

# **COURSE GUIDE**

## **LIS 216 INFORMATION USER AND INFORMATION SEEKING BEHAVIOUR**

**Course Team**      Dr Adam Gambo Saleh (Course Developer/Writer) – NOUN  
                             Dr. Angela E. Okpala (Course Editor)



**NATIONAL OPEN UNIVERSITY OF NIGERIA**

National Open University of Nigeria

**Headquarters**

University Village

Plot 91, Cadastral Zone,

Nnamdi Azikiwe Expressway

Jabi, Abuja

Lagos Office

14/16 Ahmadu Bello Way

Victoria Island, Lagos

e-mail: [centralinfo@noun.edu.ng](mailto:centralinfo@noun.edu.ng)

URL: [www.nouedu.net](http://www.nouedu.net)

Published by

National Open University of Nigeria

Printed 2020

ISBN:

All Rights Reserved

## **Course Guide**

### **Introduction**

**LIS 216** “Information User and Information Seeking Behaviour” is a two unit elective course consisting of four (4) modules and twelve (12) units designed to provide a self-study material to students of Library and Information Science discipline. It is adopted from NUC-BMAS to prepare students for the award of Bachelor of Library and Information Science degree (BLS) of the National Open University of Nigeria

### **COURSE AIM**

This course aims to equip students with the knowledge and necessary skills needed to understand library user’s needs and behavioural patterns when searching for information in order to improve library services and operations.

### **COURSE OBJECTIVES**

By the end of this course you will be able to:

1. Identify library users needs and their various information seeking behaviours
2. Construct library users information profile
3. Conduct gap analysis of the library
4. Utilize the different theories and models of information seeking behaviours

### **WORKING THROUGH THIS COURSE**

To successfully complete this course, read the study unit, listen to the audios and videos, do all assessments, open the links and read, participate in discussion forums, read the recommended books and other materials provided, prepare your portfolios, and participate in the online facilitation.

Each study unit has introduction, intended learning outcomes, the main content, conclusion, summary and references/further readings. The introduction will tell you the expectations in the study unit. Read and note the objectives. The intended learning outcomes tell you what you should be able to do at the completion of each study unit. So, you can evaluate your learning at the end of each study unit to ensure you have achieved the intended learning outcomes. To meet the intended learning outcome, knowledge is presented in texts, video and links arranged into modules and units. Click on the links as may be directed but where you are reading the text off line you may need to copy and paste the link into a browser. You can download the audios and videos to

view off line. You can also print or download the text and save on your computer or external drive. The conclusion gives you the theme of the knowledge you are taking away from the unit. Unit summaries are available in downloadable videos and audios

## **STUDY UNITS**

The study units in this course consist of:

### **MODULE 1: Information User and Information seeking behaviour**

Unit 1: Information User

Unit 2: Characteristics of information users

### **MODULE 2: Information sources, resources and Needs**

Unit 1: Concept of Information sources

Unit 2: Information Needs

Unit 3: Concept of Information Seeking Behaviour (ISB)

Unit 4: Strategies of Information Seeking and Information Usage;

### **MODULE 3: Theoretical Frameworks for Information Behaviours**

Unit 1: Concept of information seeking behaviour models *and theories*

Unit 2: Ellis' Behavioural Model of Information Seeking and  
Krieklas (1983) Model.

Unit 3: General Models of Information seeking models of Professionals

Unit 4 Model of Information Seeking on the Web and the behavioural modes.

### **Module 4: Factors Influencing Information Use And Information Users/Customers**

Unit 1: Macro and Micro Environmental Factors Influencing Information  
Use and Information Users/Customers

Unit 2: Information and Information Users/Customers in the Digital Age

## **Assessment**

There are two main forms of assessments in this course that will be scored: the continuous assessments and the final examination. The continuous assessment

(TMA) shall be computer based and will be given in accordance to university academic calendar. The timing must be strictly adhered to. The Tutor Marked Assessments (TMAs) shall be scored a maximum of 10% each. On the whole continuous assessment will be 30% of the total marks while the final examination written at the end of the course will be 70%.

### How to get the Most from the Course

To get the best in this course you need to have a personal laptop and internet facility. This will give you the opportunity to continue your learning uninterrupted anywhere in the world. Use the objectives to guide your self- study in the course. At the end of every unit, examine yourself with the objectives and see if you have achieved what you need to achieve.

Carefully work through each unit and make your notes. Join the online synchronous (face-face) facilitation as scheduled. Where you missed the facilitation online, view the recorded video sent to your platform at your own time. There will also be asynchronous facilitation.

## CONTENTS

<b>MODULE 1: Information User and Information seeking behaviour</b>	<b>7</b>
UNIT 1: Information User	7
Unit 2: Characteristics of information users	12
 <b>MODULE 2: Information sources, resources and Needs</b>	 <b>17</b>
Unit 1: Concept of Information sources	17
Unit 2: Information Needs	23
Unit: 3 Concept of Information Seeking Behaviour (ISB)	27
Unit 4: Strategies of Information Seeking and Information Usage	37
 <b>MODULE 3: Theoretical Frameworks for Information Behaviours</b>	 <b>47</b>
Unit 1: Concept of information seeking behaviour models and theories	47
Unit 2: Ellis' Behavioural Model of Information Seeking and Krieklas(1983) Model	56
Unit 3: General Models of Information seeking models of Professionals	65
Unit 4 Model of Information Seeking on the Web and the behavioural modes.	79
 <b>MODULE 4: Factors Influencing Information Use and Information Users/Customers</b>	 <b>86</b>
Unit 1: Macro and Micro Environmental Factors Influencing Information Use and Information Users/Customers	86
Unit 2: Information and Information Users/Customers in the Digital Age	91

## **MODULE 1: INFORMATION USER**

This module introduces you to the concept and definition of information, information user and the different types of information users.

Unit 1	Concept of information User
Unit 2	Types and Characteristics of Information Users

### **Unit 1 CONCEPT OF INFORMATION USER**

#### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Concept of Information
  - 3.2 Concept of Information User
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Self-Assessment Exercises
- 7.0 References/Further Reading

#### **1.0 INTRODUCTION**

This unit will introduce you to the concept of information user. However, before proceeding deep into the topic, you need to first understand the concept of information. After which we will discuss who information users are.

#### **2.0 OBJECTIVES**

By the end of this unit, you should be able to:

- Define information
- Discuss the characteristics of information
- List and discuss the types of information
- Define information user

#### **3.0 MAIN CONTENT**

##### **3.1 Concept Information**

Information can be described as the outcome of a process data. Data on the other hand, are raw facts and figures that have not been processed. Information can also be said to be data that has been processed, interpreted and understood by the recipient. This means

that, for data to be usable, it must be processed. Information has been defined by different authors in various ways. Mehrotra (n.d) defined information as any form of communication that is useful and understandable knowledge for the recipient. This in essence means that, information is a processed data that has value and capable of helping the recipients to make decisions. Therefore, for information to be useful and well understood it must be communicated in a language that is understood by the recipients and it must be relevant for a particular purpose. According to Hardcastle (2008, p.6), “a common definition of information is that it is data that have been processed so that they are meaningful. This requires a process that is used to produce information which involves collecting data and subjecting them to a transformation process in order to create information. Some examples of information include a sales forecast or financial statement”. Hence, for information to be of good quality, it must possess some characteristics.

### 3.1.1 Characteristics of Information

The following are some characteristics of valuable information according to McGonigle and Mastrian (n.d);

- 3.1.1.1 **Availability:** Information must be suitable and ready for use. This implies that, information must be made available and accessible to the right users.
- 3.1.1.2 **Accessibility:** This means that, the right users must be able to use the right information at the right time and place.
- 3.1.1.3 **Accuracy:** Information should be accurate and free from errors or mistakes. Accurate information will enable the recipient or user to make good decision.
- 3.1.1.4 **Timeliness:** Information must be available to the user at the right time and in the right format.
- 3.1.1.5 **Security:** Information must be secured or kept safe from unauthorised users and ensure access to authorised users.
- 3.1.1.6 **Completeness:** Information must be complete in order to meet the needs of the recipient. Completeness of information means that information should contain the necessary data or details required by the user. Incomplete information may affect decision making.
- 3.1.1.7 **Conciseness:** Information should express much meaning in few words, clear, succinct and unambiguous.
- 3.1.1.8 **Flexibility:** Information must be flexible in order that it can be use for various purposes.



3.1.1.9 **Objectivity:** Information should be free from bias. It must be factual, reliable and deals with the truth.

3.1.1.10 **Reliability:** Information is reliable when it emanates from a credible or trustworthy source.

3.1.1.11 **Understandable:** Information is valuable when it is well understood by the user. Therefore, information should be written in a language that is easily understood by the recipient.

Other characteristics of information include relevant, transparency, verifiability, utility, clarity, presentation etc.

### 3.1.2 Types of Information

There are six types of information according to J. H. Shera (1998). The following are the six types of information;

- Conceptual information
- Empirical information
- Procedural information
- Stimulatory information
- Policy information
- Directive information.

3.1.2.1 **Conceptual information:** This refers to information which is based on ideas, concepts, theories, and hypotheses that show the relationship that exist among variables in a particular area of study.

.

3.1.2.2 **Empirical Information:** These are information obtained by means of observation, experimentation, and literature search. It is usually based on scientific background.

3.1.2.3 **Procedural Information:** This refers to the method that allows the researchers or investigators to work better. Procedural information enables the collection, manipulation, testing and analyses of data.

3.1.2.4 **Stimulatory Information:** This refers to information that motivates people and this information emanates from people and the environment.

3.1.2.5 **Policy Information:** This refers to information that is use for decision making process. It involves the pictorial, diagram description of objectives, goals, responsibilities and functions.

**3.1.2.6. Directive Information:** This information involves providing direction. For example, the description of job responsibilities, and roles in an organisation.

### 3.2 Information User

Users of information are vital to library and information centres. Without users, there will be no need for libraries. A user according to Nwalo (2003) cited in Anyira (2011), is anybody who visits the library for the purpose of making use of its resources such as books, journals, magazines, theses, dissertations, and other electronic resources in order to satisfy his/her information need. Guinchat (1983) defined user based on two set of criteria;

1. Objective criteria such as socio-professional category, specialist field, nature of activity for which information is sought, and reason for using information.
2. Social and psychological criteria like attitudes, values in relation to information in general.

**Information user** on the other hand, is an individual or a person who has the right to use the library's resources. Therefore, it should be noted that, library user, and information user means the same thing. Information user or library user can also be referred to as patron, clientele, customer, reader, etc.

Information user or library user use the library for various purposes such as ;

- i. To browse the library's collection
- ii. To study and make use of the library's resources
- iii. To borrow books
- iv. To make inquiries
- v. To obtain factual information
- vi. To use electronic resources such as e-books, e-journals etc.
- vii. Photocopying services
- viii. To browse the internet

In summary, an information user includes any individual who makes use of library and information services. These individuals are very important in library system as without these users, libraries will go in to extinction. The goal of any library and information centre is to provide information resources and services to all users irrespective of their culture, language, gender, background and educational qualification.

Everyone needs information for one reason or the other. Students need information in order to pass their examinations and earn a degree. Lecturers, researchers and faculty members need information to proffer solution to problems and add to existing knowledge.

### 4.0 Conclusion

Information is an important element in the life of humans in general. It has become the basic necessity of life, no wonder it is collected, processed, organised and preserved by libraries to enable access, retrieval and use by information users. The information user is the most important guest in the library. The library and information centres depend on the information users to stay in business. Hence, information user is the “king” and that is why librarians working in libraries must ensure they provide the needed services and resources that will meet users’ information needs.

### 5.0 Summary

To refresh your memory on what you have learned in this unit, we want to remind ourselves of some terms that we discussed earlier in this unit. We discussed the concept of information, characteristics of information, types of information, and who an information user is. A simple definition of information is that it is the outcome of processed data. While data on the other hand, are raw facts and figures that have not been process. Some of the characteristics of information include accuracy, relevance, availability, accessibility, conciseness, etc. There are six types of information, namely, conceptual, empirical, procedural, directive, stimulatory, and policy. We also defined information user as an individual or a person who has the right to use the library’s resources.

### 6.0 Tutor Marked Assignments (TMAs)

1. Defined the term information.
2. Defined the term information user.
3. List and explain 7 characteristics of information.
4. List and explain the 6 types of information.

### 7.0 References / Further Readings

- Anyira, I. E. (2011). The anatomy of library users in the 21<sup>st</sup> century. *Library Philosophy & Practice*.  
<https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1566&context=libphilprac>
- Guinchat, C. (1983). General introduction to the techniques of information and documentation work. Paris: UNESCO.
- Hardcastle, E. (2008). Business information systems.  
<http://www.promeng.eu/downloads/training-materials/ebooks/business-information-systems.pdf>

McGonigle, D. & Mastrian, K. (n.d.). Introduction to information, information science and information systems.

