiences than any other media.

Millions of cine goers simultaneously watch a film from different parts of the country, in cities, in towns and villages, as any number of copies of films can be made. A film can be transferred from celluloid to video cassette. The video cassette can be played at home through the video cassette recorder (VCR). The cable TV operators can transmit the film through a TV channel and a large number of their customers can view the film. So, a film can be viewed by a large number from different places at the same time. A film can also be seen again and again, any number of times. The inevitable result of watching films at home using VCR has reduced the number of people watching films in cinema halls which has naturally hit film's incomes.

#### 3.8.11 Documentary Films

Documentary films have been universally recognised as another category of art films. A number of documentary films have been produced in India by the Films Division of the Government of India on themes of cultural interests and technical and informative films on different subjects. Documentary films have been produced on development projects and achievements, on persons of eminence in political, social, and cultural fields. Reputed producers and directors have brought out documentaries and short films on current issues of public interest, even in areas of controversial nature. Many of these documentaries have been screened at international film festivals and have been received well.

#### 3.9 Film Industry

Although the film industry employs thousands of people, makes huge financial investments and yields lakhs of rupees to the government, it is still not recognised as an industry and not subject to the laws of industry. However there are a number of employees unions, guilds, associations which take care of their respective interests. The film industry is totally in the private sector with considerable freedom but subject to the censorship of the Central Board of Film Certification.

The Film Institute/Film and Television Institute of India houses the National Film Archives of India which stocks a number of Indian and foreign films.

## UNIT-3

### Different Type of Information Sources



**Note**

The training courses conducted by the institute have designed courses on the lines of the reputed French Film School in Paris. The students get a thorough grounding in the techniques of film production and also in the history and aesthetics of cinema. The National Film Archives is a great source of information and knowledge on all aspects of films which certainly is a great treasure for contemporary and historical studies on Indian social life and culture.

To sum up, national and international films, documentaries and short films are important components of mass media. They involve latest technology and an array of persons of various categories of technologists and technicians and intellectuals, actors and actresses, with supporting casts, camera persons, makeup artists, sound and illumination experts, lyricists, musicians and music directors, orchestra artists, editors, production experts, directors and a host of other categories of specialists. Excellent studios exist for indoor shooting. Outdoor shooting experts constitute another group of persons involved. The financial outlays in these types of media are almost astronomical and the market is highly competitive. Educational and training institutes and National Film Archives provide the necessary infrastructure for manpower development and supporting resources.

#### **3.10 Accessibility and Availability**

From the foregoing account, it is quite evident that mass media generate enormous amount of information and knowledge that are invaluable and versatile sources of information for contemporary and historical studies. Newspapers carry quite a lot of ephemeral information that may not be of much value. But nearly fifty per cent of information published in newspapers is worth preserving and useful for different studies. Similarly, magazines and periodicals also carry valuable information that is worth preserving.

Radio and television channels produce almost a running commentary on the life of the people in a variety of subjects. With the plethora of channels and vested interest of some of the channels, the information generated may lack credibility for preservation because of biased and distorted views. None the less, they broadcast a variety of programmes that reflect contemporary life of people and valuable to preserve at least in part. Live telecasts of current events and activities are of great value.

Films, as described earlier, are a mirror of contemporary life. They are produced in large numbers in India. The National Films Archives stock them for posterity. The films produced in the earlier decades of the twentieth century compared with current films will show the gulf of difference between the two in terms of the life of the people in every aspect then and now and advances in technology.

## UNIT-3

### Different Type of Information Sources



**Note**

Therefore accessibility to and availability of mass media information and knowledge is an important national responsibility. Although there is no bibliographical control at the national level on the mass of information generated, many libraries and archives stock these materials and service them to scholars, researchers and students. Newspapers are preserved in microforms or digital forms in national libraries, university libraries and research libraries. Considering their value as records of contemporary human life, many countries have legal regulations for depositing books and newspapers and also motion films. Indian Delivery of Books and Newspapers Act has the provision for depositing books, periodicals and newspapers in the National Library, Kolkata, and three other libraries namely, Central Library, Mumbai, Connemara Public Library, Chennai and Delhi Public Library.

Newspapers like New York Times, London Times and some of the Indian newspapers like The Hindu, The Times of India and others have their own indexes in their archives. Newspaper clipping service is provided by some libraries and information centres for their internal users on specific topics.

#### **Internet**

The main focus of interest today is on the Internet for access to and availability of information and knowledge on any subject. Mass media is no exception. The Internet, as we all know, is a network of networks. Specifically, it is worldwide, publicly accessible, interconnected computer networks that transmit data using the standard Internet Protocol (IP). It consists of millions of smaller domestic, academic, business, mass media and governmental networks which together carry various information and services, such as electronic mail, online chat, file transfer, and the interlinked web pages and other documents of the World Wide Web. It enables distance learning through its new pattern of flexibility, contributing to reshaping of the knowledge environment and issues of access within it.

Contrary to common usage, the Internet and the World Wide Web (WWW) are not synonymous. The Internet is the system of interconnected computer networks; the Web is the contents or the interconnected documents, linked by hyperlinks and Universal Reference Locators (URLs). The WWW is accessible through the Internet, along with many other services including e-mail, file sharing and other such facilities.

The Internet is so versatile that it is fast becoming the centre of mass media. Every mass media, the newspapers, magazines and periodicals, radio broadcasting, television channels, motion films, etc. are accessible through the Internet. The Internet provides access to all primary information as well as secondary and/or tertiary information in the print or electronic media.

## UNIT-3

### Different Type of Information Sources



**Note**

Almost every newspaper Indian or foreign, national and international magazines and periodicals have their own web pages.

The limitations are that access to the Internet is restricted only to those who have access to computers with broadband facilities for using it for their information and knowledge, apart from barriers of illiteracy in India. This barrier is referred to as Digital Divide which practically denies the opportunity to access information to a major section of the community because of economic constraints or illiteracy.

#### **Mobile Phones**

Developments in information and communication technologies (ICTs) while creating digital divide, offer the means of improving information delivery also to a large proportion of illiterate or semi-literate and marginalised communities. In fact, mobile phones are seen to bridge the digital divide in developed as well as developing countries. (Neelameghan,2009).

Mobile phones or cell phones are long-range, electronic devices used for voice or data communication over a network of specialised base stations known as cell sites. In addition to the standard voice function of a mobile phone, current mobile phones support many additional services and accessories such as Short Message Service (SMS) for text messaging, e-mail, access to the Internet and many more.

Similar to the Internet, mobile phone is also an interactive media has a wide reach. Practically all the Internet services and applications that exist or to have similar facilities on mobile phones. Many mobile media experts claim that mobile phones have several unique benefits that make it a more powerful media than either TV or the Internet. Mobile phones have the best audience accuracy and are the only mass media with a built-in payment channel available to every user. Mobile phones are called the seventh mass medium with print, recordings, cinema, radio, TV and computer being the first six. Sometimes it is called the fourth screen, counting cinema, TV and computer screen as the first three or the third screen counting only TV and computer screens.

Prof. Neelameghan in his article on Mobile Phones discusses the role of ICT in networking among people at local, national and global levels, supporting the formation of communities of common interests and practices, sharing and exchanging information through mutual collaboration for common good. He cites research projects conducted in Karnataka which enables illiterates and marginalised communities to get information on their village professions through mobile phone facilities such as SMS and other communication techniques.

It is a common sight in cities and towns or even in villages to note how

## UNIT-3

### Different Type of Information Sources



**Note**

popular mobile phones are used among small traders and craftsmen in exchanging information in their respective trading and vocational activities. With all its current versatile facilities, and continuing research in wireless technologies, mobile phones would be a much more viable source of communication among farmers in villages, small traders and vocational communities and may break the barrier of marginalising the economically weaker communities and to a certain extent sorting out the problem of illiteracy through vernacular languages.

### 3.11 Advertisements

Advertising is defined as a paid dissemination of information through a variety of mass communication media to motivate a desired action. Advertisements are not free, they are to be paid for. Space is bought in the newspapers, magazines and periodicals in the print media or in recordings like CDs or DVDs, or time is bought in radio, TV and on the Internet. Through this payment for space or time, information is disseminated. This is not information for communicating information per se but for the process of selling or helping to sell commodities and services or gaining acceptance to ideas that may set people to think or act in a desired manner.

Modern advertising has emerged as the handmaid of industry. It is an outgrowth of mass production, mass market, mass distribution and mass communication. It keeps trade and commerce moving and helps the growth of the economy by creating demand for mass-produced goods and services. Advertisements are very much an integral part of mass media and intimately connected with them today, basically for the following reasons because they:

- provide substantial financial support to mass media and vice-versa; the one cannot survive without the other ;
- are viewed by many as a significant and rapidly developing industry, its practitioners facing challenges for creative and imaginative thinking to find out new and innovative methods and techniques to expand for occupying a major share of space in print media and time in radio and TV; and
- are a pervasive part of modern culture, a medium, among other things, for the construction of our images as well as of the society, mass media being the only most powerful and versatile avenue to achieve these objectives.

Advertising, publicity, propaganda marketing, public relations are near synonyms with their own shade of differences in meanings. Information disseminated through these methods, may occasionally be distorted, exaggerated, over emphasised but their objectives are to persuade, influence,

## UNIT-3

### Different Type of Information Sources



**Note**

motivate and/or they can get people to react favorably with regard to buying or selling a product or a service. The objectives of present mass media do not clash with business advertisements as they have a common commercial intent and motive in finding a market for their products and services. Advertisements have a larger share, in mass media, whether print or electronic, particularly in TV programmes, which demands most imaginative and innovative advertising methods for capturing the minds of people to react favorably towards a product or service. As advertisements are part of any programme in TV, radio, and in print media, which earns them a heavy revenue they have to be viewed or listened to compulsorily. The messages contained in advertisements are forms of communication that involve creativity, persuasion and impact. Advertisements carry impersonal messages which are controlled by a sponsor. By controlled we mean that the sponsor who pays for the messages of advertisements, determines the content.

Most of the advertisements are consumer-oriented. But the advertisements of trade, business-to-business, corporate houses are major part of the advertising industry. International advertisements are becoming increasingly important as more and more companies are engaging in global marketing through the Internet and web pages.

Advertisements have the following goals :

- Advertisers are advertising to help their customers to market their products and services;
- Advertising agents are specialised companies that plan and execute advertising campaign for most advertisers. Their work includes creation of advertisements, media planning and research; and
- Advertising media carry advertisements to consumers and mass media are dependent on advertising revenue.

Advertisements are conceived, given preliminary shape, altered and then finally executed. The entire work is a long process that includes situation analysis, setting objectives, evolve strategies and work out evaluation. The situation analysis includes research, leading to a definition of the advertiser's problem. The objectives of advertisements can range from creating an awareness to urging purchase, motivate and influence to accept a product or a service. Strategies and tactics are actions needed to achieve the objectives. Evaluation is the process of assessing whether or not the campaign achieved its expected goals.

Advertising agencies choose the media through which advertisements can be featured. Newspapers, magazines and periodicals and such other

## UNIT-3

### Different Type of Information Sources



**Note**

print media, give over 50 per cent of their pages to advertisements. This is particularly so in newspapers those have a huge circulation. Motions films, CDs and DVDs, video and audio cassettes, radio and TV and all other audio-video media provide a proportionately long time for advertisements.

It can be discerned that advertisements invariably require a variety of abilities and skills of the highest quality. Among these, some of the more important ones are imagination and creativity, ability to grasp consumer psychology, especially to design a directed action packed visuals and write effective short scripts to carry the desired messages, choose the right media which would influence or motivate the viewers to buy a product or a service, assess the impact of the advertisements, etc. In the case of audios and videos, duration of advertisements, the appropriate time of presentation, etc. are some of the important considerations. The advertisements for consumer markets will have to be constantly changed to attract attention of the viewers. These specialised types of work are nowadays generally entrusted to advertising agencies, which are carried out by separate departments wherein specialised persons are employed. The converging computer, communication and multimedia technologies are facilitators to the best advertisements.

### 3.12 Public Relations

According to the Institute of Public Relations, "Public Relations is the deliberate planned and sustained effort to establish and maintain mutual understanding between organization and its public. It is necessary, for the organization concerned to understand the public and relate the organization's activities to public interest."

Today every human activity is invariably organised through institutions. Many of these institutions are massive, such as a corporate enterprises, mass media establishments, both print and electronic, government affairs, etc. and involve in relations with a variety of persons or groups at various levels, with different interests and motivations, with varying economic, educational and cultural backgrounds. The contact organisations also have their own specific goals to achieve and have to conjure up an image to be successful in their endeavors. It is the Public Relation (PR) professionals that build an image for the organisation and sustain it. In this process public relations personnel will have to maintain the best of relations with the media. These involve media meetings at appropriate time, press releases of various types, preparation of special brochures, programmes, for TV and broadcasting, interviews with VIPs, design production of documentaries and so on. In turn, the media have also to maintain the best of relations with their contact organisations, in particular with advertising agencies to generate revenue,

## UNIT-3

### Different Type of Information Sources



**Note**

and with also their audiences to build their image and also to protect their interests.

For mass media to be successful in their enterprise, it is necessary for them to conduct research programmes to assess their audiences, the messages they spread and the impact of these messages on their different categories of audiences. The PR persons also can involve themselves in these activities. While advertisements promote marketing of goods and services, PR persons prepare the ground for such activities. Obviously, PR activities are vital and necessary for mass media.

### 3.13 Indian Scenario

In the Indian scenario, all the different mass media are functioning and operating quite well, generating valuable information and knowledge sources for contemporary and historical studies. All the characteristics and attributes described in the sections and the sub sections of this Unit on mass media are relevant in the Indian scenario without any exception.