[https://samples.ibpub.com/9781449631741/92367\\_CH02\\_017\\_032.pdf](https://samples.ibpub.com/9781449631741/92367_CH02_017_032.pdf)

Mehrotra, D. (n.d.). Basic concepts of information technology (IT). [http://e-school.kmutt.ac.th/elibrary/Upload/EBook/DSIL\\_Lib\\_E1312881659.pdf](http://e-school.kmutt.ac.th/elibrary/Upload/EBook/DSIL_Lib_E1312881659.pdf)

## **UNIT 2: TYPES AND CHARACTERISTICS OF INFORMATION USER**

### **CONTENTS**

1.0 Introduction

2.0 Intended Learning Outcomes (ILOs)

3.0 Main Content

3.1 Types of Information User

3.2 Characteristics of Information User

4.0 Conclusion

5.0 Summary

6.0 Self-Assessment Exercises

7.0 References/Further Reading

### **1.0 INTRODUCTION**

In unit 1, you have learnt what information is, its characteristics and types. You were also introduced to the term information user. In this unit, we will introduce you to the types of information user as categorised by different authors. We will also discuss some characteristics of information user.

### **2.0 INTENDED LEARNING OUTCOMES**

By the end of this unit, you should be able to:

- List and discuss the types of information user
- Discuss the characteristics of information

### **3.0 MAIN CONTENT**

#### **3.1 Types of Information User**

Information user varies according to the types of libraries. For example, in school library setting, the information users or library users include pupil, secondary school students and teachers. In public libraries, their users are made up of children, farmers, literates, retirees, housewives etc.

In academic library setting, we have the following as users;

1. **Students:** Students are the most important and number one users of academic library. The main purpose of the academic library is to acquire information resources in various formats to meet the needs of the students. In polytechnics, colleges, and universities, students constitute the largest number of users of the library. They comprises of pre-degree, undergraduate, and postgraduate studentss. In order to keep up with their academic pursuit, these students constantly use the library for various purpose ranging from reading light materials, working on their assignments, reading for exams, borrowing library materials and literature search in order to advance their knowledge.
2. **Lecturers/Teachers:** These are another set of information users in academic libraries. Their objective is to impart knowledge and good values on students. Hence, they need various information resources in order to achieve their goal. They carry out independent research and contribute their intellectuals to the university repository and the society in general.
3. **Researchers:** These are professional scholars who have degrees in their various subject fields. These set of people carryout research on a daily basis in order to proffer solution to societal problems and to contribute knowledge to their respective fields. Because of their constant need of information, they visit academic libraries in order to have access to information resources and services.
4. **Faculty Members:** These are management staff members of the university and they need information resources for decision making and for solving problems within the university environment. Hence, they visit the library to get needed information and services.
5. **Administrative Staff:** These constitute staff members that are involved in the day to day running of the university. These set of information users need information for various reasons ranging from relaxation, education, consultation etc. Sometimes, they use the library's resources to enhance their skills and competencies.

Different authors in library and information science field have categorised information users based on the types of services they need. Ranganathan categorised information users based on the services they need. In his case, he categorised information users into;

1. **Freshman:** This refers to as fresher or a new member of the library. The fresher is introduced to the library and its services and how to he/she can find information resources such as books depending upon his/her reading interests.
2. **Ordinary Inquirer:** This refers to a normal person that request for library resources such as book, and services.
3. **Specialist Inquirer:** This refers to a user that specialises in a particular subject area.

4. **General Reader:** This is an information user that is not included in the above aforementioned group.

Ranganathan recommended different types of services that will meet the information needs of the user which ranges from initiation or orientation, ready reference service, long range reference and general help to general readers.

In the case of Kumar and Phil (2009), information users can be categorised into four group and they are;

1. **Potential User:** This is a user that needs information which can be provided by specific kind of services.
2. **The Expected User:** This is a user that has the intention of using a particular type of information service.
3. **Actual User:** This is a user that uses information service whether or not he or she derives advantage or satisfaction from it.
4. **The Beneficiary User:** This is a user that derives quantifiable advantage from information services provided.

Kumar et al (2009) also categorised information user based on the library services they made use of. These users are;

1. **General readers:** This group of users uses light lending materials and this group of users are associated with public libraries.
2. **Subject Readers:** This type of users make use of library materials relating to the subject field they are working.
3. **Special Readers:** This group of users are users with special needs. They have one kind of disabilities or the other. It may be physical or mental.
4. **Non-Reader Users:** These are subgroups that make use of materials in library such as borrowing videos or audio cassettes. They mostly use non-reading materials.

### 3.2 Characteristics of Information Users

As we discussed earlier, information users are individuals or persons who have the right to use the library's resources. We have also discussed the various categories of information users according to different authors in library and information science. At this point, let us highlights some of the characteristics of information users. The following are some of the individual characteristics of library users;

**3.2.1 Age:** This is a factor that helps identify the reading ability of a user. It also explains how the user access and use information.

**3.2.2 Personality:** This is a characteristic of users that determine the user reading ability and the extent of use of information.

**3.2.3 Nature of Job or Occupation:** The nature of job or occupation of information users will determine the volume and types of information materials they require. For example, an engineer will request for information resources relating to engineering field.

**3.2.5 Level of Education:** The level of education of information users will also determine the kind and format of information resources they need and their ability to appropriate put the needed information into good use.

**3.2.6 Subject Area of Interest:** This is another characteristic of information users that determine their ability to access and use information. Many information users most of the time use resources relating to their subject field or area.

Other characteristics of information users include reasons for using the library, location of resident, etc. Lehman cited in murugan (2011) listed 7 users' characteristics and they are;

- (i) Personality level
- (ii) Variability level
- (iii) Vocational level
- (iv) Capacity level
- (v) Satisfaction level
- (vi) Functional reading level
- (vii) Visual level.

Knowing the characteristics of information users will enable librarians in libraries and information centres to better provide information resources and services that will their needs.

#### **4.0 Conclusion**

The information user is the most important guest in the library. There are different categories of information users depending on the information needs and the services to want. It is important for librarians in libraries and information centres to understand the different types of users in order to provide the needed resources and services they need. The library and information centres depend on the information users to stay in business, it is therefore, important for librarians to be conversant with the different characteristics of the users.

#### **5.0 Summary**

To refresh your memory on what you have learned in this module, we want to remind us about some terms that discussed earlier in this unit. We discussed what information is, characteristics of information, definition of information user and the different types of information users earlier in unit one. In this unit, the different types of information users were discussed. Ranganathan categorized information users based on services that they received; these information users include freshman, ordinary inquirer, specialist

inquirer and general reader. Another categorization was done by Kumar and Phil, they categorized information users into four groups namely; potential user, actual user, the expected user, and beneficiary user. They also categorised information users based on library services that was provided to them, these users include general readers, subject reader, special readers and non-reader users. It is important for you to go through this module over and over again to understand these categorisations.

## 6.0 Tutor Marked Assignments (TMAs)

1. Discuss the 4 categories of information
2. List and explain 7 characteristics of information user.
3. List and explain the Ranganathan's 4 types of information user.
4. List and explain the 4 types of information user given by Kumar and Phil (2009).

## 7.0 References / Further Readings

Kumar, B. R. & Phil, M. (2009). User education in Libraries. *International Journal of Library and Information Science*, 1(1) 001-005.

[https://academicjournals.org/article/article1380016674\\_Kumar%2520and%2520Phil.pdf](https://academicjournals.org/article/article1380016674_Kumar%2520and%2520Phil.pdf)

McGonigle, D. & Mastrian, K. (n.d.). Introduction to information, information science and information systems.

[https://samples.ibpub.com/9781449631741/92367\\_CH02\\_017\\_032.pdf](https://samples.ibpub.com/9781449631741/92367_CH02_017_032.pdf)

Mehrotra, D. (n.d.). Basic concepts of information technology (IT). [http://e-school.kmutt.ac.th/elibrary/Upload/EBook/DSIL\\_Lib\\_E1312881659.pdf](http://e-school.kmutt.ac.th/elibrary/Upload/EBook/DSIL_Lib_E1312881659.pdf)

Murugan, V. S. (2011). User studies and user education. *International Journal of Library and Information Science*, 3(9), 187-189.

<https://academicjournals.org/journal/IJLIS/article-full-text-pdf/35B49FE4809>



## **Module 2: Information Sources, Resources and Needs**

This module covers Concept of Information Sources and Information Resources; Information Needs, Information Use and Factors Affecting Information Needs.

Unit 1: Concept of Information Sources and Information Resources

Unit2: Information Needs, Information Use and Factors Affecting Information Needs

### **Unit 1: Concept of Information Sources and Information Resources**

#### **CONTENT**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Concept of information sources
  - 3.2 classifications of information sources
  - 3.3 Concept of Information Resources
  - 3.4 Types of Information Resources
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Self-Assessment Exercise
- 7.0 Reference/ Further Reading

#### **1.0 INTRODUCTION**

You have learnt the definition of information, who is an information user and various types of information user in module one. Now you will learn about where to find this information and in different means where you can access and use this information for your study, research and solving of your information needs. This will bring us to our topic today “concept of Information sources, resources”.

#### **2.0 OBJECTIVES**

At the end of this unit, you should be able to;

1. Define the concept of Information sources.
2. Understand the different ways information sources can be classified.
3. Explain the concept of Information resources.
4. Discuss the various types of information resources

### 3.0 MAIN CONTENT

#### 3.1 Concept of information sources and their classifications

##### Information Sources

Chinnasamy (2016) defined information as the knowledge of the human in action. It may be ideas, facts data and imaginative works of the human mind which may be communicated formally or informally in any format. An information source is any source which communicates formally or informally ideas, facts, data of human activities and events witnessed or heard from a person about the existence of something or provide knowledge about it to another person or group of persons. The information sources are classified in many ways by different authors as you can see below.

#### 3.2 Classification of Information Sources

The information has been classified into various categories based on nature, originality sometimes the frequency of their production by information specialists and professionals (Ahmad and Khazer, 2015).

Information sources are classified under the following categories;

1. According to their physical nature
2. Based on the originality of the information
3. Based on their format of production

##### 3.2.1 Classification of Information Sources by their Physical Nature

Information sources can be classified according to their physical nature namely; documentary and non-documentary.

- i. **Documentary sources:** There are records of thoughts which are produced on paper or recorded on other materials for present and future use by anybody seeking such information. These are examples of documentary sources books, periodicals, microforms, tape records and photographs.
- ii. **Non-documentary Sources:** These are unrecorded sources of information which include live chats with colleagues, visitors, the participant's in seminars, conference, information centres; government establishments, departments etc.

##### 3.2.2 Classification of Information Sources by the Originality of the Information

Information sources can be classified based on the originality of the information such as primary, secondary and tertiary information sources.

- i. **Primary Sources:** These are first-hand information or original materials which have not been interpreted, summarized, analyzed or evaluated by a second party or person. Some of the examples of primary sources are interviews, a report by somebody who witnessed an event; letters, periodicals, conference proceedings diaries and research work by a person

- ii. **Secondary Sources:** A secondary source is information that is derived or gotten from the primary or original information. The secondary information source is a modified, summarized, reported information from an original or a witnessed source (person) for a defined purpose or audience. Some of the examples of secondary information sources are textbooks, reviewed articles, bibliography to a primary source and *indexes use in* locating a primary source of information.
- iii. **Tertiary:** These consist of information derived from the collection of primary and secondary sources of information. These information sources sometimes are summaries of information derived from primary and secondary sources. Examples of tertiary sources of information are abstracts, handbooks, bibliographies, encyclopedias, almanacs, indexes etc.

### 3.2.3 Classification of Information Sources by Format of Production

Information sources can also be classified based on their format of production namely print and electronic sources (Non- Printed) sources. The electronic or non-printed sources can also be referred to as soft copies of information sources.

- i. **Print Sources:** The sources of information which appear in print format are known as print sources. These sources are printed using computers, printers and typewriters to produce these hard copies (print sources) examples are textbooks, newspapers, reference books, journals and diaries, etc.
- ii. **Electronic Sources** are online, electric or digital media sources which contain information that can be accessed, read and viewed with the help of information communication technology devices. Some examples of electronic sources are databases, websites, electronic journals, electronic books, magnetic tapes, CD- ROMs

### 3.3 Information Resources

Information is reporting a given situation or event which will add knowledge to anyone who accesses and uses it. Nzewi (2020) defined resources as a medium or platform through which information can be received. Information resources as defined by Chimah and Udo Nwokocha, (2013) are all forms of information carriers which can be used in promoting and encouraging effective research activities and developmental projects by an information user.

### 3.4 Various Types of Information Resources

Types of information resources you as an information user can access to satisfy your information needs are

1. Journal
2. The Web
3. Books
4. Thesis
5. Encyclopedias
6. Database

7. The Library Catalogue
8. Social Media

### **3.4.1 Journal**

Journal is a collection of articles written by different authors in an academic field or global topics which must pass through an editorial board reviews before such articles are accepted to be published as a journal article. In some of the journal publication fees are not charged but some journal charges money from the author/authors of an article for reviewing and publication. You can use journal articles in reading and writing of literature review in research work. Also, you can use the journal articles in writing assignments and further reading on topics of your interest. The most recent research findings are published in journals.

### **3.4.2 The Web**

The Web is another source of information which gives information users access to information on the internet through the use of the internet browser. The information on the web can appear as sounds, video, images and plain text. The internet provides current information to anybody who needs information and knows how to access the needed information.

### **3.4.3 Books**

The books contain topics, facts or fiction which is read by their users to find information, arguments and opinions of other people. Books can be in printed format or electronic format. Some of the textbooks produced in the printed format are accompanied by electronic copies in CDs to read with the use of computer devices.

### **3.4.4 Thesis**

The thesis is a primary source of information because it provides the result of research output. Most of these theses are current and original research produced yearly by final year students in and undergraduate and postgraduate programmes in higher institution of learning globally. You will be expected to write your thesis (Project work) before you graduate

### **3.4.5 Encyclopedias**

Encyclopedias are collections of factual write up written by authors who are specialist in that particular discipline or topic. Encyclopedias are divided into two general and subject. General encyclopedias treat different concepts without emphasis on a particular discipline or subject while subject encyclopedias treat in details topics in a particular field of study or subject like an encyclopedia of Library and Information science, encyclopedia of Nursing, Encyclopedia of Medicine.

### **3.4.6 Database**

The database contains information and citations of books, magazines, journals and newspapers which are accessed with the use of the internet, computer devices and mobile devices. Some of these databases have full- text and summaries of a book,

journal articles. Examples of databases are Ebscohost, Hinari, Agora, Google Scholar and ScienceDirect.

### **3.4.7 The Library Catalogue**

The library catalogue is a collection of all the library holdings. What are the library holdings? It is all the resources which the library which is aimed at satisfying the information needs the library users. The Library catalogue keeps a record of all the information resources and provides a record for each item in library collection which points to you where you can locate the information resources in the library. The library catalogue may be online on the library home page or offline (Library Catalogue cabinet) in the library.

### **3.4.8 Social Media**

This is another useful information resource which helps in providing information for users of the information for research, entertainment and interpersonal communication with friends. Social media like WhatsApp, Zoom and Telegram can be used for teaching and learning academic work by professionals and students. You can access and upload current research, employment, set up a professional profile and obtain the latest news using the social media platform

## **4.0 Conclusion**

Information is reporting a given situation or event which will add knowledge to anyone who accessed and use it. This information is recorded in various resources which can be books, journals, magazines, library catalogues, videos; web, database and CDs for easy access and use by information users. Your ability to use these information sources and resources in attending to your information needs depends on your awareness of their existence, their availability and having the required skills for their retrieval. This view is supported by Chimah and Udo Nwokocha,( 2013:43) the “ability to identify and retrieve specific information needed for a particular situation requires an awareness of the source (availability) and the skill to retrieve it within a short time and at low cost (accessibility)”.

## **5.0 Summary**

In this unit, you have learnt about information sources and their various classifications. Also, you learnt about information resources and various information resources you can use in satisfying your information needs. Attempt the questions below to assess your level of understanding of this unit.

## **6.0 Self-Assessment Exercise**

1. Define the term Information sources?
2. Outline the various ways information sources can be classified?
3. ----- are all forms of information carriers which can be used in research activities and study by an information user?
4. Discuss three types of information resources you have used?

## **7.0 References / Further Reading**

- Ahmad G. S, and Khazer, M. (2015) Diversity of information sources in the digital age: An overview. *Journal of Advancements in Library Sciences* 2 (2). 53 – 61.  
[https://www.researchgate.net/publication/313577562\\_Diversity\\_of\\_Information\\_Sources\\_in\\_the\\_Digital\\_Age\\_An\\_Overview](https://www.researchgate.net/publication/313577562_Diversity_of_Information_Sources_in_the_Digital_Age_An_Overview)
- Chimah, J. N and Udo Nwokocha, U. ( 2013) Information resources, retrieval and utilization for effective research in tertiary and research institutions. *Asian Journal of Humanities and Social Sciences* (AJHSS) 1 (3) 43 – 50  
<http://www.ajhss.org/pdfs/Vol1Issue3/Information%20Resources.....pdf>
- Chinnasamy (2016) Information need and information-seeking behaviour of engineering college students in Madurai - a case study Qualitative and Quantitative Methods in Libraries (QQML) 5: 131-140. <http://www.qqml-journal.net/index.php/qqml/article/download/311/311/>.
- Harper Adams University College (2011) Source of information <https://www.harper-adams.ac.uk/university-life/library/study-skills/files/sources-of-information.pdf>
- Muthumari, P. (2013). Utilization of traditional and electronic resources in higher education. University. Retrieved from <http://shodhganga.inflibnet.ac.in>.
- Nzewi, A. N. (2020). Financial resources development for 21st-century libraries. In Osuigwe, N. E. (Eds.), *Managing and adapting library information services for future users*. 103-119. IGI Global. <http://doi:10.4018/978-1-7998-1116-9.ch007>.

## **Unit 2: Information Needs, Information Use and Factors Affecting Information Needs**

### **CONTENT**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Concept of information Needs
  - 3.2 Concept of information Use
  - 3.3 Factors Affecting Information Needs.
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Self-Assessment Exercise
- 7.0 Reference/ Further Reading

### **0.1 INTRODUCTION**

Now you have learnt about various information resources and various ways which information sources are classified. You will now study what will lead you to find the search for these various information resources and the class of information sources you may access in solving your problems. This unit will introduce you to what information concept of information needs, information use, and factors affecting the needs of the information user.

### **2.0 OBJECTIVES**

At the end of this unit, you should be able to;

1. Explain the concept of Information Needs.
2. Understand the concept of information Use.
3. Explain the classification of Information Needs
4. Explain factors affecting Information needs.

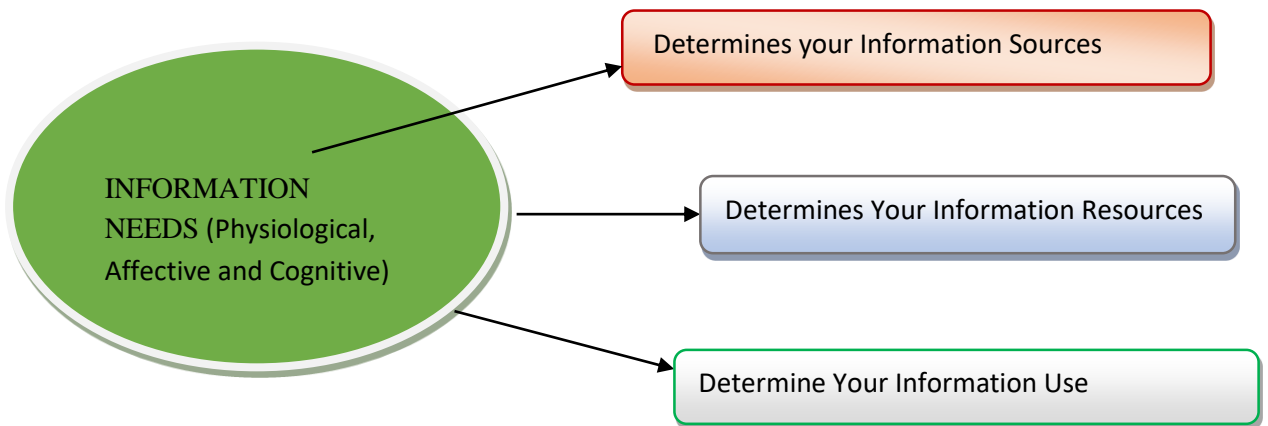
### **3.0 MAIN CONTENT**

#### **3.1 Concept of Information Needs**

Information needs as defined by Derr in Bhardwaj, (2016:64). “ is a condition in which certain information contributes in which certain information contributes to the achievement of genuine or legitimate information purpose” Borlund and Pharo (2019) information needs is based on users’ analysis, why they interested in particular information, what they will use the information for. Information need is the starting point for information seeking. It is only when you have the desire for information to solve one problem or the other that you search or seek for solution to it. The information you gathered will help you in solving the existing problem. Wilson in Borlund and Pharo (2019) sees information needs as searching performed by an individual to satisfy his physiological (shelter during rainfall), affective ( watching of entertained by a movie for two hours )and cognitive needs

(to solve a school assignment). In summary, Information needs can be defined as the desire, urge for an individual to seek for sources or resources that can help him solve his immediate and personal problems. Therefore your information need depends on the circumstance or situation you find yourself.

### 3.2 Concept of Information Needs and Information Use



The information needs of any user determine where to search for information. The sources of the information where primary, secondary and tertiary sources are based on the problems you want to solve. This information sources direct you to the type of resources that can contain such information. If you discover the right and needed information from an information source and resource, it will affect your rate use and extent of utilization of such resources and source.

Information needs determine the extent of utilization of information sources and resources above all the awareness of the existence of the source and resources plays a vital role in the use of the information in satisfying one's information needs. Here the roles of librarians and information scientists are needed in creating awareness to users of the information on the availability of information organised for them.

### 3.3 Classification of Information Needs

Information needs have been classified into different levels by different authors. Below are some classifications of information needs

Borah (2020) identified four levels of information needs as stated in 'Information Gathering Habit' surveys as:

- a) Current Information Need,
- b) Exhaustive Information Need,
- c) Every day Information Need, and
- d) Catching-up or Brushing-up Information Need

Thammanna (2017) classified information needs into the following categories:

- a) Social or Pragmatic Information Needs Information needed in carrying out day to day life activities.



- b) Recreation Information Needs: Information satisfying the recreational and cultural interests of an individual.
- c) Professional Information Needs Information required for business and professional environment.
- d) Educational Information Needs Information required for satisfying academic programs.
- e) need to be expressed by the user; or
- f) need that a user cannot express; or
- g) Present or immediate need; or
- h) Future or deferred or potential need.

### 3.4 Factors Affecting Information Needs

Information needs can be affected by factors such as social factors, individual characteristic and family factors (Chen and Lu, 2019). The information needs of an individual can be affected by the following factors namely

1. **Age:** The age range of an individual determines the information need of such a person. A child who is 10 year will not desire information on how to write an undergraduate thesis. Gender,
2. **Educational qualification:** Your educational exposure affects the type of information needs you will desire.
3. The **social, political and economic system** surrounding and the positions of an individual in the society affects the person's information needs. A farmer needs information on agriculture while politicians are more interested in politics.
4. **Teaching and research experience:** Market women will not have information need on how to pass accreditation of courses in higher institution learning but Lecturers/ faculty and authorities in the higher institution will need such information.
5. The **family background, motivation, professional orientation**, also affects the type of information needs.
6. The range of **information sources available** also affects your information needs.

### 4.0 CONCLUSION

Information need is the desire to seek information which an individual will use in solving day to day life problems. The type of information needs you requires will be based on your age, social-economic status, educational qualification and information available to you. Also these factors determines your interested in particular information. Information needs you have learnt is the starting point for information seeking. It is only when you have the desire for information to solve one problem

### 5.0 SUMMARY

In this unit you learnt about the meaning of information needs, the classification information needs, factors that affect information needs and use of an individual. Attempt the questions below to ascertain your level of understanding of this unit.

## 6.0 SELF-ASSESSMENT EXERCISE

1. Explain the concept of Information Needs?
2. What are the factors that determine your information Use?
3. Explain the Borah's four levels of information needs as stated in 'Information Gathering Habit' surveys?
4. Explain factors affecting Information needs?