#### 3.13.1 Newspaper Media

Indian newspapers, magazines and periodicals have a good record in mass communication ever since they started functioning, in 2009 the total number of registered Indian language and English newspapers and periodicals were 73,146; 8,475 dailies, 383 tri/bi weeklies, 24,544 weeklies, 9,458 fortnightlies, 22,124 monthlies, 4,864 quarterlies and 653 annuals and 2,645 of other periodicity. The largest number of newspapers and periodicals registered were in Hindi, 29,094, the second largest in any language were in English (10,530) (India 2011).

The distribution figures of both Indian and English periodicals are also quite impressive, in fact they are increasing. All these newspapers have adopted modern methods of printing technology and their physical get-up, with colour photographs is quite attractive. Many of the English newspapers have multiple editions published from different metropolitan cities with daily supplements and weekly magazines.

The Press Information Bureau is the nodal agency of the Indian Central Government, that disseminates information on government policies, programme initiatives, and achievements. The Bureau disseminates information through press releases, press notes, feature articles, backgrounders, press briefings, photographs, press conferences, and interviews. The Feedback Cell of the Special Services of the Bureau has a Press Clippings Unit that caters to the requirements of the various ministries. A centralised press clipping service indexes the clippings with keywords with a search mechanism. Some of the university and research libraries stock

## UNIT-3

### Different Type of Information Sources



**Note**

newspaper files, and have selective newspaper clipping service. Some of the larger newspapers have their library and archives which may have their newspaper indexes for internal use.

#### 3.13.2 Radio Broadcasting

The Broadcasting media, which started with All India Radio (now Akashvani) as a governmental agency in 1920s, has expanded considerably over the years with several areas of information service of public interest. About 100 private channels have been established by the Broadcasting Sector, making it both public and private broadcasting service. Akashvani has stations throughout the country in all the Indian languages, broadcasting news, music, other cultural and educational programmes. Akashvani news is also available on the Internet.

The Akashvani archives at New Delhi and in all its regional centres have a collection of CDs and audio cassettes which is a mine of information on various subjects which are invaluable source of information on current affairs, culture and many subjects of historical value.

#### 3.13.3 TV Channels

Doordarsan has five national channels, eleven Regional Language Satellite channels, eleven Regional State Networks, 24 Regional News Units. Doordarsan has contributed significantly towards the acceleration of socio-economic change, promotion of national integration and stimulation of scientific temper in the country. Being a Public Service Broadcaster, its mandate is to carry through its programmes messages on population control and family welfare, preservation of environment and ecological balance, highlighting the need for social welfare measures for women, children and the less privileged. It is also mandated to promote games and sports and the artistic and cultural heritage of the country.

Doordarsan's monopoly was broken in 1992, when private channels infiltrated into the Indian boundaries through CNN, Star Plus, Zee TV, BBC, Sony International TV, MT, Discovery channel and a host of others. In addition, a number of Indian private channels in almost all the Indian languages and in English were launched. Today there are channels in every segment like music, entertainment, documentary, news, education, sports, comedy business, spiritual, regional and many others. Besides these channels, cable TV is another significant development. Cable operators offer a wide choice of channels and also CDs and DVDs of subscribers' choice of films, etc. The bewildering number of TV channels, generating a huge volume and variety of information, is overwhelmingly large. This poses a serious problem for preserving and retaining them in archives. More reliable and

## UNIT-3

### Different Type of Information Sources



**Note**

authentic would perhaps be those that are generated by Doordarsan and preserved in its archives.

#### 3.13.4 Films

Indian cinema is almost a century old. Today, the Indian film industry produces more films than any other country. Indian films are very popular in West Asian countries, Pakistan and in many other countries. It remains the cheapest medium of entertainment for the masses. It is in the private sector.

We have described the importance, value and impact on the people of films as sources of information for historical and contemporary studies in some details in the earlier section on films in this Unit.

Film archives are invaluable and vital sources of information on Indian culture society, economy and political life. The Films Library of the Films Division of the Ministry of Information and Broadcasting is a treasure of valuable archival material of India's contemporary history, its heritage and artistic traditions. The total collection of film library, approximately 1.9 lakh items containing original picture negatives, a variety of positives and negatives prints. These items are stored in DVDs and also available in digitised form. The Films Library services are in great demand by film makers throughout the world. It contributes to the vital footage for the production of films besides bringing revenue through footage sale.

Films Division publicise and communicate support to the library collections, through documentaries, news magazines or video films for important campaigns like communal harmony, national integration, eradication of untouchability, family welfare programmes, etc.

The National Film Archives of India (NFAI) was established in 1964 as a media under the Ministry of Information and Broadcasting. The primary center of NFAI is to safeguard the heritage of Indian culture for posterity and act as a centre for dissemination of a healthy culture in the country. Promotion of scholarship and research on various aspects of cinema also form part of the objectives. Familiarising foreign audiences with Indian cinema and to make it more viable across the globe is another declared function of the NFAI.

Apart from its collection of Indian and foreign films, it has acquired over 30,000 film scripts, both Indian and foreign. Besides this, the archive library has a well stocked collection of approximately 25,000 books on cinema published across the globe. More than 100 Indian and foreign journals on cinema are available in the library.

**Note**

### 3.14 ICT and Mass Media

Research and innovation in information and communication technologies (ICTs) and mass media grow in tandem. Advances in ICT give unlimited scope for expansion in mass media in terms of round-the-clock programmes, innovation in design and development of new programmes, world-wide dissemination and transmission, etc. In short, ICT has facilitated a number of developments with far reaching implications for mass media. Every component of mass media, the print, broadcasting, TV and recording media use it with great effect and advantage.

The main focus today is on the Internet as a new, social sphere, facilitating new forms of economic, political and cultural exchange. It is multi-functional and cross-sectoral. It incorporates the World Wide Web and the e-mail. It involves market, government, education, media and every societal sector. It is multimedia integrating visual, audio and textual material. It enables advances in distant learning, through a new pattern of flexibility, contributing to reshaping the knowledge environment and issues of access within it.

Commenting on the future trends, a media specialist observes, "the early twenty first century mediascope is significantly different from 50 years previously. Traditional media has shown resilience in adapting to a changing environment and in utilizing new technologies. For mass consumers the result is greater variety and expanding choice in the ways they access information and entertainment. The expansion and varied means of delivery have stimulated demand for content development for new media. A key question about converging and increasingly interactive media is whether users will gain access to genuinely novel and more varied forms of content – or whether there will be 'more of the same.' The pressures of commercialism suggest that innovation and experimentation will be circumscribed by profit-making imperatives."

### 3.15 Media Persons as Sources of Information

From the foregoing account of mass media and its components, it is possible to understand the usefulness of media specialists as vital resource persons in the areas of their specialisation. Some of the important factors that govern mass media processes are :

- (i) Mass media operate in a highly commercial and competitive environment;
- (ii) This enjoins quality assurance on the products and services created/generated by mass media;

## UNIT-3

### Different Type of Information Sources

**Note**



- (iii) Newspapers, periodicals, TV and radio programmes and many other media products of mass media have to operate within a strict time frame;
- (iv) This important factor necessitates that some of the media persons have to perform at great speed without compromising on quality; this accentuates their source credibility;
- (v) The time element necessitates the media persons to keep their information ready for use at a short notice;
- (vi) Media work is a teamwork and every participant in them should fit into the team at the right place, as the output is a common objective; and
- (vii) Media persons' expertise, experience and knowledge never get properly recorded and hence is not easily available.

Many groups of specialists are functioning in mass media, both print and electronic media. The institutions managing and operating these media may have to be contacted to get the assistance of media specialists as resource persons for any service.



### Exercises

#### VERY SHORT TYPE QUESTIONS

1. What is Human Resource?
2. What do you understand about information institutions?
3. What do you understand about databases?

#### SHORT TYPE QUESTIONS

1. Why is human resource required?
2. Explain the types of information source institutions.

#### LONG TYPE QUESTIONS

1. Write a note on human resource planning.
2. What do you understand about databases? Explain different types of databases and their uses.

**Note**

# Information Product

## 4.1 Introduction

In this chapter, we will study about the information product and how we can get the information, as well as what is the documentation delivery service system and why it is necessary, we will also study the translation service. And we will also study why translation service is necessary.

## 4.2 Information Products

Information products provide information on various subjects like industrial, commercial, public service or similar organizations. They are prepared by packaging, selecting, acquiring, evaluating, synthesizing, restructuring etc. These products are newsletters, house journals, trade and product bulletins. The basic purpose of these information products is to enhance the image of the organization and promote its products and services. Newsletters communicate news of the latest activities of the organization to the target audience in a timely and speedy manner.

House journals inform the employees and customers about the performance and style of functioning of the organization. Trade and product bulletins usually issued by the commercial publishers, distributors, manufactures. These publications provide information on various attributes of the product, process, material or service and also promote their sale. Advancing of computers and telecommunication technology are promoting themselves through electronic information products like e-newsletters, business homepage on the internet and e-commerce.

### 4.2.1 News-letter

News-letter can be defined as a serial consisting of one or a few pages in print, electronic or any other form, containing recent information or news which is of interest to a special or particular group of users. Organisation issue news-letters to the members or students.

## UNIT-4

### Information Product



**Note**

Newsletters are forerunners of modern newspapers, current in use in 1600s and early 1700s, which presented news for general circulation. The earlier printed newsletters or news-sheets, which were often called corantos, courants, occurrents or intelligencers were published in Europe's commercial centres. These newsletters contained business, news and news of other public events likely to interest bankers and merchants. Newsletters were then followed by news-sheets. Official news-sheets began to appear during 1500s. Notizie Scritte (written notices) were posted up in public places in Venice. They could be read on payment of a coin called a gazetta. The term gazette, a common name for early newspaper is derived from this practice. The first regularly published news-sheet seems to have been the Avisa Relation oder Zeitung. From 1609, this news-sheet was published weekly in Strasbourg, then in Germany. In the U.S. the first newsletter to make its appearance in 1704 was Boston News-Letter, which eventually became a newspaper. In fact, in the 1700s, many newsletters flourished, and in the 1800s, most of them went the way of newspapers. By early 1900s, newsletters made a comeback, apparently, businesses and industries needed a specialised information medium badly and newsletters filled up this void. The first one to appear in 1904 was 'Babson sReports' an investment advisory newsletter. This was followed by Kiplinger Letter in 1923. This newsletter continues to be the most widely read business-forecasting periodical in the world. In the 1930s, corporate newsletters emerged rapidly. Telecommunications Reports (a telecommunication industry newsletter) took the lead in 1934, this was followed by a series of newsletters. All types of newsletters ranging from farming to fashion became a common place. In 1964, the first newsletter about newsletters, Newsletter on Newsletters came out.

#### Types of News-letters

News-letters can be can be categorised into different types :

1. Academic institutions
2. Private institutions
3. Public sector undertakings
4. Government organisations
5. Association (National And International)
6. R & D organisations (National and International)

#### Objectives

1. To publish the relevant activities of current interest.
2. To communicate information about social and cultural activities,

**Note**

obituaries, retirements, transfers, promotions and appointments etc. of the members of concerned organizations.

3. To announce current and forth coming events like workshops, seminars, conferences etc.

### Function/Purpose

News-letters provide speedy information for a definite group of audience. The news-letters are relatively easy, fast and inexpensive to produce. Most of the organisation issue news-letters to communicate news of their activities to the target audience in a timely and speedy manner.

### Electronic News-letters

News-letters published and distributed electronically over the computer networks are known as electronic news-letters. Electronics news-letters are distributed by e-mail to people who voluntarily subscribe them to online. More people in business and industry are advertising their products through e-news-letters because they believe that their advertisements are more effective and useful than any other advertisements.

### Benefits of e-mail News-letters

1. E-mail news-letters are information and keep users up-to-date.
2. E-mail news-letters have timely information and real time delivery.
3. E-mail news-letters are convient and delivered straight to the users information desk.

#### 4.4.2 House Journals

A house journal is a serial publication issued by an industrial, commercial, public service or a similar organisation to inform the public of its performance and style of functioning. It also serves as a medium to know the reaction and opinion of the public about its performance, for an organisations, the public consists of its employees, customers, dealers, retailers of its products. Its shareholders, and the government that have social control over it. The house journal is a form of promotional literature, since it seeks to project and enhance the image of the parent organisation to its customers or employees or to advertise and promote the products and services of the organisation.

### Functions of House Journals

1. Improve business and industrial relations
2. Keep employees and customers in the picture
3. Serve as useful platform for communicating managements views.

## UNIT-4

### Information Product



**Note**

4. Promote and enhance the image of the management as well as of the organisation among its employees and customers; and
5. Provide as objectives new service.

#### **Characteristics of House Journals**

1. They are produced by the sponsoring organisation for enhancing the image of the organisation and for promoting its products and services.
2. They are usually distributed free to the employees and potential customers.
3. Financial support is provided through budget allocation by the sponsoring organisations.
4. They carry no advertisements except that of the sponsoring organisations and
5. They are printed on good quality art paper and are usually colourful and attractive.

#### **4.4.3 Categories of House Journals**

There are three broad categories of house journals - internal, external and combinations of both. Internal house journal is published for employees or members of the organisation, whereas external house journal is brought out for customers or potential customers of the organisation. Combination publications try to do both.

#### **4.4.4 Internal House Journal**

Internal house journal is brought out for the employees of the organisation and is meant for internal circulation. Its prime aim is to keep the employees of the organisation informed of the welfare measures and the concern of the organisation for its employees. It also aims at providing a forum for the employees to express their views including their grievances. Therefore, it serves as a forum for a two-way communication, thereby promoting the healthy growth of an organisation. The organisation also uses the internal house journal to stress the fact that the management is genuinely interested in the welfare of its employees.

#### **4.4.5 External House Journal**

The external house journals are designed for customers or potential customers of an organisation and are meant for external circulation. Based upon their contents, they can further be broadly grouped into three categories :

- (i) The first category is that of a scholarly journal and can be equated in almost every respect with a standard technical journal;



**Note**

- (ii) The second category is the magazine. This contains general non-technical information and information about products of the organisation, without technical details.
- (iii) The third category is the periodical catalogue, which is similar to a trade catalogue.

The basic difference between this and the trade catalogue is, that the former is issued under the same title at regular intervals, just like a periodical publication.

#### **4.4.6 Contents of a House Journal**

The contents of the house journal vary with the type of house journal. For instance, the 'internal' house journal, which is produced for a company's personnel with the intention of creating a sense of community within its organisation, acts as a newspaper within the company. It carries news of social and sporting events, personnel changes, feature articles by employees, news of welfare measures, incentives, bonuses, etc. Internal house journals have little value as a source of technical information. The external house journals based on their information contents, can further be broadly divided into three categories. The first category is that of 'prestige' publication and can be equated in almost every respect with a standard technical journal. These journals contain technical articles giving an account of R&D work undertaken by company's employees. These journals promote the image of the company not by directly publicising its products and services but by associating the company with standards of excellence

in frontiers of research related to its field. For example, mM Journal of Research and Development and BHEL Journal of Bharat Heavy Electricals Ltd. published quarterly, BHEL Journal covers research articles, publishes news reports about company's innovations, gives an account of major achievements in company's various sectors of activities like power, industrial achievements, etc. and provides case history of successfully completed contracts or projects. The second category of external journal is like that of a magazine, which is meant for promoting the products of the company. This publication carries information about the products and services of the company without any technical details. The third category of external house journal is similar to a trade catalogue. This publication provides descriptive accounts of company's newly launched products, processes, materials or services.

#### **4.4.7 Bibliographical Control of House Journal**

The house journals can be a useful source of technical information but their value is generally not appreciated. In a survey of house journal usage and

## UNIT-4

### Information Product



**Note**

storage made by Isabel I Harberer (1967), it was reported that 'overall there was found to be general neglect for acquiring and processing of even the most informative house journals. The librarians very closely identify their image as a promotional material. The other problems associated with the bibliographical control of house journals are their lack of standardisation and irregularity in publication. However, many of the technical house journals reporting research work are covered by the major indexing and abstracting services.

#### 4.4.8 Trade and Product Bulletins

Trade and Product bulletins are information products brought out by the publishers, manufactures and distributors of various types of materials, products or services. The trade and product bulletins virtually cover every kind of material, product or service ranging from books, drugs, chemicals, household goods to extremely complicated machinery and equipment used in research and industry. The basic purpose of this type of trade literature is to describe various attributes of the product material or service and promote its sale to the potential customers. They are also known as trade catalogues.

#### Functions of Trade and Product Bulletins

- (i) Trade and product bulletins are primarily published to promote sale but they serve as indispensable source of information for specialised group of users such as scientists, engineers, technologists, chemists, medical practitioners, etc.
- (ii) Provide latest information about industrial products and help the technologists to ascertain whether a particular machinery or a component of a machine or a specific product is available in the market or not.
- (iii) Help the technologists to compare similar products available from various manufacturers and select the most appropriate one.
- (iv) Provide easy access to names and addresses of the manufacturers, distributors of industrial products.
- (v) Serve as important communication channel between manufacturers, dealers and buyers.
- (vi) Articles published in these bulletins are broader in appeal with colourful illustrations, charts and diagrams.
- (vii) Back runs of these publications serve as an important source of information for the study of industrial archeology, business history, and history of technology.

## General Characteristics

1. The amount of information provided for products or processes vary considerably ranging from mere announcement to detailed description of the product or process.
2. They generally contain application oriented descriptive information and do not provide theoretical details of the research leading to the development of the product with the exception of trade literature describing medicines and complex scientific equipment.
3. Trade catalogues issued by manufacturers are undated.
4. Trade bulletins are primary sources in which information about a product or process appear prior to its publication in any other form of literature.
5. Much of the information presented in these bulletins lose currency very quickly because new products and processes are constantly being developed and improvement are made to the existing ones.
6. Publications are usually distributed free.

### 4.4.9 Technical Digests

The latest scientific and technical information, marketing and commercial information is essential for the growth of any industry. The people in industry require information on new products, machinery, manufacturing processes, management techniques, etc. to keep themselves abreast of the latest development as well as to solve technical problems associated with running and management of an industrial enterprise. But, the growth and proliferation of S&T literature in a wide range of sources, makes it difficult for technical workers and executives in industry to keep track of latest developments in product designs, manufacture processes and management techniques, etc. in their area of interest. To meet their information requirement, technical digest service is provided. Technical digest, is an information service, which analyses, evaluates, consolidates and disseminates latest technical information to managerial, technical and operator level personnel in the industry.

#### Definitions

According to Webster's Dictionary a digest is defined as "to compress a piece of literature or a body of information into a short summary form, containing essential core of the matter." According to Guha "digest is actually a fuller representation of a document, rewritten for a purpose or to suit the requirements of different group of people, but intended to serve as a complete substitute for the original document."

## UNIT-4

### Information Product



**Note**

## UNIT-4

### Information Product



**Note**

#### Features

- (i) A digest is a systematic condensation of a written work, often prepared by someone other than the author of the original. It is generally larger than the synopsis and sometimes with headings and subheadings to facilitate quick reference.
- (ii) Digests are generally periodical publications containing condensation of works, gathered from many sources and arranged in a systematic order.
- (iii) A digest may be prepared ad hoc on request on a particular subject, or it may be issued frequently at regular intervals or in anticipation of demand.
- (iv) The term 'digest' is synonymously used with compendium and/or epitome. The digest, therefore can be defined as "Body of information or written matter, involving information consolidation by condensation. It is a compendium of information gathered from various sources, systematically and methodologically arranged, classified under headings and subheadings.
- (v) It is prepared either on demand or in anticipation for quick and ready reference, with subject scope spanning from literary to science and technology."
- (vi) Technical digest is not so distinct from a digest, except the subject scope. Subject scope of technical digests is mainly science, technology and management aspects.
- (vii) According to Guha, "Technical digest is a product of condensation process. It performs an accretion function. It may be directed or oriented to various groups of user viz., managers, technicians, operators etc."

#### Need and Functions

Technical digests are useful sources of information for managerial and technical workers in the industry. Through technical digests the managers and technical workers in industries obtain information on technical know-how and other technical data helpful in their work. Different categories of workers in industry require different types of information. Managerial personnel require product-oriented information such as technical, commercial and marketing information. An effective technical digest not only saves the time of the manager but also helps him/her in decisionmaking. Technical workers/operators require information on solving technical problems, new ideas and processes, which can help them in day-to-day working. Technical

**Note**

digests serve following functions :

- (i) Keep different levels of workers in the industry abreast of latest developments in their respective fields;
- (ii) Provide timely dependable information to keep them equipped with new developments taking place in their areas of specialisation;
- (iii) Disseminate latest technical know-how; and
- (iv) Serve as an effective channel between research and production centres.

### Categories

Different types of digests are prepared keeping in view the following levels of workers in the industry :

- (i) Top Management
- (ii) Middle/Supervisory Management
- (iii) Operator Level Personnel

The digest for top management should cover information on the following topics :

- (i) Corporate Management/Planning
- (ii) Finance
- (iii) Production
- (iv) Research and Development
- (v) Personnel
- (vi) Sales
- (vii) Public Relations
- (viii) External Regulations

Digests for middle/supervisory management should contain information, which can help them in :

- (i) enhancing utilisation of installed capacity;
- (ii) new production processes/techniques which can result in increase in use of labour
- (iii) force and production facilities to maximise production; and
- (iv) problem solving and decision making.

Digests for workers/operators should contain information, which they can easily understand and put to use. Digests for workers/operators should help them in :

- (i) solving day-to-day technical problems;

## UNIT-4

### Information Product



**Note**

- (ii) simulating the modernisation of existing production methods and techniques;
- (iii) small improvements in manufacturing/ process techniques which lead to major
- (iv) saving in an industry; and
- (v) mechanisation of existing work.

#### **Planning and Preparation**

Systematic planning is the foremost step in the preparation of any information service. Same holds true for the preparation of a technical digest. The planning and preparation of a technical digest involves the following steps :

- (i) Identification of users and their information requirements;
- (ii) Sources of information and its collection;
- (iii) Information Analysis and Consolidation;
- (iv) Evaluation;
- (v) Presentation and Layout; and
- (vi) Dissemination

The following guidelines should be kept in mind for an effective presentation :

- (i) The writing should be easy to understand;
- (ii) Use of simple and short sentences;
- (iii) Brevity and accuracy of data and facts;
- (iv) The use of technical terms to be restricted, particularly if digests are prepared for a commoner;
- (v) The technical terms to be preferred if digests are prepared for a specialist;
- (vi) Tables, graphs, etc. must be added wherever necessary. This will increase the value and usefulness of the digest.

The contents of technical digest must specifically include:

- (i) How new product or process is better than the existing one?
- (ii) Whether the material used is new or it is used in a new way?
- (iii) If new material is used, then its availability for commercial use.
- (iv) The benefits of using the new technology in terms of man, material and money.
- (v) Does the new technology involve new equipment, if so, then its availability?

- (vi) The other factors to be kept in mind while preparing technical digests are :
- (vii) The digest should be designed to appeal to the initiator of action i.e. the manager;
- (viii) It must cover ideas which will initiate action;
- (ix) The digest should show how the idea presented will benefit the organisation;
- (x) The presentation should pin-point the idea and draw manager's attention to refer to it;
- (xi) The digest should be short without compromising the essential details, as short digest is more likely to be looked up.

Apart from the contents, the layout of a technical digest is equally important. The following points should be kept in mind for the layout of the technical digest :

- (i) It should have appropriate eye-catching heading;
- (ii) It should be short within 200-400 words and must not exceed 3 to 4 typed pages;
- (iii) The sources of information with full bibliographical details should be mentioned at the end of a digest to enable the user to refer to the original documents, if required.

### **Examples**

- (i) **Management Digest** : Published bimonthly by SENDOC (Small Enterprises National Documentation Centre), provides digests of journal articles on human resource employment potential, entrepreneurial skills and managerial issues.
- (ii) **Innovative Technology** : Published bimonthly by SENDOC, provides digests of new processes and products, and new equipment using local resources aiming at cost reduction, import substitution, and export promotion.
- (iii) **Techman** : Published bimonthly by SENDOC, provides digests of processes and products, and equipment covering wide spectrum of technologies and abstracts of technical articles.
- (iv) **TERI Information Digest on Energy and Environment** : Published quarterly by TERI (Tata Energy Research Institute), incorporates: a) TIDE – TERI Information Digest on Energy, b) TIMES – TERI Information Monitor on Environmental Science, and c) GER-Global Environmental Review.

**Note**



## UNIT-4

### Information Product



**Note**

#### 4.4.10 Information Services

**Importance and Need of Information :** Information is an important resource. The progress of modern society depends a great deal upon the provision of right kind of information in the right form at the appropriate time. The planners, decision makers, policy makers at national or regional or local level need information to be able to plan properly. A specialist or researcher might need information to keep himself up to date and well informed in his field of specialization. All this highlights the value of information dissemination of information is an essential aspect of information service and the efficient information. Service is one of the key indicators of judging successful functioning of the libraries.

Many modern libraries particularly special libraries in the area of science & technology have re-oriented their services and are now providing.

#### Personalised Information Services

Specialised services which are provided on case by case basis, where in service provided needs to be academically sound and efficient, so that he/she address to the query, cull out data from various sources, prepare the information for handing over to the user in the form user needs.

#### Value Added Services

These services are also specialized services being provided by special libraries to the users.

#### Nature and Characteristics of Information

Information of one sort or another impinges on a researcher all the time. Most of it flows past unabsorbed. What is required is “relevant” information. The adjective here is placed in quotation marks because one of the fundamental problems of information retrieval is actually deciding what “relevant” means in a particular context. It can in the first instance, be time dependent. Information is often required at a specific point in the development of a research project. If it is identified and retrieved at the point, it may be highly relevant; if not it may become totally irrelevant. Again, the information must be available in an appropriate form for it to be relevant example when seeking to learn about previous work immediately relevant to their projects, researchers may turn to books, and for “know how” on techniques to be used, they may turn to colleagues for advice.

#### Concept of Information Service

A very simple definition is an information service is a service, which provides (served) data/knowledge/Information some how. However, their definition is not strong enough to describe the range and domain of an information



**Note**

service. Therefore, it is necessary to define the term information service in a specific context. Fortunately, wikipedia delivers, or better saying serves a good definition of this context, which is called information system. An information system is any combination of information technology and peoples' activities using that technology to support operations, management and decision making. The definition continues with explaining the term from a bit more technical view. An information service is this part of an information system that serves data/knowledge information to customers and collects it from its contributors, to manage and store it by optional using administrators. There are two aspects of information service such as :

1. **Provision of Information in Demand :** When a user needs the information. He/She approaches the reference/information desk and requests for information by means of a specific query. He would be provided an answer to his specific query on demand.
2. **Provision of Information in Anticipation :** This aspects aims to keep the users well inforred and up to date in their field of specialization and alls in the related subjects. This is called as dissemination of information or what we frequently use 'Current Awareness Service' (CAS). This is a very important feature of information service.