## 7.0 REFERENCE/ FURTHER READING

- Behera, S and Satpathy, S. K. (2014) Factors affecting information needs of faculty members of teachers training institutions of Odisha. *Journal of Library & Information Technology*, 34, (5), 407-411.  
<https://pdfs.semanticscholar.org/c808/2c2f2c49dc6dfc8b4c43fe297f3bbd6c8aca.pdf>
- Bhardwaj, M. (2016). Information Needs and Information Seeking Behaviour of Faculty Members of Science & Technology, G.B.Nagar: A Study" *International Journal of Research in Library Science*. 2 (1) 63 – 78.  
[https://www.researchgate.net/publication/303402406\\_Information\\_Needs\\_and\\_Information\\_Seeking\\_Behaviour\\_of\\_Faculty\\_Members\\_of\\_Science\\_Technology\\_GBNagar\\_A\\_Study](https://www.researchgate.net/publication/303402406_Information_Needs_and_Information_Seeking_Behaviour_of_Faculty_Members_of_Science_Technology_GBNagar_A_Study)
- Borah, D. (2020). Different types of information need with special reference to GIMT, Azara, Guwahati, 1-4.  
[https://www.academia.edu/3727858/Different\\_types\\_of\\_Information\\_needs\\_with\\_special\\_reference\\_to\\_GIMT\\_AZARA\\_GUWAHATI](https://www.academia.edu/3727858/Different_types_of_Information_needs_with_special_reference_to_GIMT_AZARA_GUWAHATI)
- Chen, Y. and Lu, Y. (2019) Factors influencing the information needs and information access channels of farmers: An empirical study in Guangdong, China. *Journal of Information Science* 46 (1) 3-22.  
<https://doi.org/10.1177/0165551518819970>
- Chinnnasamy (2016) Information need and information-seeking behaviour of engineering college students in Madurai - a case study *Qualitative and Quantitative Methods in Libraries (QQML)* 5: 131-140. <http://www.qqml-journal.net/index.php/qqml/article/download/311/311/>
- Borlund, P. & Pharo, N. (2019). A need for information on information needs. In *Proceedings of CoLIS, the Tenth International Conference on Conceptions of Library and Information Science, Ljubljana, Slovenia, June 16-19, 2019. Information Research*, 24(4), paper colis1908. Retrieved from <http://InformationR.net/ir/24-4/colis/colis1908.html>.
- Singh, S. (2019) Users and information use in academic libraries f Department of Library and Information Science, Guru Nanak Dev University, AMRITSAR. 1 -

11 [http://epgp.inflibnet.ac.in/epgpdata/uploads/epgp\\_content/library\\_and\\_information\\_science/academic\\_libraries/21\\_users\\_and\\_information\\_use\\_in\\_academic\\_libraries/et/4444\\_et\\_21.pdf](http://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/library_and_information_science/academic_libraries/21_users_and_information_use_in_academic_libraries/et/4444_et_21.pdf).

Thammanna, H. N. (2017). Information gathering habits of contemporary Kannada Writers an analytical study. Retrieved from: <http://hdl.handle.net/10603/206403>

### Unit: 3 Concept of Information Seeking Behaviour (ISB)

#### **CONTENTS**

1.0 Introduction

2.0 Objectives

3.0 Main Content

3.1 Definition of Information Seeking Behaviour

3.2 A Brief History of Information Seeking Behaviour

3.3 Information Seeking Behaviour and Personality Traits

3.4 Factors that can Affect Information Seeking Behaviour

3.5 Ways of Seeking Information

3.6 Barriers Encountered in Seeking Information

4.0 Conclusion

5.0 Summary

6.0 Self-Assessment Exercise(s)

7.0 References/Further Reading

## **1.0 INTRODUCTION**

Human beings are constantly seeking information for different reasons, in particular to solve problems relating to their survival. Information seeking therefore is very natural and necessary. In this unit you shall learn the concept of information seeking behavior.

## **2.0 OBJECTIVES**

At the end of this unit you should be able to:

- Explain the concept of information seeking behavior
- Identify the personality traits that affect information seeking behavior
- Identify factors that can affect information seeking behavior
- Demonstrate ways of seeking information
- Discuss barriers encountered in seeking information

## **3.0 MAIN CONTENT**

### **3.1 Definition of Information Seeking Behaviour**

Information seeking is a conscious effort to acquire information in response to a need or gap in one's knowledge (Halder et al, 2010). Information seeking and behaviour are intertwined. In the process of seeking information passive and purposive behaviours are demonstrated. Information seeking behaviour therefore can be said to be the way people search for and utilize information (Fairer 1990). Information seeking according to Allen and Kim (2001) is a cognitive problem solving process that dynamic and changeable in terms of individual differences. The difference in the ways people seek information may be due to context, the person's inner processes, information habits, needs, cognitive abilities, learning outcomes and personality traits (Blickle 1996; Eskola 1998; Heinstrom 2003). Individual needs, demands, feeling of stress, uncertainty, frustration, anxiety, insecurity, ability, cognitive style etc tend to mediate and moderate the nature of Information seeking behaviour of the individuals (Heinstrom 2003; Nahl 2001). According to Ikoju-Odongo & Mostert (2006) information seeking does not always imply a purposeful activity, but can also take place unintentionally. Information messages are communicated to society in every possible way ranging from logos, billboard, fliers, electronic messages, verbal messages, print to satellite transmission of events. Information may therefore be internalized unintentionally and retrieved when needed. Information seeking behavior is concerned with the interactive utilization of the three basic resources namely, people, information and system.

You saw in previous unit that individuals or a group of people with homogenous interest seek information for different reasons or purposes. Information needs is the basis or in a nut shell determines information behaviors of people or group of people. In an attempt to define information seeking behavior, Doraswamy (2007) enumerated all that it entails as follows:

- i) Totality of human behavior in relation to sources and channels of information.
- ii) The purposive seeking for information as a consequence of a need to complete some goal.
- iii) The micro-level behavior employed by the information searcher in interacting with information system of all kind.
- iv) This is comprises of mental and physical acts involved in incorporating information to existing knowledge base of a person.

From the above listed features of information seeking behavior, you can see that all your reactions to sources and channels of information you encounter in the quest to satisfy your information needs are seen as your information seeking behavior. It is a deliberate and purposive act, involving your mental and physical capacity in order to search out needed information. Tubachi (2018) defined information seeking behavior as a process where people search information and utilize the same to complete their assigned task. This cognitive process involves a set of actions ranging from identifying ones information needs, seeking the needed information, evaluating and selecting relevant information and finally using it (Sultana, 2016). Usually the reason for seeking information is to change one's knowledge status. Other definitions of information seeking behavior corroborate Doraswamy (2017) list of what information seeking behavior involves.

### 3.2 A Brief History of Information Seeking Behaviour

The concept of information seeking behavior found its root from user studies. As you know, users study covers a wide range of topics which includes users' behavior when seeking information. The very first trace of study in this area was conducted by McKinnie in 1916 which was followed by McDiarmid's library survey in 1940. In particular these surveys focused on the use of library in the satisfaction of users' information needs. The term 'user studies' was first used at the conference of Royal Society of Information in 1948, otherwise early researchers referred to the study as library survey. At the conference on Scientific Information organized by National

Academy of Sciences in 1959 witnessed a large number of studies on information seeking behavior of people in different fields. Ranganathan in 1970 brought users' studies to limelight through his survey titled "Annotation on 'User's Survey' in India. Studies in this direction were later conducted by Panwar and Vyas in 1976.

### 3.3 Information Seeking Behaviour and Personality Traits

The behaviours individuals exhibit in seeking information depend on the task in question and also on the personality of the individuals seeking information. Personality traits influence attitudes and behaviour in an information-seeking context. Personality according to psychologists is the sum of biologically based and learnt behaviour observed in form of complex biological, mental and social factors that forms the person's unique responses to environmental stimuli and which persists over time and situation (Nakonecny 1998), that can influence human information behaviour.

#### **Dimensions of Personality of Information Seekers**

Heiston (2010) listed five basic dimensions of personality traits of information seekers: Neuroticism, Extraversion, Conscientiousness, Openness, and Agreeableness. They are also known as predictors of information seeking behaviours.

**Neuroticism:** This personality dimension has to do with emotional information processing. Anxiety-driven information seekers are often frantic, and their actions are triggered by an emotional goal such as finding calm from the worries, intrusive thoughts and concerns that trouble their minds. In most cases, knowing more brings comfort, reassurance, hope or relief. For this category of people, new information may stir up additional discomfort. In some cases depression may set in creating indifference, passivity and information avoidance. In work or study contexts neuroticism may sometimes focus and energize information seeking. At too high levels, however, it may interfere with task completion and disrupt concentration. Negative affectivity or neuroticism may also impact on cognitive aspects of information interaction such that neutral messages are interpreted as negative and profound memory structures for troubling experiences are developed.

This is the most pervasive domain of personality scales which contrasts adjustment or emotional stability with maladjustment or neuroticism and measures a dimension of normal personality (Costa and McCrae 1992).

**Extraversion:** For extroverts, information seeking is often a form of social interaction. They frequently find information through discussion with others, such as friends, family, peers, superiors or teachers. In addition the extroverts are enthusiastic and spontaneous in information searches. Extroverts often have a task-oriented, practical approach to information seeking, as opposed to introverts, who tend to be more analytical and reflective. Extroverted persons are typically friendly, social and lively, as well as adventurous, assertive and straightforward. Introverts may be described as less talkative, reserved, less curious, shy and unsociable (Costa and McCrae 1992)

**Conscientiousness:**

Information seeking involves both the mental processes (cognition) and the emotion. A conscientious person is goal oriented therefore his emotions are adjusted and directed into finding the sought information. Such a person takes pride in accomplishments that lead one forward towards the goal rather than simply enjoying the search process in itself.

**Openness: Information seekers** who are open often find the very process of discovering and encountering new information delightful. Naturally, conscientiousness and openness to seeking information are hardly opposites, and a person may be both conscientious and open. In which case the person can enjoy both the ongoing exploration of new information and the contentment of reaching a goal

**Agreeableness:** This is a personality dimension that is most strongly related to trust as against critical evaluation of information. Agreeable persons tend to create and sustain harmony. They are benevolent and trusting, and therefore rely on others' good intentions. This attitude is also reflected in their information behavior as they tend to be accepting of the information they encounter. On the other hand persons with low agreeableness tend to be disbelieving, skeptical and demanding in their general attitude towards life as well as in their conception of information. Such an attitude may be problematic overall, but has some advantages in an information-seeking context. Competitive persons often find it easy to evaluate information critically, and are seldom caught off guard by misinformation. While agreeable persons are said to be cooperative information seekers. Competitive persons do not generally accept help in their search process even when it would be needed. They also tend to be impatient information seekers, expecting immediate results on their quests, while agreeable persons would be more tolerant and accommodating.

Also the different manifestations of information seeking behaviour can be categorized into three namely, physical, cognitive and affective behaviour.

### 3.4 Factors that can Affect Information Seeking Behaviour

Chatter (2017) listed the factors that can affect information seeking behavior as follows:

- Availability of information sources in the library/information center
- Out datedness of information sources;
- Lack of awareness about the available information sources;
- Search strategies/individual information seeking styles;
- Information scattering in too many sources;
- Lack of knowledge about information retrieving techniques;
- Non-supportive behavior of library/information center staff;
- Lack of infrastructure like computers, Internet connection, etc.;
- Negative outcome of information seeking process;
- Time available to conduct a search;
- The task or objective for which information is required.

Other difficulties or barriers being faced by the users in seeking needed information, which may also affect their information seeking behavior are:

- Users do not know what information is available around them.
- They have difficulty in determining the quality, credibility, and accuracy of the information.
- The information they seek is too hard to find.
- They are unable to compare across information alternatives.
- They lack sufficient training

### 3.5 Ways of seeking Information

Library users seek information in different circumstances using various sources. Information seeking is a process involving activities such as identifying, searching, using and transferring information (Wilson, 1997). On the other hand David Ellis (1993) identified six activities namely: starting, chaining, browsing, differentiating, monitoring and extracting.

- **Starting** — This is when you begin the information search,
- **Chaining** — This is a backward or forwards activity as you following references in initial information sources
- **Browsing** – This is a semi-directed search
- **Differentiating** — This involves the filtering and selection of sources based on judgments of quality and relevance
- **Monitoring** — at this point you maintain awareness of developments/trends
- **Extracting** — Involves systematic extraction of information from sources.



Two other activities, verifying and final search were later added by David Ellis.

- Verifying : Involves checking for accuracy and ending
- Final search: This involves checking all materials covered

### 3.6 Barriers Encountered in Seeking Information

Some barriers to information seeking have been identified by James and Pearce (2005) as:

- Time
- Cost
- Skills
- Format of resources

Tidline(2002) identified additional two barriers to information seeking as:

- Lack of skills and experience in using information systems
- Too much information retrieved

Some barriers to information access were identified by Harris and Dewdney (1994) as:

- Inability of users to identify their own needs
- Non-availability of required information
- Lack of awareness of the sources of information
- Lack of communication skills
- Lack of self confidence
- Unnecessary delays encountered in information seeking
- Inaccurate/inappropriate information retrieved

Dervin (2005) identified five barriers to information-seeking behaviour as follows:

- **Societal:** those barriers which impede the availability of resources necessary to satisfy needs in the social system
- **Institutional:** These are barriers within the institution due to their inability to provide certain facility or information for information seekers within the institution.