### **Types of Information**

The mission of research is to find solutions to problems for which information is required. This may be obtained either from the accumulated store of information or one may look to the flowed communication either directly from primary information sources or through secondary source of information with the available informational resources. Whaever may be the situation; there are certain types of information which have been identified by Hertz and Rubenstein as :

- (i) **Conceptual Information :** The ideas, theories, hypothesis about the relationship which exists among the variables in the area of the problem.
- (ii) **Empirical Information :** Experience or the data of research may be drawn from one's self or through communication from others. It may be laboratory generated or it may be the product of "literature search"
- (iii) **Procedural Information :** This is the methodology which enables the investigation are obtained, manipulated and fested; it is issentially methodological and from it has been derived the scientific attitude.
- (iv) **Stimulatory Information :** Man must be motivated and there are two sources for such motivation : himself and the environments. Such information that is environmentally derived is probably most effective when it is transmitted by direct communication.

## UNIT-4

### Information Product



**Note**

- (v) **Policy Information** : This is the focus of the decision making process. Collective activity necessitates the definition of objective and purpose, the fixing of responsibility, the codification of rights and privileges and the delineation of function.
- (vi) **Directive Information** : Group activity cannot proceed effectively without coordination, and it is through directive information that this coordination is achieved.

**Origin of Information Service** : Information systems and services often develop from a conglomerate of loosely related events. Coherent historical narratives documenting their development can be difficult to construct because of the diversity of sources as well as the fundamental problem of finding logical boundaries for the research. As a result, chroniclers of information systems tend to either take an all-inclusive cursory approach, or conduct an incredibly detailed study of a particular system or event that lacks appropriate context. In a history of information services, Charles Bourne and Trudi Bellard Halm are able to split the difference and create a detailed narrative that address key contextual developments while effectively holding the reader's interest. By focusing on the period from 1963 to 1976, the authors capture the emotion and revolutionary nature of moving from a fundamentally print information service system, to one that is chiefly based on online systems without getting cost in the expanse of the entire evolution from Vannever Bush to the networked web. Service, as opposed to system, is the key word in the book's title. By focusing on overall services rather than narrowing in on the systems themselves, the book transcends its encyclopaedic narrative and some what numbering detail to present a balanced focused on people, events, and products. This holistic approach enables the writers to interject compelling biographical narratives of the key players who took developing online systems from experimental to fundamental components of information service. Bourne and Bellardo Hahn fill a significant gap in the information science and computing literature. Among the many efforts to chronicle development of online information system and services from infancy to nature industry, none has addressed this historical in such.

#### 4.5 Document Delivery Services

In this rapidly changing landscape of library and information science, various types of services have been started for the satisfaction of the readers. Ranganathan's second sutra can also be followed only when the reader gets the information or document he wants. Various types of work are done to satisfy the information needs of the reader. Document selection, acquisition, and collection are done in these functions. The only purpose

of all these works is that the document desired by the reader is available to him. In this, document distribution service is also being provided in which libraries satisfy the specific requests made by external users by distributing the documents available with them.

#### **4.5.1 Meaning of Document Delivery Service**

Most of the information services like indexing service, abstraction service, literature search service, current awareness service etc. aim to provide guidance to the users as to where the documents they want are available, whereas document delivery service is the last function in which Not only is the document desired by the reader available somewhere, it is searched; Rather, the original document of the user or its printed copy or in electronic form is also provided to him. Therefore, document delivery service means providing the desired document by the readers. This document is supplied in its original form or its photocopy or electronic form irrespective of the availability of the original source.

Earlier, under this service, the documents available in the library or information center were supplied to the readers. Also, if the documents were not available in the library, the documents were supplied with the help of inter-library loan. But today in this service a photocopy of the document is made and it is provided to the user permanently. Today, the development of information and communication technology has made it possible and extremely easy to deliver documents electronically to remote users quickly or quickly. Printed or electronic copies of documents are supplied in this service.

The definition given by Amjad Ali of Document Delivery Service which is abbreviated as DDS (Document Delivery Service) in English is as follows Information Sources and Systems.

In document distribution service, usually after requisition, printed copy of published or unpublished documents is given in micro form or digital format after charging a fixed fee. In most of the libraries, the document delivery service is provided by the Inter-Library Loan Office on a cost-benefit basis.

#### **4.5.2 Need for Document Delivery**

The need for document delivery service is due to reader satisfaction in this changing environment. Today, the continuous development in the field of information technology and communication technology has made it easier for the users to access the primary information source. With the help of resources available on the Internet, the user can get comprehensive information about the subject area of his interest. He can also get information about the form in which the information is available anywhere. Due to this

**Note**



## UNIT-4

### Information Product



**Note**

there has been an unlimited increase in the demand of readers. The main objective of libraries is to provide maximum and latest information to the user in the subject area of his interest so that he can make use of it. There has been an infinitesimal increase in the information published today. Along with this, the value of documents is also increasing continuously. On the other hand the budget of libraries and information centers is continuously decreasing. This has completely affected the collection of libraries. The conflict between the increasing demand of readers and the ever-decreasing resources of libraries forced libraries to think of other methods. One of the techniques that libraries are using is inter-library lending. In this, the library and information center acquired the required documents from other institutions through inter-library loan. Inter-library lending is a complex process involving identification of documents, where they can be obtained from, location where they can be obtained, then requisitioning from the point of receipt, followed by supply of documents to the requisitioning library, etc. Along with these difficulties, there is also a problem in this that if there is no cooperative spirit in the document supplying institutions, then there is more difficulty in the document distribution service.

Today it is emerging in libraries and information centers that despite these limitations, the reader should be provided with the desired document. Merely giving information about information under information service to the reader is useless until the document is made available to him. In the document distribution service, the desired document can be supplied to the reader by him.

#### **4.5.3 Characteristics of Document Delivery Services**

The efficiency of the document delivery service is based on three basic parameters. 1. Satisfaction, 2. Deadline, 3. Cost.

##### **1. Satisfaction**

Satisfaction level refers to how many requests were answered out of the total number of requests received. The recommended level of satisfaction is between 90 and 95 percent. Those levels of satisfaction are based not only on the availability of the desired documents at the service centers, but on their ability to determine their location and supply from anywhere in the world. The British Library Document Delivery Service takes care of the specific needs of the readers.

##### **2. Deadline (Time Limitation)**

The second criterion for evaluating document delivery service was taken for deluge there is time. The speed of document delivery is based on many factors, such as the time taken to locate the desired document in the

institution, if it is not available in the institution, the time taken to locate its location, transfer of requisition, the time taken by the document provider library to make the request. Time taken to supply the documents to the libraries and finally the document distribution. There are many factors that affect the speed of delivery. Document delivery times can range from days to a few months. As far as possible, the shortest possible time should be taken for delivery. The British Library Document Delivery Service says their new secure electronic delivery system performs this service in under two hours.

### **3. Cost**

Document delivery service should be cost efficient. It should consider both indirect and direct costs. The process of service in direct cost eg. The cost of reproduction and postage are covered. Indirect cost includes cost of collection, salary of employees, building equipment, etc.

This service will be more cost effective if the service is being provided from the central repository and the number of requests is more. Conversely, if the service is provided through a decentralized repository, it will be less cost-effective.

#### **4.5.4 Types of Document Delivery Systems/Models**

A variety of document delivery systems or models have been developed by information scientists. In these, services are being organized from centralized collection to decentralized collection.

In 1980, Line and others suggested four basic national models in a UNESCO document.

1. A dedicated centralized collection
2. Concentration on a few libraries
3. Planned decentralization
4. Unplanned decentralization

Vickers and Line described six types of models in the Ifla UAP program document.

1. Dedicated centralized service
2. Central shared service
3. Concentration on a few libraries
4. Decentralized planned provision supply and retention
5. Decentralized access
6. Regionally based system

**Note**



## UNIT-4

### Information Product



**Note**

In the Seminar on Inter-lending and Document Supply held in London in 1988, Hope E. A. Clement (Hope E.A. Clement) suggests these six combined models :

1. A totally centralized national lending collecting)
2. A central lending collection with backup libraries
3. A national lending center
4. A network of interlinked networks
5. Separate networks
6. unlinked and total decentralization

The detailed description of document distribution system models is as follows :

#### **4.5.5 Totally Centralized Model**

In such a model, a single center acts as a single source of service and delivery. In this, an institution specialized in specialized collection developed and such a plan is made to provide document distribution service in this library. It develops the necessary search tools to provide the service. This organization also acts as an International Pay-Order Center. The advantages of this model are as follows :

1. It is a simple process for inter-library loan and service exchange. Since it is the single source of solicitation and supply, more money is saved.
2. Costs are reduced in the settlement of grievances.
3. The speed of document delivery is high.
4. In this, the demand and distribution of documents can be analyzed and controlled effectively. This helps in building an effective collection.
5. With centralization, effective service can be provided.

The defects of this model are as follows :

1. The construction and maintenance of central collection is more in terms of collection, staff, equipment building, etc. If there is insufficient funds or staff, the service situation becomes pathetic.
2. This model has a good distribution of magazines but is not economical for monographs.
3. It does not use the current library collection. This leads to unnecessary repetition.

#### 4.5.6 Totally Decentralized Model

This model is based on the collection of a large number of libraries. In this, individual libraries develop collections in their specific area of study and try to provide information sources and systems.

They do that by obtaining loans from other libraries to meet the demands they cannot meet from their collections. There is no central point or coordination center for all types of activities. The advantages of this system are as follows :

1. Libraries to develop collections based on their local demand are independent.
2. They are not bound to participate in this cooperative activity.
3. They are not required to accrue additional sources.

The drawbacks of this system are as follows :

1. It takes more time to find the source of the loan.
2. Since the cooperation is on a voluntary basis. Therefore some libraries may refuse to hand over their documents to other libraries.
3. It does not have any central place to meet international demands.
4. There is no coordination in the creation of collections and unnecessary duplication takes place in the creation of collections.
5. In this system, mainly large libraries are overloaded.

#### 4.5.7 Decentralized Model

In this system many libraries organize their collections in a planned manner according to their specialized area. Sources other than the central collection are acquired which are identified by the system to participate in collaborative work. In this a federation list is compiled, which familiarize each other with the resources of the libraries. The advantages of this model are as follows :

1. It saves time as requests for documents are sent directly.
2. Adequate collection can be developed to meet the needs of the entire nation.
3. In this system, there is no burden of document payables on any one of the collaborating libraries.

The following are the drawbacks of this model :

1. In this, libraries have to make extra efforts to provide effective inter-documents payable service along with normal functioning.
2. Libraries are obliged to acquire those additional resources, therefore it is a difficult task to effectively analyze and monitor the demand and distribution of documents.



**Note**

## UNIT-4

### Information Product



**Note**

#### 4.5.8 Electronic Document Delivery Systems

The Encyclopaedia of Library and Information Science has defined electronic document distribution as : it is concerned with the use of electronic technology to support the inter-exchange activities of libraries. This includes the use of electronic methods by libraries for the transfer of solicitations and the physical transfer of full text documents.

Due to the ever-increasing demand of users and the development of new technologies of information and communication technology, today electronic mail or on-line systems are being used in document delivery service. Today the new electronic distribution system can serve the reader in a matter of minutes to hours. Use of new technologies in place of the traditional system in document delivery service being done. Today electronic document delivery service is being provided with the help of an on-line computer database. This service is based on Information Technology, Transliteration and Communication Technology. Today technology has changed the entire landscape of information collection, solicitation transfer and document delivery.

Today optical disc based systems are being used for information collection. In this system, the highest fine laser beams on the disc are decoded by the processor as digital or analog signals. Includes: Compact Disc, CD-ROM and DVD. The information stored on these is read by the CD-ROM drive and which can be done by the printer with the help of a computer. Along with this today on-line computer databases are also created. Under this the library has been stored. A huge collection of information has been collected from this repository, which is constantly revised and updated. Therefore, in electronic document distribution systems, with the help of optical disc systems and on-system computer databases, the desired document or information is distributed by the reader. On-line is a system in which computers located at different locations interact with other computers with the help of telephone lines and satellites. With this facility, the reader can search and view the desired information online through his computer sitting at his home as well as get its print. Electronic document delivery service publicity and dissemination is continuously increasing. And this service has become worldwide.

The information or documents requested by the user can be distributed in an electronic document delivery service. This service is economical, simple and convenient as well as safe. This service is economical, simple and convenient as well as safe. Today many libraries in the world and in India are providing electronic document distribution service.

## 4.6 Translation Services

Translation is the process of converting printed, text or spoken words into another language. The source is the language into which the text is to be translated and the target language is the language into which the text is to be translated. For example, when Chinese information sources and systems translate a language document into English, the source language is Chinese and the target language is English. Quality translation providers establish processes to ensure accurate translations in the target language with the full meaning of the source material. In the translation process, content meaning, technical precision, and cultural acceptance are considered considerations. Translation has traditionally been a human activity. Although there have been attempts at computerized automation of the translation of natural language text.

### 4.6.1 Translation, Interpretation and Transliteration

Often the terms interpretation and translation are used synonymously. It is necessary to understand the difference between these two. Interpretation deals with the transfer of ideas expressed orally whereas translation involves the transfer of ideas between languages that are expressed in writing.

Interpretation can be considered as a subcategory of translation in relation to the analysis of the processes involved (translation studies), in practice the desired proficiency for these two activities is completely different. Translators and interpreters are trained in completely different ways. Translators take intensive practice of full-text, texts representing various subject areas, learn how to compile and organize dictionaries of related glossaries and related new documents (for example, word processors, desktop publishing systems and graphics or presentation software) and computer support. Acquire proficiency in the use of CAT Computer Assisted Translation software tools.

Interpreters for precise listening skills, memory and consistent interpretation in relatively difficult situations (in which the interpreter listens while the speaker speaks and takes in details and provides translations into another language after several phrases, not speaking at the same time) Description-taking techniques and simultaneous interpretation, in which the interpreter immediately listens and speaks, often at the moment the speaker's original speech is spoken, followed by a translated translation.) for in fragmented concentration.