- **Psychological:** These are reasons within the individual that are psychological causing such individual not to obtain needed information from appropriate providers or accept the possibility that an information gap can be overcome
- **Physical:** These are physical barriers that cause persons with disability not to access information.
- **Intellectual:** This has to do with individual inability to access information due to lack of intelligence or lack of necessary training or expertise to obtain necessary information.

Ajayi and Akinniyi (2004) also saw poor shelving and lack of library guides as a source of frustration for information seekers. Also a disorganized circulation system and an insufficient number of books issued can pose major problems to library users. Some libraries lack necessary facilities to enable their users have access to their services.

#### **4.0 CONCLUSION**

Everyone needs information for daily living and as we make progress in life. This calls for all hands on deck by stakeholders to ensure that barriers to information are completely removed. Individuals should acquire necessary skills and personality traits that will make access to information easy.

#### **5.0 SUMMARY**

In this unit we saw information as a conscious effort to acquire information in response to a need or gap in one's knowledge. We also saw that the concept of information seeking behavior found its root from user studies. We looked at the different personality traits as they affect information seeking behavior. Finally we discussed factors that can affect information seeking behavior and barriers encountered when seeking information.

#### **6.0 SELF-ASSESSMENT EXERCISE(S)**

1. Discuss barriers encountered in seeking information?

## 7.0 REFERENCES/FURTHER READING

Allen, B. L. and Kim, K-S. 2001. Person and context in information seeking: interaction between cognitive and task variables. *New Review of Information Behavior Research*, Vol. 2: 1-16.

Blickle, G. 1996. Personality traits, learning strategies, and performance. *European Journal of Personality*, Vol.10: 337-352.

Chatter, J. (2017). Information users

<https://www.sciencedirect.com/topics/social-sciences/information-seeking-behavior>

Costa, P. T. and McCrae, R. R. 1992. *NEO PI-R. Professional manual*. Odessa, FL: Psychological Assessment Resources, Inc.

Doraswamy, N. a. (2017). Information needs and Information Seeking Behaviour of Faculty of JNTUH affiliated Engineering colleges with reference to special reference to Telangana State. In J. Sharma (Ed.), *Library Technologies, services & resources Current global trends* (p. 318). New Delhi: Excel India Publisher

Eskola, E. L. 1998. University students' information seeking behavior in a changing learning environment. *Information Research*, Vol. 2, no. 2. Available at: <http://www.shef.ac.uk/~is/publications/infres/isic/eeskola.html>

Fairer-Wessels, Felicité A. 1990. Basic community information needs of urban black women in Mamelodi, Pretoria, South Africa. *South African Journal of Library and Information Science*, Vol. 58: 359- 369.

Halder, S, Roy, A & Chakraborty, P.K(2010). The Influence of personality traits on information seeking behavior of students. *Malaysian Journal of Library & Information Science*, 15(1), 41-53

Heistrom, J.(2010). From fear to flow

<https://www.sciencedirect.com/topics/social-sciences/information-seeking-behavior>

Ikoju-Odongo, R & Mostert, J(2006). Information Seeking behavior: A conceptual frame work. *South African Journal of Libraries and Information Science*, 72(3)

<https://sajlis.journals.ac.za/pub/article/view/1112/1048>

Nahl, D. 2001. A conceptual framework for explaining information behavior. *Studies in Media and Information Literacy Education*, Vol.1, no.2: 1-16

Sultana, A. (2016). Information seeking behaviour of Academics of Maulana Azad national Urdu University in the Digital Environment. In S. & Dhanavandan, *Transition in librarianship* (pp. 245-252). Delhi: Dominant Publishers and Distributions Pvt ltd.

Thilagavathi, T. (2016, August 3). Information seeking behaviour of Researchers and Faculty Members of Avinashilingam Deemed University for Women Coimbatore A Survey. Alagappa University, India. Retrieved from <http://hdl.handle.net/10603/133326>

**Tubachi (2018).** Information seeking behavior: an overview  
[https://www.researchgate.net/publication/330521546 INFORMATION SEEKING BEHAVIOR AN OVERVIEW](https://www.researchgate.net/publication/330521546_INFORMATION_SEEKING_BEHAVIOR_AN_OVERVIEW)

## **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Strategies of Information Seeking
  - 3.2 Construction of Information Users Profile
  - 3.3 Gap Analysis
  - 3.4 User Studies
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Self-Assessment Exercise(s)
- 7.0 References/Further Reading

### **1.0 INTRODUCTION**

In the previous unit we discussed the concept of information seeking as a purposeful activity. In this unit you will learn the strategies of information seeking and different ways of constructing information user's profile. Finally the importance of gap analysis, how to conduct gap analysis and user studies in order to improve efficiency in the library will also be discussed.

### **2.0 OBJECTIVES**

At the end of this unit you should be able to:

- Identify strategies of information seeking
- Discuss the different ways of constructing user's profile
- Explain the step by step method of conducting gap analysis
- Explain the importance of user studies

### **3.0 MAIN CONTENT**

#### **3.1 Strategies of Information Seeking**

Information seeking strategies have to do with steps to take when seeking information. Basically information seeking strategy addresses two major task:

- Identification of all possible sources of information
- Selection of relevant sources from retrieved materials

Identification of all possible sources of information

At this stage information seekers ask themselves the following questions

- Which sources will provide answers to my questions quickly and easily?
- Which sources will provide reliable information?

In considering the sources of information to be used, you first have to consider the type of information you need for this will determine your choice of sources. You may be needing general information, current facts and statistics, historical information, opinions, maps, images and charts, broadcast information.

- General information: For this type of information use books, references, encyclopedias, Web pages, databases
- Current facts and statistics: You can use magazine and news articles, almanacs, Web pages, current pamphlets and databases
- Historical information: You can use books, references, encyclopedias and Web pages
- Opinions: You may use magazines and news articles, Web pages and databases.
- Breaking news: Use online magazines and news indexes/databases, and news Web sites.
- Broadcast information: You can use television and radio programs.

Also you must know the purpose of your write up, this will help to determine your choice of information. For instance your academic write up may be to:

- Inform
- Persuade
- Describe a Process
- Entertain

In order to select the best resources out of the whole lot consider the following factors:

- Accuracy of Information: Is the information factual? Is the information credible?
- Currency of Information: Does it matter if it's current?
- Authenticity of information: Where did the information come from? Who wrote the information? or is the person an expert? Is the organization recognized as a leader in the field? Is the information an opinion? or is the information fair and objective?
- Usability of information: Is the information well organized and easy to understand? Is the information free from spelling and grammatical errors?

### 3.2 Construction of Information Users Profile

In this era of information overload due to the advent of technology, it becomes important to maintain users profile so as to know what information to retain for users. The filtering out of irrelevant information can help overcome the challenge posed by information overload.

User profiles may include demographic information such as name, age, country, education level, gender, marital status, and employment. It may also represent the interests or preferences of either a group of users or a single person. Demographic information about users helps to better understand the identity of users. In the construction of users profile you need to collect data or information on the user explicitly or implicitly (Sugiyama et al, 2004).

**Explicit Collection of User Information:** Sugiyama et al (2004) explained that collection of users' information is through direct user intervention. This is also known as users' feedbacks which rely on information input by users themselves using HTML forms. In order to achieve this check boxes and text fields are provided. Users can also express their opinions by selecting values from a range provided. This technique waste user's time and require users participation for profiles to be constructed. Once user's preferences are known through their inputted data, The Web site content is then automatically organized based on the user's preferences. Users may not want to participate due to privacy concerns or they may simply provide wrong information to hide their identity. Also user's interest can change over time and the profile is static, the profile therefore may become inaccurate with time.

**Implicit Collection of User Information:** Users information can be gathered through agents that had contact with them or through the monitoring of users activities. This technique is also known as implicit user feedback. User's participation is not needed in this technique. Information on the user is inferred from the user's behavior.

#### **Implicit User Information Collection Techniques by Kelly, D., Teevan (2003)**

Collection Technique	Information Collected	Information Breadth	Pros and Cons	Examples

Browser Cache	Browsing history	Any Web site	<b>pro:</b> User need not install anything. <b>con:</b> User must upload cache periodically	OBIWAN
Proxy Servers	Browsing activity	Any Web site	<b>pro:</b> User can use regular browser. <b>con:</b> User must use proxy server	OBIWAN Trajkova Barrett et al
Browser Agents	Browsing activity	Any personalized application	<b>pro:</b> Agent can collect all Web activity. <b>con:</b> Install software and use new application while browsing	Letizia WebMate Vistabar WebWatcher
Desktop Agents	All user activity	Any personalized application	<b>pro:</b> All user files and activity available. <b>con:</b> Requires user to install software	Seruku Surfsaver Haystack Google Desktop Stuff I've Seen
Web Logs	Browsing activity	Logged Web site	<b>pro:</b> Information about multiple users collected. <b>con:</b> May be very little information since only from one site.	Mobasher
Search Logs	Search	Search engine site	<b>pro:</b> Collection and	Misearch Liu et al



			use of information all at same site. <b>con:</b> Cookies must be turned on and/or login to site. <b>con:</b> May be very little information	
--	--	--	--	--

Profiles can be categories into two: Dynamic and Static Profile

**Dynamic Profile:** A dynamic profile can be modified. It takes into consideration short-term and long term interest. Short-term profiles represent the user's current interests whereas long-term profiles indicate interests that are not subject to frequent changes over time (Sugiyama et al, 2004 ; Kim & Chan, 2003)

**Static Profile:** This profile cannot be modified even when user's interest changes with time profile remains the same leading to inaccurate information.

According to Gauch (<https://cs.fit.edu/~pkc/apweb/related/gauch07aw.pdf> ) users profiling process consist of three main phases: Information collection, user profile construction and Technology or application phase.

## Ways of Collecting User Identification on the Web

Basically on the web users can be identified using five approaches: software agents, logins, enhanced proxy servers, cookies, and session ids. Out of all the approaches cookies has been identified to be more effective due to the fact that it provides cross-session tracking and it is least invasive. It is the easiest and most widely used. However, for accuracy and consistency it is better to use login-based system. This system helps to track users across sessions and between computers as long as users register with the system and login each time they visit.

Another way of identifying users on the web is through web usage mining. Companies also use data aggregators, such as Acxiom [1], to provide demographic data about

customers. It is easy to get information on customers when you combine their name and zipcode collected at the point of purchase of items or registration.

Software agents, logins and enhanced proxy servers are accurate in identifying users. However, user participation is required. Software agents are programmes that are inbuilt in a computer for the purpose of collecting information and sharing same with a server through some protocol. This approach is reliable but for the installation of the software user participation is needed. After software agents, next most reliable is login. For the login users can use the same profile from a variety of physical locations. Enhanced proxy servers can also provide reasonably accurate user identification. However, they have several barriers such as the registration of users' computers with a proxy server. The disadvantage of this is that it can only identify users connecting from one location, unless users bother to register all of the computers they use with the same proxy server.

Cookies and session ids are less invasive methods. Immediately a browser client connects to the system the very first time, a new user id is created and stored in a cookie on the user's computer. When users revisit the same site from the same computer, the same user id is automatically used. Unlike the login it places no burden on the user at all. However, in a situation where the user uses more than one computer, each location will have a separate cookie, and thus a separate user profile. Another disadvantage is a situation where two or more people use the same computer in which case they all will share the same local id which is inaccurate. Again profiles are lost when cookies are deleted from the system. If users have cookies turned off on their computer, identification and tracking is not possible. In the case of session ids identification and tracking end with every session and cannot be used between visits. It therefore means that permanent user profile can't be built using session id

### **3.3 Gap Analysis**

A gap analysis is a method of assessing the differences in performance between a business' information systems or software applications to determine whether business requirements are being met and, if not, what steps should be taken to ensure they are met successfully. In the library for instance, there is a need to reduce the gap between user expectations and the services provided through the assessment of quality of library services. Also library collections and quality of staff can be assessed for the purpose of improving the system. Gap analysis helps an organization to focus on what matters in order to reduce enhance efficiency

#### **Conducting a Gap Analysis**

In conducting a gap analysis for an organization you must seek to answer the following questions:

- What is the present status of the organisation?
- What are the aims and objectives of the organisation?
- Has the organisation achieved their aim, what are the gaps and how can they be closed?

Gap analysis has a purpose which is to improve the efficiency of a system or organisation.

A well designed gap analysis template will focus on the difference between the present status (reality) and target (aims & objectives) of an organisation.

There are basically four phases in conducting a gap analysis:

- Identify the current state of your department e.g. library
- Identify where you want to be with your department e.g. what services does the library want to render?
- Identify the gaps in your department e.g. are there barriers to rendering these library services?
- Devise improvements to close the gaps in your department e.g. how can these barriers be removed to improve services?

**Identify the current state of your department:** Here try to find out the realities in your library in terms of the strength of your collection, staff strength, available facilities, services rendered and their quality.