In transliteration, we denote or represent features (or letters) of one language in another. This using the alphabet of the target language. Almost the same is done by doing the snatch. For example, the translation of the

**Note**



## UNIT-4

### Information Product



**Note**

word Rupandar is 'translation from Hindi to English language' while the transliteration of the word in English would be "Rupandar". Transliteration is a major component of the effort towards universal textual control.

#### 4.6.2 Need for Translation Services and Translation Tools

It is estimated that more than 40 percent of the scientific and technical literature desired by scientists, engineers and technologists is in languages other than the English language. The purpose of the fruits of scientific research is the collaboration of co-scientists and researchers across geographical, political or economic boundaries. Whereas language is a barrier for scientists in accessing texts published in a foreign language, or language barriers can be overcome by non-English speaking scientists learning as many languages as possible on their own. But a scientist's effort to learn more languages may waste his time and energy and hinder him from being an active researcher. The translation and translation related services provided by libraries can overcome the language barrier in various ways.

Libraries should acquire and maintain translation tools, regardless of whether the library is providing in-house translation services. These tools would be useful for the target users to verify or translate the bits of information they would need on an urgent basis. With the availability of internet based translation software users can get the text material in translated form. Still it would be useful to have some of these tools in different languages :

- Dictionary (Thesauri)
- Word Finders
- Glossaries
- Cultural Vocabularies
- Spell Checkers
- Grammar Characters
- Technical Glossaries
- Glossaries of Various Domains

#### Electronic Equipment

- Machine Readable Dictionaries
- Parsers
- Coppora
- E-Translators

Translation Teaching Software categorizes translations into Responsive and Anticipatory can be divided. Reactive translations are done on specific



**Note**

demand and some of them find no place in translation search tools foreshadowing. More effective is the bibliographic control of translations, which is done for foreseeable demand. Cover to Cover (Translation) of primary and secondary journals belongs to this category. Most of the magazines in the complete translated journals are from Russian to English language. Another type of foreshadowing translated journals includes selected articles from different journals.

### **Importance and Objectives of Translations Service**

Translation service is one of the most responsive services of libraries and information centres. The spectacular growth in information technology, the widening reach of the internet, the expansion of trade globally and ever increasing scientific and cultural cooperation have undoubtedly increased the demand for translation service. However, reduction in funding for information services has resulted in significant decline in translations made on adhoc bases. This perhaps may be one of the reasons which have led to the closure of International Translation centre as well as its prestigious publication world translation index.

Libraries can play an active role in meeting user's demands for translation. they should have information about translation pools, translation centres, professional associations, Government agencies, commercial publishers and their products, directories of translators and translating firms. The library should have these sources both published as well as online, on up-to-date basis and if should be able to assist the users in identifying institutions holding the needed translations. If demands are very frequent, then library staff members or resource persons who are available when needed, should be able to either translate or abstract or provide summaries of the material needed to meet urgent need.

### **4.6.3 Role of Library in Translation Services**

National level documentation centers and libraries such as NISCAR have translation facilities with qualified and experienced translators.

Those who do translation work of foreign languages documents into English or vice-versa. Whereas it is not practical to have translators in all libraries and information centers unless there is a large volume and regular demand for translators. So what role can libraries play in the absence of in-house translation services?

First, the library should be able to provide translations from any available national translation index or the library should be able to do the translation of documents. For this, library staff should maintain knowledge about translation related information such as translation pools and centres,

## UNIT-4

### Information Product



**Note**

professional organizations, government agencies, commercial publications and their products (includes cover page to last page translation journals) and directories of translators and translation firms. needed. Libraries should maintain their published sources on an up-to-date basis and should be able to assist users in identifying entities holding requested translations that are not available to them. The library staff should also link the links of translation tools and sources etc. available on the website of libraries on the Internet also.

#### 4.6.4 Handling Translation Requests

As a librarian or information scientist, it is important to know how the library should arrange the translation queries received from the users? As Ranganathan said, "It is hardly possible to produce a linguist cum-document-list." It is extremely disappointing that the library staff is well versed in linguistic knowledge and can translate. The librarian can arrange for the translation of the full text on request for translation.

1. By the provider of the information
2. By professional staff translator
3. By a Freelance Translator
4. By a translation agency
5. By machine translation

1. **Provider of information :** In many cases the provider of the information or the source of the information may also have a translated version of the information. The librarian should at first sight find out whether the source has the translated document.
2. **Professional staff :** Translator-Librarian should also assess the demand for foreign language translation. If there is a demand of more than 1000 pages in a language every year and the workflow is regular in nature. It would be economical to recruit a full-time translator staff for that language.
3. **Freelance translators :** Freelance translators are those who have sufficient ability and proficiency to translate but are not associated with any organization. Very often a translator may be a member of a professional translation agency or an organization as a translator may also be associated with. But the translator does translation work in free time or during weekends. Although one can get translation work done by these independent translators at a low cost, but till the time the credibility and capability of the translators is not well known, then there is a need to be careful about the quality of translation of independent translators. It is more advisable to contact independent

**Note**

translators through referrals rather than visiting the advertisements of independent translators on the website or other sources.

4. **Translation Agency :** The librarian should have a list of translation agencies available within the nation and outside the country. On receipt of translation requests, the librarian should try to get the translation done from a reputed translation agency.
5. **Machine Translation :** For smaller sections of the text, the librarian may also consider machine translation. If the demand is frequent, if the size of the text is small, the librarian can set up a machine translation facility. Machine translation is discussed separately in this unit. Scope of Technical Translation can be as follows :
  - Establishment of translation abstraction service
  - Provision of adequate responsive and predictive translation services
  - Maintenance of translation bank
  - Complete translation of selected magazines
  - In-service training to create a cadre of highly skilled specialized translators
  - Establishment of cooperation and coordination with international information systems.

### Conclusion

In this chapter, we have studied how information is produced, as well as who are the people involved in producing information. In this chapter, we have also learned about document delivery service and translation service.

### Important Terms

1. The scope of information is very wide and wide.
2. Information producers include writers, editors, libraries, documentation centers, information analysis centers, etc.
3. Documentation delivery service means providing the desired document by the readers.
4. Document Delivery—Services Satisfaction, Time Limit and Cost — These three characteristics are included.
5. Translation Service Conversion of printed text or spoken words into another language process to do.

## UNIT-4

### Information Product



**Note**

#### 4.7 Bibliographic Services

Under the comprehensive term 'bibliographic services' are included bibliographies, indexing services, abstracting services, documentation lists, and literature search in bibliographic databases both in offline; and online mode. However, with the latest developments and advancements in the use of computers and information technology, the online search services are being used commonly for information retrieval.

##### 4.7.1 Online Search Services

The concept of online searching was originally used to describe the process of directly interrogating computer systems to satisfy particular requests for information. Now the term is used to denote searches that are conducted by means of a local computer that communicates with a remote computer system containing data files. The search process is interactive and the user can make changes in the search statement until a satisfactory result is obtained. There are four major components involved in online searching.

- (i) Information providers or database producers who make available the database(s) to be accessed online.
- (ii) A search service or host, which provides access to the database(s) and also provides software for conducting the search.
- (iii) Communication links, which connect the user with the host and the database(s) and
- (iv) A local workstation through which the user is linked to the service.

The following are some of the key issues in mounting online search services :

Online bibliographic services are responsible for mounting databases on a computer and making the arrangements necessary for such databases to be searchable from a large number of remote user workstations. Online search services that provide access to a large number of databases convert the databases into a uniform format with some standardization in element names so that the basic commands and search techniques apply across all the databases that are offered by a given vendor. The intending searcher needs some awareness of the range of search services that are available. Increasingly, any one database may be available from several search services. There are number of different types of search services :

- (i) Traditional supermarket online search services that offer a range of 50 to 300 plus databases- on behalf of database producers based on the above types, one of the most widely used online bibliographic search services is DIALOG.

- (ii) Specialist online search services, such as DBE-link, which offers German language and other European databases and the search services offering access to business and financial databases.
- (iii) Publishers as search services : A number of major publishers have entered the market place as search services. These publishers have performed alliances with other online service suppliers in order to be able to offer an integrated information solution, which embraces both bibliographic databases for locating information and full text databases for document delivery.
- (iv) Platform-independent search services, which provide access to databases on CD-ROM, the web and client-server platforms possibly through a common user interface.
- (v) Bibliographic utilities that offer access to a select range of databases for specific communities. Examples of such services include OCLC, BLAISE (British Library Automated Information Service, London), ESA-JRS (European Space Agency Information Retrieval Service), ORBIT, Data star and so on.

**Note**



These services were the pioneers in the information environment. Some of the services of more recent origin include Podcast Individual Inc. and Desktop, data.

#### **4.7.2 Growth and Development of Online Search Services**

The concept of online searching originated in the sixties, when the US National Library of Medicine used computers in the production of the printed 'Index Medicus' and the MEDLARS (Medical Literature Analysis and Retrieval System) database was created. In 1964 the library began to offer batch searching of its MEDLARS system on demand, and the following year the Lockheed Missiles Corp. Systems Development Corp. (SDC) and the Chemical Abstracts Service began their computerised search services. The first online dial-up service was MEDLINE, the online version of MEDLARS, followed by commercial Online Services from DIALOG (Lockheed) and ORBIT (SDC) in 1972. Since then many organizations have switched over to online databases and search services. By 2002, there were as many as 750 public access databases from a range of different vendors. Initially, the majority of online databases provided bibliographic references and thus these were called bibliographic or reference databases. But over the years, more and more databases are becoming available which retrieve the content of documents rather than mere bibliographic references and such databases are either full texts or databanks. The growth

## UNIT-4

### Information Product



**Note**

in the database industry can be interpreted in terms of number of vendors, database producers, databases, database records, and online searchers. There are a number of publications that regularly record the growth of online information retrieval and the most useful among those is the Gale Directory.

#### 4.7.3 Online Bibliographic Service Providers

- (i) **DIALOG** : Dialog is the worldwide leader in providing online-based information services to organizations seeking competitive advantages in such fields as business, science, engineering, finance and law. Its products and services such as Dialog, Profound, Datastar offers organizations the ability to precisely retrieve data for more than six billion pages of key information accessible via the internet or through delivery to enterprise terminals. Over 600 industry databases engineered with state-of-the art indexing software are being retrieved through dialog, data star or profound brands.
- (ii) **OCLC (Online Computer Library Centre, Ohio)** : OCLC offers an integrated suit of online, batch and contract services and software to help in building and managing an electronic library based on the requirements, budget and goals. The online bibliographic service offered by OCLC is the world's foremost bibliographic database called World Cat. Since 1971, libraries have shared their catalogs electronically to create the world's large database of bibliographic information - World Cat (the OCLC online Union Catalogue). Now World Cat offers over 43 million bibliographic records, over 600 million location listings and holdings information, vital for collection development, cataloguing, authority control and conversion services (<http://www.worldcat.org/oclc-services-of-databases/>, htm).
- (iii) **BLAISE** : The British Library Automated Information Service now offers world wide web access to the major British Library catalogues and other important UK bibliographic databases such as the British National Bibliography, (British Books in (and out of) Print), SIGLE (System for Information on Grey Literature in Europe) and Her Majesty's Stationary Office, (HMSO). With Blaise Web, one can exploit World Wide Web search technology for cost-effective access to 22 databases containing 17 million bibliographic records representing material in every printed language, ranging from the earliest European printed books to the most recent scientific papers.

- (iv) **ESA-IRS** : The European Space Agency Information Retrieval Services provides comprehensive scientific and technical aerospace information online. Users including companies, research centres and universities can take advantage of a broad range of online information services from national centres and ESA-IRS offices in 13 European Countries. The collection of databases offered covers a diverse scope of information. ESA-IRS has particular strength in the field of aerospace and its applications such as earth observation and microgravity. Numerical databases concerning metals, metallurgy, materials science and mechanical engineering include e.g., Metals Datafile, Hydrogen Data among many others are available. Bibliographic databases covered, are Metadex, Engineered Materials Abstracts, Compendex plus, NASA. Search languages and interface include command, menu-driven and a MS-Windows based search interface.

**Note**



#### **4.7.4 Functions of Bibliography**

Bibliography generally serves the following functions :

- (a) It provides list of prior record of civilization.
- (b) A bibliography helps in locating the material or book in terms of place of publication, location in the library on point of purchase.
- (c) It also preserve documents.
- (d) A bibliography helps in book selection *i.e.*, which book should be consulted for a given purpose.
- (e) It is a guide to the literature of a subject.
- (f) A bibliography enables one to find out what has already been written on his subject and allows him to keep himself well informed and up to date. This avoids duplications in research, saving him both time and money.

## UNIT-4

### Information Product



**Note**

### Exercises

#### VERY SHORT TYPE QUESTIONS

1. What is the need for a document delivery service?
2. What are the areas of translation service?
3. What do you understand about information generation?

#### SHORT TYPE QUESTIONS

1. Explain the methods of information generation.
2. Write about the features of document delivery service.
3. Write a short note on—Electronic Document Distribution System.

#### LONG TYPE QUESTIONS

1. Write a detailed note on translation service.
2. Write a detailed note on information generation.

**Note**

# Information System and Network Organization

## 5.1 Introduction

In this chapter, we will study about information networks and also learn about Agris and Nisat. Will also study library networks in India. Will also study Nisat and Medlars.

## 5.2 Information Network : Concept and Objectives

The term network is being used to denote the expression and systems of many related but different entities. Due to the other achievements of computer-assisted reference services, cataloguing, abstracting, indexing, information retrieval and registration, the system of libraries and services and principles have changed significantly. Is this concept of network was given the name of information network by Kartz. In which there is a plan to organize computer based functional programs according to the technological capability and efficiency and through the medium. When the process of regulation was adopted by the libraries, it paved the way for the establishment of a network. The process of libraries helping and serving each other started the network. Many scientists have defined library networks as :

### 1. According to Trezza

“A kind of formal arrangement and organization in libraries for sharing and co-operation of resources in which the whole group is arranged in sub-groups in which most of the needs of a library of which it is a member, is satisfied.”

## UNIT-5

### Information System and Network Organization



Note

#### 2. According to Swank

“The concept of cooperative systems of libraries on the basis of geographical subject or any other kind of basis is called library network.”

#### 3. According to Katz

“When two or several libraries decide to establish a sharing of their resources, develop a program of mutual acquisition and focus their experiences or other objects together with the objects together. If it is, then it is the establishment of a kind of cooperative.”

The library network has the following objectives :

1. Maximize the use of resources of libraries through inter-library exchange with the help of networking.
2. To provide assistance to the member libraries in cataloging of books, books and periodicals.
3. To prepare online federated lists of books, non-book textbooks and periodicals.
4. To computerize the facility of supply of documents.
5. For faster transmission of information.

#### 5.2.1 Development of Library Network in India

For the last four decades, keeping in view the usefulness of library services, cooperation of libraries, sharing of resources and establishment of networks was encouraged in India. In 1958, the Government of India formulated the Scientific Policy Resolution and in 1983, more emphasis was placed on technology information in implementing the Technology Policy Statement.

In 1986, more emphasis was laid on the implementation of the following policies which are as follows :

1. New National Policy on Education was announced. Under this, emphasis was laid on upgrading libraries and library services across the nation.
2. Similarly Prof. D.P. Chattopadhyay presented his report on the National Policy on Library and Information System. The Sanskrit Department of the Government of India constituted a committee under the chairmanship of Chattopadhyay. This limited emphasized the following points which are :
  - (i) To develop a system of information in all areas of national activities.

**Note**

- (ii) The cultural wealth and pride of the nation should be protected in many services and forms.
- (iii) To provide fast paced training of catalog dissemination programs to enable and enable libraries and information personnel.
- (iv) To provide appropriate encouragement and support to individual efforts for the acquisition and dissemination of knowledge and discovery of new knowledge in the field of intellectual freedom.

In 1988, a seminar on sharing and networking of library resources was organized by the India International Center in New Delhi. As a result of this, DELNET was established in Delhi.

The Information and Library Network (INFLIBNET) was established by the University Grants Commission, which is a national level network. Here the details of three networks are being presented which are as follows :

1. INDONET
2. NICNET
3. INFLIBNET

In this networking, the work of linking the records is done by only one library, which saves valuable manpower and repetition. Due to the high cost of hardware, this collaboration reduces its cost to a great extent.

### **AGRIS : International Information System for Agricultural Science and Technology**

At present, agriculture has got the status of an important industry on which most of the human beings of the world depend. Therefore, the need for an information system of this subject was felt and for this purpose the Food and Agricultural Organization under the United Nations Organization (AGRIS : International Information).

#### **5.2.2 Need of AGRIS**

As a result of the research done in the field of agricultural science, information has developed in such a large quantity that the desired information can be available at the right time for any nation or institution to its scientists at the right time.

Agricultural science is such a broad interdisciplinary and multidisciplinary subject that covers many subjects which are as follows : Geography of crops and many types, and climatic conditions, atmosphere, soil, types of seeds, vegetative nature of plants, diseases causing damage to crops, chemicals, irrigation and its means, agricultural engineering and extension services etc.

## UNIT-5

### Information System and Network Organization



Note

In agricultural science research, scientists consider the information important of Agris. In 1969, the Director General of the Food and Agriculture Organization constituted a team of experts and after deliberating in it, in 1970, Agris was established, which had the following activities :

1. Collection and creation of a wide and comprehensive database of materials in the field of agricultural science so that Current Awareness Services (CAS) can be organized.
2. Coordinating the specific types of information services, systems and active centers available and organized in the region so as to make the services broadly useful and avoid unnecessary duplications.

#### 5.2.3 Characteristic Features of AGRIS

1. It is an international cooperative agricultural science information system based on voluntary cooperation, cooperation and contribution from various countries, nations and international institutions and organizations.
2. It is a computerized information collection and retrieval system.
3. The collection and selection of information materials to be included in this system is done at the local level by the National or Regional Input Centers.
4. This information system publishes the monthly Indexing Periodical.
5. AGRIS is a mission oriented system.
6. Synonymous Thesaurus synonym used for subject indexing.
7. This information system provides a selective information dissemination service and a Respective Information Search Service.
8. This information is made available on magnetic tape CD Rom etc. for machine reading.
9. Suitable standards, formats and manuals have been developed for inputting information in this information system. following which various centers to establish uniformity and recognition.
10. AGRIS organizes training programs from time to time for libraries, documentarians and information scientists working in partner countries and institutions.

The activities of AGRIS are known as two levels, which are :

1. AGRIS Level-I
2. AGRIS Level-II

#### 5.2.4 AGRIS Level-I

This level of service was organized after 6 years of deliberation and started

## UNIT-5

### Information System and Network Organization



**Note**

from 1975. Under this international information system, established with the mutual cooperation of the Food and Agriculture Organization and several nations, comprehensive and comprehensive lists of bibliographic information related to agricultural science and technology are compiled and prepared.

For this purpose, related text materials published from different countries and regions are collected and selected by national and regional investment centers, cataloged and classified in a standard format.

To facilitate the service of this information system, 128 National Centers and 17 International Centers are regularly providing support in investment works. The materials of this input are considered to be Magnetic Tapes, Punched Paper Tapes, optical in nature. Floppy Disc, these are sent in the form of investment papers etc. All these investments are sent to the AGRIS Processing Unit, Vienna, Austria. With the help of a computer, all the materials are put together and classified, after which they are prepared in databases in the form of magnetic tapes. Agris provides the following services with the help of these databases as follows :

1. **AGRINDEX** : Agrindex is a monthly indexing magazine, each issue of which contains approximately 11,000 references from more than 7,000 periodicals and documents in 50 languages. Document entries in these indexing journals are grouped into 17 main subject headings. and under each subject heading. They are arranged according to geographical area or object and on the basis of numerical code.

In each entry, the details of the entry number, the language of the report, the name of the authors, the first author's short address, current account, volume, issue publication, year page number of publication and publication place indicating the receipt of the document, etc. are given. Four indexes have been given at the end of this indexing journal, which are as follows :

1. Individual Author Index
2. Aggregation Author Index
3. Report Number Index
4. Subject Index

Agris has its own glossary list for subject indexing called the AGROVOC Thesaurus. More than 1 lakh references are included in the AGRIS database every year and as of 1986 13 lakh references have been detailed in it.

## UNIT-5

### Information System and Network Organization



**Note**

2. **AGRIS on Magnetic Tape:** Machine legible forms of agris base material can be obtained in the form of magnetic tape. The information printed on it is similar to the image of agrindex. All investment centers and organizations interested in this can obtain these magnetic tapes from Agris' Processing Center Vienna. The information on these tapes is recorded according to the international standard format ISO-2709 and can be processed with the help of a computer. Many types of information are provided to field scientists and researchers by obtaining these magnetic bands by national centers, such as : Selective Information Dissemination Service (SDI), Timely Recognition Service (IAS) and Retrospective Document Search Service etc. It is published in the form of a national bibliography by publishing all the information invested by a nation.
3. **AGRIS Online Service :** Online service is also provided by Agris and with the help of this Agris Aadhaar material can be searched even from remote places. Such services are available on major computers and with the help of international telecommunication systems such as telex, telephone and packet switching networks, timely and retrospective information can be obtained from them :
  1. International Atomic Energy Agency, Vienna
  2. Higher Medical Documents and Institutes Germany
  3. Dialog America.
4. **AGRIS on CD-ROM:** There are some limitations to the magnetic tape services and online services provided by Agris. To search the information stored on the magnetic tape, the local computer needs a lot of memory and the information source and system takes a lot of time to find the information.

Similarly, information can be obtained quickly through online service, but due to lack of proper development of telecommunication media, especially in developing countries, it is very difficult to establish a connection with the computer installed at a remote place and this service is also very expensive.

Due to the development of optical storage medium with the help of laser technology, the above problems can be solved. It was developed in 1985, which is similar to the audio surface saucer called Compact Disc, is spherical in diameter of 4.7 and in form is similar to Audio Compact Discs. It can store enough detailed information.

**Note**

CD Rom Drive can be viewed and searched for complete information with the help of a microcomputer. Therefore, Agris CD ROM can be easily used to get the desired information from any library and documentation centers in Agris base material.

Despite the above achievements, AGRIS has not been able to achieve the objectives so far. After surveying its service, it has been found that 50 percent of the content stored in Agris' database and magnetic tapes is in English and 70 percent in only four European languages. The total investment in non-conventional documents is less than 20%.

### 5.2.5 AGRIS LEVEL-II

At the time of the establishment of AGRIs, teams of experts had proposed the Director of Food and Agriculture Organization to function at two levels. In which the information needs of different levels of users can be met. The first level has been to provide Timely Recognition Service (IAS) at the earliest and the second level has been to provide specialized services, information centres, information analysis centres, files of Aadhaar material as a coordinated system in which centres, files of Aadhaar material are integrated has been to provide the form of Services can fulfill the following obligations :

1. To develop the base material by selecting and collecting all the useful study material related to your field of work.
2. Indexing and summarizing each and every article included in these base materials.
3. Proper organization of Selected Information Dissemination Service (SDI), Foreground Search Service and Information Analysis Service etc.

To start the second level programs of AGRIs, subjects like Veterinary Science, Forestry, Tropical Agriculture etc. were selected and their trial study teams were formed, which have no result so far, could not be received.

At present, from the point of view of information analysis, the following centers are playing their role in the analysis of specific types of agricultural science information, which are as follows :

1. Cassava Information Center
2. Tropical Grain Legumes Information Center, Nigeria
3. International Irrigation Information Center,
4. Coconut Information Centre, Sri Lanka
5. International Buffalo Information Center, Thailand
6. Semi-arid Tropical Crops Information Center, India.

## UNIT-5

### Information System and Network Organization



Note

Over the years, these centers are increasing their capacity by use of the latest information technology and many of these centers are functioning as Agris Investment Centers. These are considered as Nodal Centers of Agris Level-I.

#### 5.2.6 India's Contribution to the AGRIS-2

The Ministry of Agriculture, Government of India had decided in 1974 that India's cooperation in the activities of AGRIs would always be available as a member nation. In order to fulfill this objective, the Indian Council of Agricultural Research.

Under Research, the Agricultural Research Information Center was established in 1975. This information center is investigating all published literature related to agricultural science and technology through the AGRIS system. As of 1984, it has sent 30,000 references for investment in the Agris Information System and about 3500 references are sent every year. India accounts for about 4 percent of the databases prepared by Agris. Agris Agriculture for the last 20 years. It is playing its successful role in meeting the information needs of scientists and researchers. As a result, Agris has its own importance as a specialized information system in the field of practical and theoretical and technology of agricultural science. Information scientists, librarians, documentation experts, etc. received adequate guidance and benefits in the information training organized by AGRIS.

#### 5.3 MEDLARS : Medical Literature Analysis and Retrieval System

Database Bibliographical database is considered the largest bibliographical database of international standard to index its world-class materials. The tradition is useful not only for medical science experts but also for other scientists, sociologists, political science experts and business and business people.

Index Medicus, an internationally recognized index of documents on medical science and related subjects, has gained popularity. Since 1880 it has been published in various formats by the National Library of Medicine of America and since 1960 it is known as Index Medicus.

In 1968, Medlars evolved into Online Searching and since 1972 it is known as Medline. Initially, the scope of Medline was not extensive, but after 1977 its area became wider and wider. With the help of Index Medicus and Medline, any type of information can be easily obtained.

Medline search yields four instances of citations to documents, which makes the difference clear. Under the Index Medicus, three out of every four citations of abbreviations of magazine reports become clear and the

**Note**

fourth cannot be found from what is found through online search. Medlars are divided into the following parts :

- 1. Input :** Under this index, a bibliographic list of reviews of medical science is presented according to the subject-author part and subject and author. In its January issue, a standard subject authority list, also known as medical subject headings, is given. Apart from this, the journals whose articles are indexed in this. Their full table is also given. Subject headings are selected in the standard table of medical subject headings. For which a dictionary of 8 thousand index terms has been prepared. It is revised every year and an average of 12 subject topics are provided to each article.

Under this, it takes 15 minutes to index any article and in this period all the selected posts are marked in the printed 'data' shape. After that it is inspected and verified. The Medler's dataform is passed to the keypunch operator, which records the material to a computer magnetic tape or disc.

- 2. Data Manipulation :** In this the errors are rectified, which is accomplished through video display. It also includes the skill of printing citations under subject headings, authors and classifications etc. In addition, there are a number of processes, which ultimately depend on the printed and machine-readable formats.
- 3. Output :** When the materials are entered in the computer, the work of mechanization starts. Computer documents are arranged to produce two magnetic tapes in each month, a tape really high speed. The shaded typesetting method is input and the second is the Compressed Citation File, which is sent to the cooperative library network and distribution for search purposes.

In this, information can be obtained directly from those libraries as compared to the National Library of Medicine. In this way, the end result of doing index analysis of journals is of two types :

1. Preparation of printed copies of Index Medicus.
2. Preparation of Magnetic Tapes.

By this, production is prepared in many formats, the main ones being the following :

1. Preparation of type setting with the help of a computer.
2. Computer generated microfilm is the same microfilm of computer tape that the study uses.
3. High Speed Non-impact Printer where data base tapes are combined.