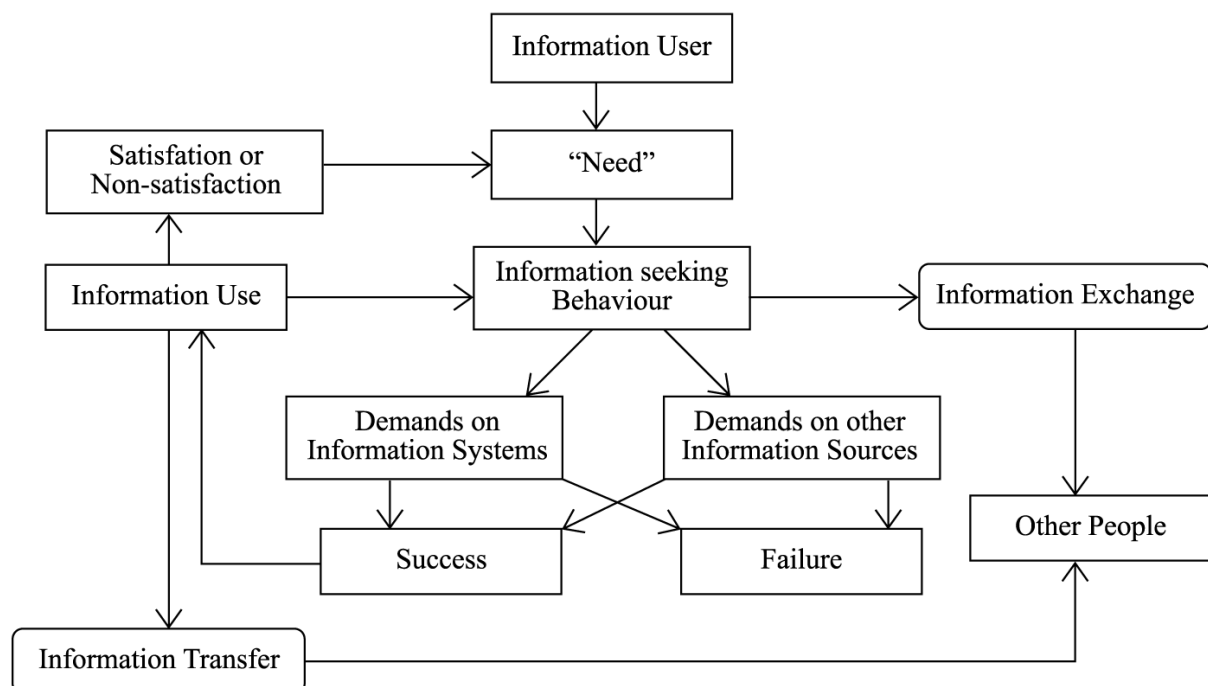
**Identify where you want to be with your department:** Assess the aims and objectives of the library. Consider the original plan of the library in terms of collections, services, facilities and staff. Look into your library activities plan, assess library's developmental plans, and assess your policies

**Identify the gaps in your department:** Through user studies you can identify some gaps e.g. lagging behind of actual services such as access to electronic journals, access to modern equipment like photocopiers, scanners, printers etc., online catalogue, library guides, quiet study areas, opening hours, users safety and the safety of their properties etc.

**Devise improvements to close the gaps in your department:** Now that you've identified the existing gaps in your library you need to figure out how to close them. As you work towards closing up the gaps, base all improvements on the information you discovered while identifying the gaps. Also consider the cost of implementing your new solutions and fix specific dates when you would have the gaps resolved.

### 3.4 User Studies

User study' is the means for systematic examination of the characteristics and behaviour of the users of the systems and services. The 'user study' is directly linked with the effectiveness (performance) of the library and information services provided as they aim at satisfaction of user needs. It is a useful tool for internal planning and analysis of the library. User studies should be based on well-defined mission or aims and objective of the library. It shouldn't be a tool to create the mission of the library. These studies have their greatest value in providing the library with a method for self-examination and self-diagnosis. The diagram below displays interrelationships among concepts used in the field.



**A model of information behaviour by Wilson, T (2016)**

The figure suggests that information-seeking behaviour results from the recognition of some need, perceived by the user. That behaviour may take different forms: for example, in order to satisfy perceived need the user may use formal systems that are

customarily defined as information systems (such as libraries, on-line services, or information centres). The information seeker may decide to satisfy perceived need from systems whose primary function is not to provide information such as such estate agents' offices or car sales agencies, both of which are concerned with selling, but which may be used to obtain information on current prices, areas of "suitable" housing, or details of cars that hold their second-hand value. Alternatively, the user may seek information from other people, rather than from systems, and this is expressed in the diagram as involving "information exchange". In any of the cases of information-seeking behaviour, "failure" may be experienced: Whatever the source of the information it will at some point be "used. That "use" may satisfy or fail to satisfy the need and, in either event, may also be recognized as being of potential relevance to the need of another person and, consequently, may be "transferred" to such a person.

#### **4.0 CONCLUSION**

Information seekers must be focused and know what they want to be able to maximize information sources. Libraries and different web sites should be able to collect their users' profile to be able to serve the unique interest of all users. Finally, information givers must conduct gap analysis and user studies from time to time to improve their systems.

#### **5.0 SUMMARY**

This unit discussed the following topics: major task of information seeking strategy; the need to consider the type of information needed to determine your choice of resources; the purpose of your write up; the advantages and disadvantages of employing explicit and implicit collection of user information, questions you must answer when conducting a gap analysis; user studies and its interrelation with other fields.

#### **6.0 SELF-ASSESSMENT EXERCISE(S)**

1. Discuss the necessary steps you must take in conducting a gap analysis
2. Explain how you will conduct the gap analysis of your library's collections

#### **7.0 REFERENCES/ FURTHER READING**

Gauch et al. User Profiles for Personalized Information Access

<https://cs.fit.edu/~pkc/apweb/related/gauch07aw.pdf>

Information Seeking Strategies

<https://www.basdk12.org/userfiles/-16/my%20files/information%20seeking%20strategies.pdf?id=656>

Kelly, D., Teevan, J (2003) Implicit feedback for inferring user preference: a bibliography. ACM SIGIR Forum 37(2), 18-28

Kim, H., Chan, P (2003). Learning implicit user interest hierarchy for context in personalization. In: Proceedings of IUI' 03, Miami, Florida, January 12-15 (2003) 101-108

Sugiyama, K., Hatano, K., Yoshikawa, M.: Adaptive web search based on user profile constructed without any effort from users. In: Proceedings 13<sup>th</sup> International Conference on World Wide Web, New York, May 17-22 (2004) 675-684

Wilson, T.D (2006). 60 years of the best in information research on user studies and information needs. Emerald Journal of Documentation, 62(6).

## **MODULE 3: THEORETICAL FRAMEWORKS FOR INFORMATION BEHAVIOURS**

This module introduces you to the concept of theoretical framework for information behaviours. Theoretical framework is statement or something that is based on an assumption or opinion. We can also describe theoretical framework as a structure that holds a theory of research studies. You will learn more as we progress. In this module we will look at some theories in information behaviours.

Unit 1 Concept of information seeking behaviour models and theories

Unit 2 Ellis' Behavioural Model of Information Seeking and Krieklas Model

Unit 3: General Models of Information Seeking Process

Unit 4: Model of Information Seeking on the Web and the Behavioural Modes

## **UNIT 1: CONCEPT OF INFORMATION SEEKING BEHAVIOUR MODELS AND THEORIES**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Concept of Information Seeking Behaviour
  - 3.2 Wilson's Information Behavior Models (1981 & 1996)
  - 3.3 Life in the round by Elfreda Chatman
  - 3.4 Everyday Life by Reijo Savolainen
- 4.0 Conclusion

- 5.0 Summary
- 6.0 Tutor-Marked Assignment (SAEs)
- 7.0 References/Further Reading

## **1.0 INTRODUCTION**

The unit will introduce you to the definition of concept of information behaviour. You will also learn different theories or models on information seeking behaviour

### **2.0. OBJECTIVES**

By the end of this unit, you should be able to define information seeking behaviour. The unit will also expose you to a number of information seeking theories/models by different scholars

### **3.0 MAIN CONTENT**

#### **3.1 Concept of Information Seeking Behaviour**

Before going into the concept of information seeking behaviour, it is important we understand the meaning of information as defined by some scholars. Information in technical sense can be depicted as a sequence of symbols that can be interpreted as a message. Shera (1972) defines information as a message, a signal or a stimulus that possesses a response potential. Davies (1976) defines information as processed data into a form that is meaningful to the recipient and is of real or perceived value to take present decision or in future. Hence, the term ‘information seeking behaviour’ has been developed after the first half of the twentieth century. Thereafter it took several decades for the subject to be presented as a major field of information science.

Wilson (2000) describes information behaviour as the totality of human behaviour in relation to sources and channels of information, including both active and passive information-seeking, and information use. He also suggests that information seeking behaviour is purposive seeking of information as a consequence of a need to satisfy some goal. According to Bates (2010) the concept is used in describing the various ways human



beings interact with information in particular and the ways in which people seek and utilize information.

Similarly, Wilson (2000) stated that information behaviour is the totality of human behaviour in relation to the sources and the channels of information including both active and passive information seeking and use. He further explained that active information implied face to face communication with others with a view to extracting or exchanging information, while passive information seeking means getting information from channels or sources like television, radio or internet.

In other word, information seeking behaviour is the purposive seeking for information as a consequence of a need to satisfy some goal. In the course of seeking, the individual may interact with manual information systems (such as a newspaper or a library), or with computer based systems (such as the Web) (Wilson, 2000)

We can also define information seek behaviour as the sum total of behaviour in relation to sources and channels of information searching and information use. However, the first step in describing a person's information behaviour begins with his information needs which refers to the immediate and potential needs of the user such as decision making, studies, research or other spheres of individual endeavour.

### **3.2 Wilson's Information Seeking Behaviour Models (1981 & 1996)**

The aim of Wilson's 1981 model is to outline the various areas covered by what he proposed as 'information-seeking behaviour' as an alternative to 'information needs. Wilson suggests that information-seeking behaviour arises due to the need perceived by an information user in different stages or sequences. In order to satisfy that need, user makes demands upon formal or informal information sources or services. These demands for information result in success or failure to find relevant information. If the result becomes successful, the individual then makes use of the information found and may either fully or partially satisfy the perceived need or indeed. The model also highlights

that part of the information-seeking behaviour may involve other people through information exchange and that information perceived as useful may be passed to other people, as well as being used or instead of being used by the person himself or herself.

Wilson (1996) made another model which is revision to his 1981 model of information behaviour. In this model, various cycles of information activities occur, arise from the information need to the phase when information is being used (information processing and use). The primary structure of Wilson's 1996 model is based on his first one. Here the 'intervening variables' that fall under third group show how the information seeking barriers evolve during the needs of information. These are psychological, demographic, role-related or interpersonal, environmental and source characteristics. The 1996 model now also identifies 'information-seeking behaviour' (the fifth group of concepts in the figure), namely passive attention, passive search, active search and on-going search.

The main principle in this revised model is that if information needs are to be satisfied, information processing and use' becomes an essential part of the feedback loop of the model. The 1996 model also presents four relevant criteria as information seeking behaviour to explain users' behaviour. In the second and fourth group of concepts these mechanisms are represented as and the stress/coping, risk/reward, social learning theory and 'self-efficacy'. The activating mechanisms are psychological factors which are explained by these different theories and which prompt the user to proceed with the information seeking process. Thus, Wilson identified characteristics of a number of human behaviour models in his model. In this manner, the model draws attention to the interrelated nature of information behaviour theory, whether the theory is drawn from other disciplines or from the research traditions of Information Science. Wilson also incorporated Ellis' "behavioural characteristics" of information-seeking. These characteristics describe information-seeking activities such as "active search" and "ongoing search."

### **3.3    Elfreda Chatman's Life In The Round Information Seeking Theory**

Elfreda Chatman is one of the most prominent figures in ELIS studies since the 1980s. Chatman's highly original research project focuses on information-seeking behaviour of people living in the margins of society. Her research project is characterized by an attempt to develop a genuine social scientific theory, which describes ELIS in the context of "small world." This concept refers to social environments where individuals live and work, bound together by shared interests and expectations, and often economic status and geographic proximity as well. In small-scale communities of these kinds, activities are routine and fairly predictable, and everyday information seeking and sharing are oriented by generally recognized norms and role expectations based on beliefs shared by members of the community.

The theory of Life in the Round was propagated by Elfreda Chatman. It draws on study carried out of female [prisoners](#) at a maximum-security prison in the Northeastern United States. Following a careful observation of inmates both during and outside of their interactions with the prison's professional employees, Chatman observes that the women live "in the round", that is, "within an acceptable degree of approximation and imprecision". Instead of seeking information about the outside world, over which they have no control, prisoners avoid gathering this type of information: in order to survive, they place importance on "daily living patterns, relationships, and issues that come within the prison environment" over which they can exercise agency. In this way, inmates display defensive [information seeking behaviour](#).