## UNIT-5

### Information System and Network Organization



**Note**

- 4. Print out :** Additional learning of citations is achieved by searching and using it with the help of computer. Its second important function is to print quotations. Users have to make copies of each quote by painstakingly searching by hand, which is costly in terms of time and effort. Medline is the most widely used of all databases. Because its benefits and facilities are more than magazines read by other machines. Medline accesses materials from the database in accordance with the author's instructions for reporting, summaries and any adjustments to the information.
- 5. Document Delivery :** Medline does not distribute documents. Rather, it presents the distribution of citations of the documents. This work is done efficiently and quickly. The National Library of Medicine combines Medline with a facility for inter-library exchange.

#### 5.4 National Information System in Science and Technology (NISSAT)

Considering the importance of dissemination and dissemination of information in the field of science and technology, the National Committee on Science and Technology (NCST) urged the Council of Scientific and Industrial Research (CSIR) to formulate an information activity programme. To assist CSIR in this work, UNESCO appointed Dr. Peter Ledger. Various suggestions given by Dr. Ledger were discussed at many levels, as a result of which the National Information System in Science and Technology was established in 1975. This program completely started in 1977 under the Department of Science and Technology (DST) of India.

**Objectives of Nissat :** The following are the objectives of the NISSAT program :

1. Advancement and enhancement of information services in the field of science and technology.
2. To coordinate the various scientific information sources, information services and information systems.
3. To find out the defects of various information sources, information services and information tools of the country and to carry out research work to remove them.
4. To meet the information needs of different strata of society and experts in an efficient and effective manner.
5. Establishing standards for exchange of information at the national and international level.
6. Establishment of an effective information system in the field of science and technology.

**Note**

7. To arrange for the availability of a copy of every scientific literature to be published in the country.
8. To organize training, seminars, conferences, workshops etc. to keep the subject experts and scientists updated.
9. Publishing various journals in the field of science and technology.
10. To provide assistance in research and development work in the country.

Under the NISSAT program, various centers are functioning at the following levels :

1. **National Information Centers** : All the information centers which provide information services at the national level are said to be the apex organs of this programme. The following are such national information centers - SENDOC, NASSDOC, INSDOC, DESIDOC, BARC, etc.
2. **Regional Information Centers** : RCS has been established to provide information services in different regional parts of the country. All these regional centers fulfill all the information requirements related to their area. Under this information, various services provide union list making, documentation service, translation service, reprography service etc. Such centers are IIT Kanpur, Institute of Experimental Medicine, etc.
3. **Branch Information Centers** : Branch Information Centers are of the third level. These centers provide specific types of industry oriented information. The main function of these information centers is to collect documents and contact foreign centers. CDRI, CFTRI, CBRI are similar information centers.
4. **Local Information Centers** : Such information centers are based on their parent institutions and basically provide information to the scientists of the parent institutions. These information centers are at the last level of the NISSAT service. There are about 1,000 such centers functioning in India.

#### 5.4.1 Various Activities and Services of NISSAT

By providing important activities and services in the field of science and technology which are as following :

1. **Collection of Literature** : One of the major activities of NISSAT is to collect all the scientific literature published in the nation which is necessary and important for the subject experts and scientists.

## UNIT-5

### Information System and Network Organization



Note

NISSAT is to establish coordination between acquisition and distribution of documents in various information centers and to prevent duplication of collection. takes important steps.

- 2. Providing CAS :** CAS service is provided by NISSAT for development of current information services. This service is provided to specific types of users, so as to keep them up-to-date with the latest information tools and technologies.
- 3. Selected Delivery Information Service (SDI Service) :** Selected information distribution service has been started for scientists and subject experts under the NISSAT program. This service was first started by INS DOC as an experiment through computers in IIT Madras in 1976. It is an important service, in which pure update service can be provided to the users quickly.
- 4. Construction of Union Catalog :** Preparation of the Union List of literature and documents available in various information centers is a major activity of NISSAT. Through this union list, coordination is established between various information centers. Scientists use the union list to get the desired results related to their subject.
- 5. Providing Information for Industries:** Industries play an important role in the development of the country, so providing information about new research and development in the field of science and technology of various small and big industries of the country is the main activity of NISSAT. In this regard, the SIET organization is mainly providing information.
- 6. National Science Information Policy :** National Scientific Information Policy has been established in the nation by NISSAT. Through this information policy, various research and development works being done in the country are promoted and encouraged.
- 7. International Contribution :** India through NISSAT in the field of science and technology at the international level. providing cooperation. For this India is participating in many programs with FID, INIS, UNESCO, AGRIS, etc.
- 8. Research Program in Information Science :** Research work is important in any subject. In view of this importance, with the help of INSDOC, many research works are being done in information science by NISSAT.
- 9. Training Programs :** In the era of modern information revolution, information systems are continuously developing. As a result, in view of the development taking place in the use of computers in various

subjects, NISS has started a computer training program. This training program has been started. These training programs are organized annually.

### Various Sectoral Centers of NISSAT

1. Leather Technology (NICLAI)- Central Leather Research Institute, (CLRI), Chennai.
2. Food Technology (NICFOS)-Central Food Technological Research Institute (CFTRI), Mysore.
3. Copyright Bulletin;
4. Directory Educational, Documentation and Information Services;
5. Word Guide to Library School and Training Courses in Documentation.

UNESCO to advise its member states on the planning of documentation libraries and archival services at the international, national and regional levels. At the same time it is also providing special technical assistance to the body of these services and also motivating the member states to overcome the difficulties in the development of these services.

### 5.5 VINITI (All-Russian Institute of Scientific and Technical Information)

**Introduction :** At present, the progress of any country and society is dependent on the intensity of the pace of research work of the scientists of that country. Plans made for the purpose of work of scientists and progress of the country depend on the receipt of information related to these subjects. If the work of searching for information related to their subject areas is done by the scientist himself or planning, then there is a possibility of spending more time in this work unnecessarily. Keeping in view the difficulties of scientists and understanding the need for information, national documentation and information centers were established in different countries to help scientists and researchers. VINITI is a Russian word which means "Scientific or Technical Information Centre". The full name of Viniti is All Union Institute for Scientific and Technical. Russia gave more importance to the subjects of information and documentation and placed them first in the list of priority. There is also a separate library for this subject, so that through the committee, problems and their solutions can be obtained and maximum and updated information can be obtained in the field of information. Along with this, this organization also collects information about the progress being made in foreign countries besides its own country.

## UNIT-5

### Information System and Network Organization



**Note**

## UNIT-5

### Information System and Network Organization



**Note**

After 1950, Russia paid attention to its economic development and started progressing at the fastest rate. Its politicians had understood that unless science would not get importance in the scientific and technical field, the economic condition could not be improved. Its indirect purpose was that there should be no duplication of inventions and research happening in the scientific field because the time of scientists is wasted in double repetition.

Viniti has a huge office building in Moscow. In its beginning there were 1500 workers and at present it has increased to 23 thousand. In which information specialists, abstractors, translators and subject-specific experts and many other employees are included.

**Information Systems :** National Systems Programs and Institutions.

The scope of Viniti is mainly concerned with processing scientific, technical literature published in the Soviet Union and abroad. receive such publications. And on their basis abstraction services developed and consequently magazines on abstraction started to be produced.

Under Viniti, 22 thousand narratives and about 8 thousand books of scientific and technical research journals and serial publications of about 65 languages of 115 countries are collected and the information is descriptive data.

The letters received are presented in the form of indexes. When the card index is prepared, then by arranging them according to different subjects, natural science, technology and other materials are published together by Viniti in the form of abstract magazine. With its service, scientists and experts make research work easy by providing them with the desired information about their subject.

**Objectives of VINITI :** There are many objectives of Viniti, among them the main objectives are as follows :

- (i) Publishing the latest research informative materials of natural and applied sciences in the form of abstract journals, but the materials of architecture, building equipment and agriculture have not been included in this.
- (ii) To organize information activities for research at the national level and increase their coordination and retrieval of scientific information, mechanical methods.
- (iii) To make available information to all kinds of experts and scientists and technologists.
- (iv) To make the scientists aware of the research objectives of the Russian organizations.

**Note**

- (v) To combine scientific and practical work relating to the collection and provision of information to the users through publications, magnetic traps etc. or through a network of specified institutions.
- (vi) To promote scientific research and cooperate in its editing to overcome the difficulties arising in the field of scientific information.
- (vii) To arrange training for the enhancement of knowledge of experts related to scientific and technological information systems.

Following are the main functions of Viniti :

- (i) Complete and systematic collection of world literature in the field of natural science and technology.
- (ii) Observation and publication of bibliography, reference service and abstracting magazine helpful in providing specialized service on various subjects related to subjects of social interest.
- (iii) To organize and conduct research projects to bring about excellence in the methods and equipment involved in the work of scientific information.

**Different Organizations of VINITI :** For the purpose of smooth and successful completion of the works of Viniti, it has been divided into the following departments :

- Receipt Department
- Technology Department
- Bibliography Department
- Abstraction Department
- Translation Department
- Publication Department
- Instruction Department
- Context and Service Department

**The Abstracting Service Department :** Viniti has been engaged in continuous abstraction service since 1953. In 1960, 12 thousand magazines in 92 countries and 65 languages of the world were abstracted. In 1961, Viniti published one million abstracts of abstract magazines in 16 series. Viniti also includes documents, books, reviews and standards of research journals under abstraction. At present, Viniti publishes the contents of 22 thousand scientific and technical journals and 8 thousand research level books in 65 languages of 115 countries of the world in Saar Patrika. It publishes over one lakh abstracts annually. Its 16 series of services are published for the purpose of providing information material to science and other subjects.

## UNIT-5

### Information System and Network Organization



Note

#### Features of Abstract

- (i) Summary or explanatory statement is presented according to the nature and characteristics of the document in the entries of the summary.
- (ii) Abstract journals mainly include research journals, reviews, monographs, original works, reference sources, etc. documents in the areas of natural science and technology.
- (iii) Abstracts contain an average of 350 words and a maximum of 1000 words which includes the purposes of the documents, the methods used on the theoretical basis, the results, statistical facts and the author's point of view are printed
- (iv) 120 words are allotted to explain the abstract.

For example, in the abstract of chemistry, the index has been divided into five parts.

1. Author Index
2. Subject Index
3. Formula Index
4. Patent Index
5. Reaction Index

1. **Acquisitor and Collection Department :** The main function of this department is to organize the collection, acquisition, accession, registration of magazines used in abstraction and other bibliographic publications. It has about 500 publications in 61 countries by more than 1084 organizations and institutions. A hand book is also prepared for Saar Patrika by Viniti. In the journals used in the abstract, 40 percent of the journals are in English and after access they are classified by the Universal Classification Method (UDC).
2. **Bibliography Department :** From time to time publication of Wangmay Lists is also done. In which a tabular index of the works of five to ten subjects is prepared. of this department. It also includes a review service. This is called the science-progress series. In the field of mathematics, physics, chemistry, metallurgy, biology, geology, geography, etc., such eloquent service is provided to scientists. Viniti also provides service by doing critical work on these topics.
3. **Translation Service Department :** Translation service is provided extensively by Viniti. The translation service is made available by Vineeti upon request of the organizations and users, the articles that

**Note**

are translated. A Scientific Bulletin is published for tables to their titles. Viniti prepares definitions, glossaries and corpus of terms to make translation work easier. These are presented on leaflets because of the abundance of terminology. From time to time Viniti publishes a Bilingual Dictionary. The Soviet Union is the leading country in the work of terrorism. Any important text or document of the world is translated here immediately. Any translation is completed by Viniti in a period of one month. The help of instruments is also taken here for translation.

4. **Technical Department :** Under this department, Viniti solves all the technical problems of its information system. Profitable methods are adopted by researching the latest arguments in information service, so that information can be obtained quickly. Under this department there is also the Department of 'Automatic Reference Information System for Science and Technology' which is an important organization of Viniti. It is technical.
6. **Publication Department :** Through VINITI related abstract services, subject experts can get information about their respective fields, such as a magazine called Mechanics, which provides complete information about the research happening under mechanics. The major publications of Vineeti are as follows :
  - (i) **Referativnyi Zhurnal :** This is an abstract magazine whose publication was started in 1953. This magazine is the most authentic and basic publication providing timely accessibility service (CAS) and retrospective information. After 1960, in addition to natural science and technological science, the following subjects were also included in this magazine, which are as follows, Astrology and geo-mathematics; Biology, Biological Chemistry; Geography; Geology; Mining GeoPhysics; Mathematics; Physics; Chemistry; Economics.

There was a great demand for this magazine by scientists of many countries of the world, due to which the form of this journal was broadened from 1963 and its new name given as Scientific and Technical Information. In this, articles related to various fields are published related to documentary sources of scientific information, their types, methods of collection and dissemination, copying and techniques, fast methods of document printing, technical means of information work, use of information material, etc.

## UNIT-5

### Information System and Network Organization



Note

This magazine was published in 1967 by F.I.D. (International Federation of Documentation) began to be published in the English language. Viniti collects published literature on various subjects of science in 65 languages of 115 countries of the world, of which 29 languages are Russian, then divides that literature into specific subject areas and publishes the abstract in several parts. To make the information work more accessible, the author and subject index is published at the end of each issue and then at the end of each section also this index is published. Apart from this, it also has classified subject formulas and patent indexes as per the requirement. Any information in this magazine is published in a period of three to four months after it is published in the first source.

- (ii) **Express Information :** In this magazine those are published which are related to the subjects in the field of science and technology. 48 issues of this magazine are published in a year. In which there is annotation and bibliographical information along with articles, patents and other documents. The magazine is divided into 69 subject categories. These categories are mainly related to major industries like - Minings, Railway Transport, Radio Engineering, Textile Industry, Inorganic Chemistry etc. Industries are related. After reading the article of this magazine, its importance has increased even more. Any information in this journal is published one month after it was published in the primary source.
- (iii) **ISGNL Information Bulletin :** This journal is published in 12 issues in a year along with an annual index of authorship of bibliographic information classified in the subject areas of Physics, Chemistry and Technology. This magazine has been published since 1966 in Russian, English-German and French languages.
- (iv) **Pilot Information :** This magazine publishes the latest information on science and technology subjects. After publication in the primary sources of any information, this information gets published first in it. Which is a significant achievement of the magazine. In this way, this magazine helps in meeting the library and its demand and two issues of this magazine are published in a month.
- (v) **Itogi Nauki (Results of Science) :** Through this journal, it is published in order to generalize the research work done in

**Note**

different branches in the field of science and technology. In this, information about the progress made by scientists in their related subjects is easily available. In this journal, bibliographic information and reviews of related subjects are also published and it was started in 1962 on the basis of information from the referential journal.

- (vi) **Scientific and Technical Information** : In this journal, translation and review of original articles published in foreign journals are published. The articles published in it are mainly related to the theory of information, methods of information exploration, organization of information. Information related to development in the national economic structure is also published in this magazine.
- (vii) **Advances in Science** : Advances are published by Viniteti in the form of their review on the basis of abstracts published in the Refractive Journal. 74 such advances have been published on various subjects in the fields of science and technology. Including Astronomy, Radio Electronics, Biology, Chemistry and Geophysics are the main ones.

#### [(ASSISTENT System : Automated Reference Information System for Science and Technology.

This assistent system of Viniteti is the main organization of information transmission. It is more related to technical departments. Initially this concept of other countries of the world remained. It was believed that Viniteti does only the work of gathering information. In order to remove the misconception of those countries, Viniteti improved its information system by making changes in 1969 and complete information transmission, the latest equipment was used and the entire information system was mechanized, as a result of this the difficulties faced in the work of abstraction, sequencing, translation service and document presentation etc. were automatically removed. To mobilize appropriate planning of information service. An integrated information system was established in it by Viniteti and the same is known as Assistent.

Due to its strong structure, industrial production and research work in this area. Much progress has been made. By this, in the field of reference service such as selected information dissemination service. Finding out the areas of forward-looking research, making the online facts available again and providing a copy of the articles published in the broadcast service magazine, etc. Revolutionary changes took place in the improvement of the works.

## UNIT-5

### Information System and Network Organization



Note

### Patents Information

Patent Information Policy is a specialized organization that is an integral part of the Science and Technology Information Service. The following functions were developed through the Patent Information System :

1. To prepare the patent file for effective use.
2. To disseminate information about the latest patents accepted in Russia and other countries.
3. To provide reference service on patent information to Russia and abroad.
4. To broadcast patent information in the country.

Weekly Bulletin on Patent Notice including Annual Issue is published.

**Computerized Information Service :** Russia develops information systems by computer for the advancement of science and technology in its country. It provides information service in the following ways :

1. Retrieval of facts and figures related to science and technology;
2. To provide computer information of all materials available in the Centre;
3. Providing selected information dissemination service;
4. Prospective search and service delivery;
5. Providing information in machine readable format.

### Conclusion

The working method of Viniti, despite being very complex, seems to be simple because a scientific method has been adopted for the methods of working in it. In this, scientific and technological fields are benefited by providing latest information to the country and abroad with new equipment as well as mechanized information systems and computerized service in it. Its functions are divided into different groups which are efficiently performing the responsibility of their respective areas. Viniti also provides information to its readers and scientists of member countries through the Inter-Library Loan.

### 5.6 (OCLC Inter-Library Loan System)

OCLC The Inter-Library Loan (ILL: Inter - Library Loan) system of (OCLC Online Computer Library Center) is the world's largest inter-library loan system, which is used by more than 5,400 libraries worldwide. Establishment of an on-line library network, OCLC was done in 1969 in USA. The purpose of its establishment is computer based interactive cataloging. Over time, the number of participating libraries increased, and its online federal catalog (OLUC: On-line Union Catalog) grew exponentially.

**Note**

As the online union catalog grew, it introduced the ILL Sub-system in January 1979, combining its bibliographic records and library collections. Currently O. C. L. C. Libraries using the subsystem have on-line access to 35 million (35 million) documents held in 23,000 libraries in 63 countries in the world. In the last 17 years Libraries affiliated to O.C.L.C. have exchanged 67 million (6 crore 70 lakh) e-records of documents using its inter-library loan system. 6 million (60 lakh) inter-library loan requests are handled by this system in a year.

OCLC is a for-profit library computerized network. The main objective of this system is to reduce the information cost and make access to the information easier. Today 11000 libraries in 41 countries are connected in this network. OCLC was established in 1967. The term was previously used for the Ohio College Library Center. Originally it was an automated cooperative listing undertaking. today. In this one crore ten lakh records have been added and 25000 records are being added per week. This database is available online, on which information is available from International Network system. Today OCLC's Interlibrary Loan (ILL) system receives 3.5 million inter-library loan messages per year. It takes 4 days to complete this service. The Inter-Library Loan System is an on-line communication mechanism. In which the solicitations are executed on their own. More than 3500 organizations are actively using this system all over the world. OCLC collaborates with some other National Credit Centers to provide the service. These institutions are the British Library Document Distribution Center

OCLC collaborates with some other National Credit Centers to provide the service. These institutions are the British Library Document Distribution Center, Document Supply Centre; The Staatsbibliothek, Denmark; Federal Republic of Germany; Center de pt France etc.)

Other libraries which provide inter library loan service through OCLC network are :

1. Chemical Abstract Service
2. The Library of Congress
3. National Technical Information Service, Canada etc. The National Technical Information Services in Canada etc.)

OCLC's Inter-Library Loan Service is a worldwide network that facilitates the exchange of textual materials between OCLC member libraries and other institutions. This is the world's largest online federation list. British Library Document supply Center (BLDSC) Bostan spa. this. The center was established in 1973. It is a major document supply center in the world. 30 lakh requests are received every year in this center. In this, requests can be made by post, fax, telephone and on-line database. Its collection

## UNIT-5

### Information System and Network Organization



Note

is very wide. Its compilation includes 2,28,000 journal titles, 30,00,000 reports, 5,00,000 dissertations, 30,00,000 treatises, 3,00,000 conference proceedings. In addition, it takes the help of 17 backup libraries to satisfy the documentation requirements of its readers.

#### 5.7 ENVIS (Environment Information System)

Envis is a decentralised computerized network data base system consisting of the focal point located in the ministry and a chain of network partners known as ENVIS centres located in the potential organizations/institutions throughout the country. In order to develop ENVIS network as a comprehensive distributed environmental information system, the ambit of ENVIS was extended to cover all the states of the country.

#### Objectives of ENVIS

The objectives of ENVIS are classified into two broad categories—long term and short term objectives.

##### The short term objectives of ENVIS are as follows :

1. To promote exchange of information amongst the developing countries.
2. To build up storage, retrieval and dissemination capabilities with the ultimate objectives of disseminating information speedily to the users.

##### The long-term objectives of ENVIS are as follows :

1. To support and promote research, development and innovation in environment information technology.
2. To build up a repository and dissemination centre in Environmental science and engineering.

Environmental Information System (ENVIS) is a closed, web enabled and comprehensive portal that provides information on environment and related subject areas to researchers, academicians, policy planners, environmentalists, scientists, engineers and the general public. It is a decentralized network of databases in operation since 1982-83 (Sixth Plan) and run by the Ministry of Environment, Forest and Climate Change.

As of October 2016, the network consists of 70 union territories housed in reputed institutions. Out of which 30 centers are related to the state of 'environment and related issues. There are 38 such environmental subjects, of which ENVIS is the center. ENVIS centers work for information collection, collocation, storage, retrieval and dissemination points on specific subject areas and for the State/UT as a whole.

**Note**

The output of ENVIS is presented in a user-friendly manner through the State-level Basic Environmental Information Database of India with the help of Geographic Information System (GIS). It provides for charting and tabular presentation of data. The information is disseminated to all stakeholders and national and international users. Query response, documentation and referral services to individual NGOs are also provided by ENVIS.

## 5.8 NASSDOC

National Social Science Documentation Centre (NASSDOC) a constituent unit of the Indian Council of Social Science Research, was established in 1969. NASSDOC aims to provide library and information support services to social researchers. NASSDOC provides different services :

1. Library and Reference Service
2. Nassdoc Database / Publications
3. Current Awareness Service
4. Acquisition of Research
5. Document Delivery

The NASSDOC library is a collection of reference sources. Provides books on subjects like bibliography, encyclopedias, doctoral theses, research project reports, etc. The collection has been bound from time to time including publications of Indian/foreign journals and other abstracts and indexing journals in social sciences, newspapers and annual reports of organizations. Government reports and institutional publications are also acquired.

### 5.8.1 NASSDOC Databases/Publications

One of the major activities of NASSDOC is the creation of databases and locating tools. The products of NASSDOC include Library Databases, Directories, Indian Social Science Periodicals Literature (INSSPEL), Union Catalogues, Bibliographies and Journals. Some of these are :

- (i) **Database of Research Project Reports** : This database covers bibliographic details like author, title, subject, etc. of over 3000 Research Project Reports funded by ICSSR as well as by other organisations. It is available both in print and digital form.
- (ii) **Database of Ph.D. Dissertations** : The database covers bibliographic details like name of the researcher, topic of dissertation, year of award of Ph.D. degree, etc. of about 5000 dissertations acquired by NASSDOC. The database is available both in print and digital form.

## UNIT-5

### Information System and Network Organization



Note

- (iii) **Directory of Social Science Libraries and Information Centres in India :** The Directory gives information of 447 social science and allied disciplines, libraries and information centres attached to government agencies, research and training institutes under various ministries, universities and autonomous bodies, banks, industry and trade, etc. Information about libraries having independent name, is given by references provided by their parent institutions. Each entry contains address of the library, e-mail, strength of the staff, type of collection, budget, subject coverage, computerisation details, facilities and services provided like photocopying, bibliography services, inter-library loan, online databases, literature search, translation, etc. The data given in the directory may enhance cooperation and resource sharing among Indian libraries and information centres.
- (iv) **Directory of Social Science Research and Training Institutions in India :** This directory given comprehensive list of about 450 social science institutions engaged in research and training in India. It provides details on areas of research, major achievements, special facilities, current research projects, publications, type of staff, library collection and services, relations with national and international organisations, and complete postal address with telephone, telex, fax and e-mail. The Subject Information Sources, Systems and Programmes Index and Location Indexes are appended in the directory to provide multiple access points. The directory was last updated in 1996.
- (v) **Directory of Asian Social Science Research and Training Institutes/Organisations in India :** This directory provides information of about 42 teaching and research institutes on Asian Studies in India. Each entry contains information about the name, address of the institution, type of organisation, type of staff, aims and objectives, activities, parent organisation, publications, name and level of training courses, library collection and services and facilities provided by the institution. Also appended are Subject Index and Location Index.
- (vi) **Union Catalogue of Social Science Periodicals and Serials in India :** Since 1970, the compilation of the Union Catalogue of Social Science Periodicals and Serials is being undertaken by NASSDOC. The complete database was published in 32 volumes, having details of 31,125 journals in 550 libraries, in 17 states and two union territories, having a separate volume of the National Library, Kolkata.

**Note**

Union Catalogue of Periodicals in Chennai, Mumbai and Hyderabad libraries have been updated till the year 2000. The periodical details in Chennai cover location of 867 journals in 12 libraries, Union Catalogue of Periodicals in Hyderabad provides location of 4,455 titles in 25 libraries, whereas, Union Catalogue of Periodicals in Mumbai covers 2,928 journals available in 16 libraries. All the three Union Catalogues are available in machine-readable format also.

- (vii) **Union Catalogue of CD-ROM Databases in Social Science Libraries in India :** This catalogue covers information about 132 CD-ROM databases available in 40 major social science libraries and information centres in India. It provides information about the title of CD-ROM database, frequency, brief annotation, information about the producer/vendor and library symbols along with holdings of the respective CDROM databases.
- (viii) **Bibliography on India in 2000 A.D. :** This bibliography has a record of 647 select books and articles appearing in journals, published and unpublished research reports and seminar papers, etc. on India in English language covering the period up to the first half of 1987. It also includes articles on Asia and the world with some bearing on India.

### Objectives of NASSDOC

The objectives of NASSDOC are as follows :

1. It provide financial assistance for documentation and bibliographic projects.
2. It make-available study grants to doctoral students for collection of research material from libraries located in various parts of the country.
3. It disseminate information about developments in social science research.
4. It provide library and information support services to the researcher in the field of social science.
5. It provide guidance to the libraries of ICSSR Regional centres and ICSSR maintained research institutions.
6. It conduct short term training courses for social scientists, research scholars, librarians and IT professionals.

## UNIT-5

### Information System and Network Organization



**Note**

### Conclusion

In this chapter we have studied information networks and studied in depth about Agris, Nisat etc. He also studied the development of the library network in India. Also studied medlars. Also studied the subject of Nisat.

### Important Terms

1. The process of libraries helping and serving each other marked the beginning of the network.
2. The notion of cooperative systems of libraries on the basis of geographical themes or any other type is called library network or information network.
3. AGRIS has made significant contributions in the field of agricultural development.
4. With the help of medlars, any type of information can be easily obtained. These are helpful in midseason's line.
5. In view of the importance of dissemination and dissemination of information in the field of science and technology, the program to form NISSAT was inspired.



### Exercises

#### VERY SHORT TYPE QUESTIONS

1. What do you understand about information networks?
2. What do you understand by medlars?
3. What do you understand about Nassdoc?

#### SHORT TYPE QUESTIONS

1. Discuss the objectives of an information network.
2. Why is agris needed? Write briefly.
3. State the functions of Viniti.

#### LONG TYPE QUESTIONS

1. Write a detailed note on Viniti.
2. Write a detailed note on OCLC.
3. Write a detailed note on the medlars.