Inmates form a "small world," a closed community where private opinion gives way to a shared reality and accompanying information-seeking behaviour. [Social norms](#) established by inmates determine the importance or triviality of a piece of information; as such, information that affects prisoners in an immediate way - such as illness while medical staff are off-duty - gain importance, while information on the outside world becomes trivial. Chatman concludes that life in the round disfavors information seeking behaviour, as there is no need to search for outside information. Prisoners "are not part of the world... being defined by outsiders"; because inmates do not need additional information to participate fully in their reality, they do not seek it out. Information outside make no meaning to the inmates.

Chatman saw that these disincentives to information seeking could become cultural norms in the small worlds that the people she observed took their norms from, and that these cultural norms could produce what she labelled [information poverty](#), where a group could perpetuate norms that would cause the avoidance of information that would be useful to people in the group if they were to seek it out.

### **3.4 Reijo Savolainen's Everyday Life Information Seeking Theory**

Reijo Savolainen is among the 'Everyday Life information seeking' theorists. The theory is a social scientific concept, which provides a broad context to investigate individual and social factors affecting ELIS. Savolainen defined the concept of way of life as "order of things," which is based on the choices that individuals make. "Things" stand for various activities taking place in the daily life world, including not only jobs but also necessary reproductive tasks such as household care and voluntary activities (hobbies); "order" refers to preferences given to these activities. Because, in most cases, the order of things is a relatively well-established constellation of work and nonwork activities taking place in a day or a week, this constellation is easily taken to be the most natural or normal way of organizing one's everyday life.

Correspondingly, people have a "cognitive order" indicating their perceptions of how things are when they are "normal." Through their choices, individuals have practically engaged in a certain order of things, and it is in their own interest to adhere to that order as long as they find it meaningful. Thus at least implicitly, most people seek for an internal coherence in everyday matters because it gives them better chances to plan their choices and act meaningfully. The most central issues of way of life manifest themselves in the structure of the time budget, described as a relation between working and leisure time, models of consumption of goods and services, and nature of hobbies. The structure of the time budget reveals the proportions of time spent on work, necessary activities outside work such as household care, and, finally, the time devoted to recreational activities such as hobbies.

By analyzing the models of consumption, one may draw a picture that indicates the share of money spent on the acquisition of various goods or services (e.g., books). The analysis of hobbies sheds light on the substance of way of life because the nature of hobbies informs us of the things that people find most pleasant; the analysis also reveals the role of informational interests (for instance, newspaper reading) in leisure time. Because the meaningful order of things may not reproduce itself automatically, individuals are required to take active care of it. This caring activity can be defined as mastery of life, implying the importance of the coherence of the everyday life projects at large. The nature of these projects may vary.

As aptly specified by Hektor some life projects may be generic in that they are common to most people (e.g., household care). Other projects are specific because they originate from an individual's life situation (e.g., child rearing or one's specific interests, i.e., hobbies). Mastery of life serving one's life projects may be either passive or active. It is passive when people are satisfied with seeing that everything is going on as expected, at least on the whole. Active mastery of life is associated with pragmatic problem solving in cases where the order of things has been shaken or threatened. Mastery of life is a general preparedness to approach everyday problems in certain ways in accordance with one's values.

Information seeking is an integral component of mastery of life, which aims at the elimination of continual dissonance between perceptions of "how things are at this moment" and "how they should be." If there is no dissonance, mastery of life goes on quite routinely and the information seeking attached to it can be characterized as a rather passive monitoring of everyday life events. In other cases, mastery of life may grow into active problem solving aimed at restoring the disturbed order, usually requiring active seeking of practically effective information.

Savolainen utilized the above model in an empirical study conducted in Finland. The study focused on two groups: that is, teachers and industrial workers. The empirical study strengthened the assumption that way of life directs information seeking in a significant way. Teachers were more eager to seek factual information from various media, and they took a more critical stand toward the supply of light entertainment from radio, television,

newspapers, and magazines. The interviews revealed that personal interest and current life situation also affect media use. There appeared to be teachers not particularly interested in the culture or politics sections of newspapers; similarly, some workers preferred documentaries and other serious programs and took a critical view of entertainment

#### **4.0 CONCLUSION**

You have come to understand the meaning of information seeking behaviour as defined by many scholars. Information seeking behaviour appears to be a spontaneous action toward the search for information and the use it. It begins with information need which refers to the immediate and potential needs of the user.

#### **5.0 SUMMARY**

In this unit you have learnt various definitions of information seeking behaviour. The unit provide you with some theories related to information seeking behaviour by some notable scholars in the field of Library and Information Science to guide you in the study of the course. Information seeking behaviour can be defined as the sum total of behaviour in relation to sources and channels of information searching and information use

#### **6.0 TUTOR-MARKED ASSIGNMENT (S)**

1. Define the concept of information seeking behaviour
2. Explain briefly the information seeking behaviour theory of 'Everyday Life by Reijo Savolainen
3. Compare and contrast the Wilson's Information Seeking Behaviour Models of 1981 & 1996

#### **7.0 REFERENCES/FURTHER READING**

- Bates, M. J. (2010) *Information Behaviour. encyclopedia of library and information science.* New York: CRC Press, 2381-91
- Chatman, E. A. (1999) A theory of life in the round. *J. Am. Soc. Inf. Sci* 1999, 50 (3), 207–217

- Rieh, S.Y. On the web at home: Information seeking and web searching in the home environment. *J. Am. Soc. Inf. Sci. Technol.* 2004, 55 (8), 743–753. 38.
- Savolainen, R. (2000), *Encyclopedia of Library and Information Sciences*, Third Edition Taylor & Francis..
- Savolainen, R. Information behavior and information practice. Reviewing the “umbrella concepts” of information seeking studies. *Libr. Quart.* 2007, 77 (2), 109–132
- Savolainen, R. Seeking and using information from the Internet. The context of non-work use. In *Exploring the Contexts of Information Behaviour, Proceedings of the 2nd International Conference on Research in Information Needs, Seeking and Use in Different Contexts*, Sheffield, UK, August 13–15, 1998; Wilson, T., Allen, D., Eds.; Taylor Graham: London, 1998; 356–370. 40.
- Savolainen, R. The role of the Internet in information seeking. Putting the networked services in context. *Inf. Process. Manag.* 1999, 35 (6), 765–782
- Savolainen, R.; Kari, J. Placing the Internet in information source horizons. A study of information seeking by Internet users in the context of self-development. *Libr. Inf. Sci. Res.* 2004, 26 (4), 415–433. 39.
- Wilson, T.D. (2000) Human information behaviour. *Inf. Sci.* 2000, 3 (2), 49–56.  
<http://www.inform.nu/Articles/Vol3/v3n2p49-56.pdf> .

## **Unit 2          Other Model of Information Seeking**

- Ellis' Behavioural Model of Information Seeking
- James Krikelas' Model of Information Seeking
- Brenda Devin's Sense Making Theory

### **CONTENTS**

- 1.0    Introduction
- 2.0    Objectives
- 3.0    Main Content
  - 3.1    Ellis' Behavioural Model of Information Seeking
  - 3.2    James Krikelas' Model of Information Seeking
  - 3.3    Brenda Devin's Sense Making Theory
- 4.0    Conclusion
- 5.0    Summary
- 6.0    Tutor-Marked Assignment (SAEs)
- 7.0    References/Further Reading

### **1.0    INTRODUCTION**

The unit will further expose you to the notable Ellis's Behavioural Models of Information seeking. You will also learn different theories or models propounded by different scholars.

### **2.0.    OBJECTIVES**

By the end of this unit, you should be able to learn Elli's information seeking behaviour theories.

### **3.0    MAIN CONTENT**

#### **3.1    Ellis Information Seeking Behaviour Theory (1989)**



Information seeking behaviour is the approach with which people search and use information for various needs. It is to convey the rationale in seeking of information aimed at satisfying the information need of the seeker. It is the micro-level of behaviour employed by the searcher in interacting with information systems of all kinds, be it between the seeker and the system, or the pure method of creating and following up on a search. The information seeking behaviour modelling mode originates in the observed dearth of empirically based models of information seeking behaviour in information retrieval research.

Ellis (1989), Ellis et al (1993), and Ellis and Haugan (1997) proposed and elaborated a general model of information seeking behaviours based on studies of the information seeking patterns of social scientists, research physicists and chemists, and engineers and research scientists in an industrial firm. Ellis, employing Glaser and Strauss's 'grounded theory' approach, derived six generic characteristics of the information seeking patterns of social scientists.

***Starting:*** This is the first stage of information seeking whereby the seeker begins by asking, via identifying the source of interest that will provide answer to the problem. According to Allen (1977), the likelihood of a source being selected depends on the perceived accessibility and quality of the information from that source. Perceived accessibility, which is the amount of effort and time needed to make contact with and use a source, is a strong predictor of source use for many groups of information users such as engineers and scientists.

***Chaining:*** The second stage is chaining which can be backward or forward. It can be backward when pointers or references from an initial source are followed, and is a well established routine of information seeking among scientists and researchers. On the hand, the forward chaining identifies and follows up on other sources such as footnotes and citations of the initial source or document. It is less commonly used, because people are unaware of it or the required bibliographical tools are unavailable.

**Browsing:** Chang and Rice (1993) define browsing as "the process of exposing oneself to a resource space by scanning its content (objects or representations) and/or structure, possibly resulting in awareness of unexpected or new content or paths in that resource space. In other word, the information seeker scan through the content, list of title, references, bibliography, summaries, abstract etc to fetch answer.

**Differentiating:** At this point, the information seeker therefore filters and selects the needed information among the available source after identifying by differentiating between nature and quality. Taylor (1986) identifies six categories of criteria by which an individual can select and differentiate between sources: ease of use, noise reduction, quality, adaptability, time savings, and cost savings.

**Monitoring:** The information seeker at this point monitor a particular source by following it regularly and concentrating more on the core source such as professional publications.

**Extracting:** extracting involves being more selective by identifying the material of interest. Ellis maintained that extracting may be achieved by directly consulting the source, or by indirectly looking through bibliographies, indexes, or online databases. At this point, the quest for information is complete and the information seeker thus acquired and obtains the needed information that will provide answer to his problem

### **3.2 Dervin's Sense-Making Approach/Model**

According to Savolainen (2000), Brenda Dervin can be counted among the most influential researchers of ELIS since the early 1970s. Her early studies focused on the communication practices of urban poor people. In the early 1970s, Dervin began to develop the Sense-Making approach as a methodology focusing on human communication and the design of communication-based systems and activities. Since then, the theoretical and methodological bases of the Sense-Making approach have been transformed and refined, and it has been applied in numerous contexts to explore information needs and seeking of specific groups of people.

Dervin employs the metaphors of situation, gaps, and uses to depict information seeking and use them as a Sense-Making process. Metaphorically, the situation stands for the time–space context, where the individual becomes aware of the insufficiency of one’s earlier definition of a situation. Gaps refer to questions or information needs elicited in situations of this kind. Uses stand for the ways in which information being sought or received from various sources helps to bridge the gap and to create a new sense. Examples of use include getting ideas and understanding, being able to plan ahead, deciding what to do, and getting out of a bad situation.

More generally, information seeking and use may be approached by drawing on the metaphor of gap-bridging. However, this metaphor does not suggest a substantive conception of information seeking and use; the metaphor gives methodological and heuristic guidance to posit contextual questions as to how people interpret information in order to make sense of it. These questions focus on the ways in which cognitive, affective, and other elements useful for Sense-Making process are constructed and shaped in order to bridge the gap.

Although the Sense-Making approach draws heavily on metaphorical formulations, it has gained empirical support, which strengthens the hypothesis that information seeking is a constructive process based on the utilization of categories of situation, gaps, and uses. For example, a study focused on blood donors who were asked to describe the process of donating: What happened first in the donating situation? What are the questions they themselves posed? How did they hope the answers to their questions would help them? Other Sense-Making studies have focused, for example, on the information needs and seeking of cancer patients.

The Sense-Making theory has inspired, for example, the investigation of Julien, which discusses barriers to adolescents’ information seeking for career decision making; and the study of Pettigrew, which concentrates on the ways in which people use public library-community network systems. In sum, the Sense-Making approach has contributed significantly to the conceptual and methodological development of ELIS research.

By emphasizing the role of individuals trying to bridge gaps in everyday situations and the nature of information as a situation-bound human construct, sense making has advocated the user-based approach, as opposed to the traditional information system centred viewpoint. Thus Dervin has not only introduced a new viewpoint to ELIS studies, but has also more broadly contributed to the theoretical and methodological breakthrough of the user-centred approach to information seeking studies

### **3.3 James Krikelas Model of Information Seeking (1983)**

Sawant (2015) maintained that over the period of four decades plenty of information seeking behaviour models have been presented by many researchers. James Krikelas (1983) was the first to develop an information seeking model derived from published Library and Information Science (LIS) literature about information needs and uncertainty. Sawant (2015) discusses the Krikelas model, his views of the model and the empirical studies that implemented it.

According to him, the Krikelas model can be reassessed considering the advances taking place in today's online environment. The internal and external source preferences which are important part of the model have taken new form. The advanced online tools and techniques can help the researcher in capturing information, organizing and eventually collaborating with others to fulfill the information giving and gathering process.

Arguably, James Krikelas (1983) is considered the most referred model in information seeking theory. It contains thirteen components. The causal process generally flows downward, with some provision for feedback loops. In describing his model, Krikelas asks us to imagine a situation in which a person becomes aware of a state of uncertainty about a problem (question, issue) and attempts to reduce that state of uncertainty to an acceptable level. The cause of that uncertainty may be a specific event or simply an ongoing process associated with work, ordinary life, or both. Naturally, for many issues much of the information required would already exist in the individual's memory; only a small part of a person's ongoing needs would produce an outward behaviour that we might identify as information seeking. Furthermore the level of "urgency" and the

perceived importance of the problem ... would influence the pattern of information seeking.

Krikelas sees any attempt to isolate individual elements of the environment as "hopeless." The results of information gathering are directed to memory or, in physical form, to some kind of personal file or other storage mechanism. Thus, information gathering is the acceptance and holding of "stimuli ... in storage to be recalled on demand. Such efforts may have a purpose (directed but not problem-specific)"

At the top of the model (implying a beginning) are the twin actions of "information gathering" and "information giving." The activities of information gathering come about in response to deferred needs, which in turn have been stimulated by an event or the general environment of the seeker, whereas Information giving is the act of disseminating messages which may be communicated in written (graphic), verbal, visual, or tactile forms. About information giving Krikelas says little, except to point out that individuals are typically both senders and receivers of information, and that neither role is independent of the other.

Although the Krikelas model could be applied to ordinary life, it nevertheless retains the flavour of a "library search model" in the way it seems to depict the decision points along the path to either the reference desk (Immediate Need = External Source = Librarian) or the library collection (Immediate Need External Source = Stacks). Perhaps it is more applicable to the information seeking of students or professionals in some work oriented context. The Krikelas model does have the virtues of simplicity and comprehensiveness: it emphasizes the important roles of own's own memory and of information received from others, along with the formal sources typically emphasized in such models (Case, 2002).

### **Importance of Theoretical Framework**

1. It forms the foundation of research plan
2. It authenticate research findings by making it more meaningful and acceptable
3. It explains the path of research and grounds it firmly in theoretical construct

### Comparisons of Models

<b>Author of Model</b>	<b>Number of Factors / Boxes</b>	<b>Main Antecedent</b>	<b>Main Factors or Variables</b>	<b>Main Outcomes or Behaviours</b>
Wilson 1981	12	Need	Seeing: purchase	Demands; success; failure; use; transfer; satisfaction or nonsatisfaction
Wilson, 1996	14 – 20	Context Person- in- context	Psychological; demographic; role-related“ environmental; source characteristics	Passive attention; passive search; active search; ongoing search; seeking; use and processing
Ellis, 1989	8	Starting; chaining; browsing; differentiating; verifying; monitoring; extracting; ending	Verifying	Ending
Krikelas, 1983	13	Need-creating event or environment	Internal & external sources	Observations; interpersonal contacts; use of literature; memory; personal files

**Sources:** [shodhganga.inflibnet.ac.in › jspui](http://shodhganga.inflibnet.ac.in/jspui)

## **4.0 CONCLUSION**

The 21<sup>st</sup> century is characterised as an information age and people have become more information conscious hence, information seeking has turn out to be part of necessity of living and existence. People deliberately seek for information to provide solution in their daily quest such education, research and development, market, productivity, governance etc.

## **5.0 SUMMARY**

In this unit, you have been exposed to different theories/approaches/models that pattern to information seeking behaviour of the people. The unit discussed Ellis information seeking behaviour theory (1989), Dervin's sense-making approach/model and James Krikelas model of information seeking (1983), in addition to the importance of theoretical framework.

## **6.0 Tutor-Marked Assignment (SAEs)**

1. Discuss Ellis' derived six generic characteristics of the information seeking patterns of social scientists.
2. Explain the method of Information gathering and information giving in James Krikelas Model of Information Seeking (1983)

## **7.0 REFERENCES/FURTHER READING**

Case, D. O. (2002). *Looking for information : a survey of research on information seeking, needs and behaviour*. California: Academic Press available at [https://www.researchgate.net/publication/220468624\\_Looking\\_for\\_Information-A\\_Survey\\_of\\_Research\\_on\\_Information\\_Seeking\\_Needs\\_and\\_Behavior](https://www.researchgate.net/publication/220468624_Looking_for_Information-A_Survey_of_Research_on_Information_Seeking_Needs_and_Behavior)

Dervin, B. (1983) An Overview of sense-making research: Concepts, methods, and results to date." Annual Meeting of the International Communication Association, Dallas Tx. (1983).

- Dervin, B. (1999)“On studying information seeking methodologically: The implications of connecting metatheory to method.” *Information Processing and Management* 35 (1999): 727-750. Available at <https://faculty.washington.edu>
- Ellis, D.A. (1989)“A behavioural approach to information retrieval system design.” *Journal of Documentation* 5 (1989): 171-212. Available at: <https://journals.sagepub.com/doi/10.1177/016555158901500406>
- Ellis, D.A. “Modeling the information seeking patterns of academic researchers: A Grounded theory approach.” *Library Quarterly* 63 (1993): 469-486. Available at: <https://journals.sagepub.com>
- Garg, M. (2016) Information seeking behaviour models: A brief introduction *International Journal of Library and Information Studies* Vol. 6(1) Jan-Mar, 2016. Available at [www.ijlis.org](http://www.ijlis.org)
- Krikelas, J. (1983)“Information-seeking behaviour: patterns and concepts.” *Drexel Library Quarterly* 19.2 (1983): 5-20. Available at <https://www.researchgate.net/publication/Krikelasmoleofinformationseekingbehavior>
- Savolainen, R. (2000), *Encyclopedia of Library and Information Sciences*, Third Edition Taylor & Francis. Available at <https://www.taylorfrancis.com/books/e/9781315116143>



## **Unit 3: General Models of Information Seeking Process**

### **CONTENTS**

1.0 Introduction

2.0 Objectives

3.0 Main content

3.1 Meaning of information seeking process and information seeking behaviour.

3.2 Kuhlthau's information seeking process (ISP)

3.3 Anomalous State of Knowledge by Nicholas Belkin

3.4 Non Linear information seeking by Allen Foster

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignment

7.0 References/Further Readings

### **1.0 INTRODUCTION**

In this unit, you will learn about information seeking process, information seeking behaviour and various models propounded by professionals trying to describe the information seeking behaviour and information seeking process (ISP) of searchers in the process of seeking for information.

### **2.0 OBJECTIVES**

By the end of this unit, you will be able to:

- Explain the meaning of information seeking process (ISP)
- Meaning of Information seeking behaviour
- Describe the three realms of experience in the process of information seeking.
- Discuss the six stages of information seeking process (ISP) by Kuhlthau.
- Discuss the Anomalous state of knowledge by Nicholas Belkin.

- Explain Non-Linear information seeking by Allen Foster.
- Discuss the implications of these models to library services.

### **3.0 MAIN CONTENT**

#### **3.1 Meaning of Information Seeking Process and Information Seeking Behaviour.**

What is information seeking?

Information seeking is the process or activity of attempting to obtain information in both human and technological contexts. It specifically focuses on searching, finding, and retrieving information for a particular information need or ones query.

Information seeking behaviour can be described as the way information user conducts himself or acts when looking for, receiving or acquiring information. These include his utterances, gestures, anger, anxiety, eagerness, reluctance, zeal or any other attribute displayed by an information user in his efforts to acquire the information he needs.

Information seeking behaviour of people varies according to their age, gender, occupation, location, education, exposure and enlightenment, religion and even culture. For example, the way a university lecturer behaves or reacts while looking for information in the library would be quite different from the way an undergraduate student does.

A lecturer may act with great sense of maturity in search of books, journals and magazines by gently flipping through the pages and taking down notes where necessary. A student on the other hand may look noisier, aggressive, asking too many questions at the same time to the people working in the library.

#### **3.2 Kuhlthau's Information Seeking Process (ISP)**

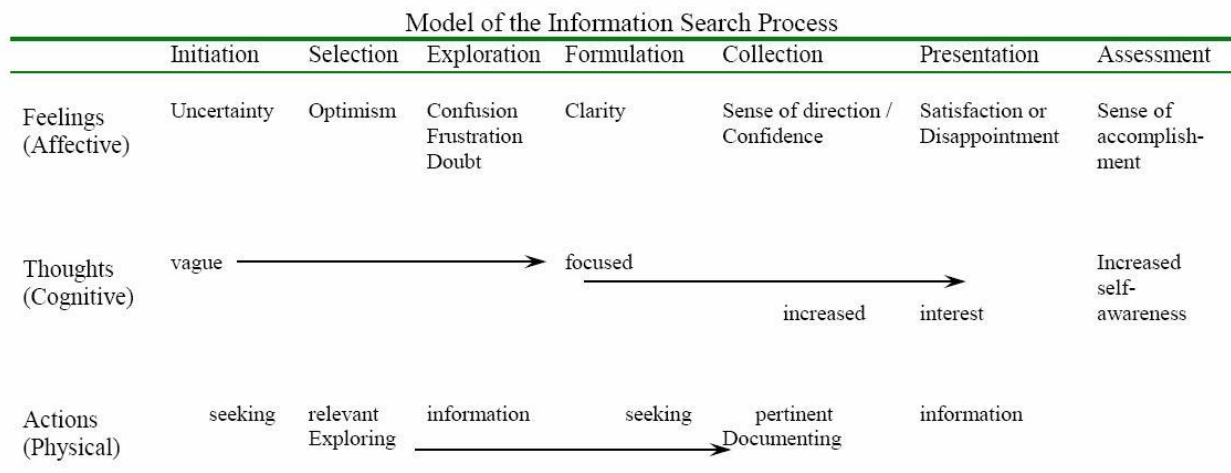
Information search process, search behaviour, library search, information retrieval, reference services, effective dimension in information seeking were developed by Carol Kuhlthau in 1991 as information seeking process model. The information search process (ISP) identified a six stage model of users' holistic experience in their process of information seeking.

The information seeking process (ISP) describes common experiences in the process of information seeking for a complex task that has a discrete beginning and ending and that requires considerable construction and learning to be accomplished. The model reveals a search process in which a person is seeking meaning in the course of seeking information. From the user's perspective the primary objective of information seeking is to accomplish the task that initiated the search, not merely the collection of information as an end in itself. The information seeking process (ISP) presents seeking information as a means to accomplish a goal. The model of the information seeking process (ISP) is articulated in a holistic view of information seeking from the user's perspective in six stages:

- *Task Initiation*, when a person first becomes aware of a lack of knowledge or understanding and feelings of uncertainty and apprehension are common.
- *Selection*, when a general area, topic, or problem is identified and initial uncertainty often gives way to a brief sense of optimism and readiness to begin the search.
- *Exploration*, when inconsistent, incompatible information is encountered and uncertainty, confusion, and doubt frequently increase and people find themselves "in the dip" of confidence.
- *Focus Formulation*, when a focused perspective is formed and uncertainty diminishes as confidence begins to increase.
- *Collection*, when information pertinent to the focused perspective is gathered and uncertainty subsides as interest and involvement deepens.
- *Presentation*, when the search is completed with a new understanding enabling the person to explain his or her learning to others or in some way put the learning to use.

The information seeking process model also identifies three realm of experience in the process of information seeking- the affective (feelings), the cognitive (thoughts) and the physical (actions) common to each stage. In the information seeking process, it is a central notion that uncertainty, both affective and cognitive, increases and decreases in the process of information seeking. A principle of uncertainty for information seeking

is proposed which states that information commonly increases uncertainty in the early stages of search process.



## The Implications of Kahlthau’s Information Seeking Process (ISP) on Library Services

Information searching is traditionally portrayed as a systematic, orderly, and rational procedure rather than the uncertain, confusing process that users commonly experience. After the search is completed, the topic understood, and the problem solved, a person may look back and deny the chaos and confusion that was actually experienced in the process. A gap exists between users’ expectations in information use and search design.

The information seeking process (ISP) considers uncertainty as natural and essential for constructing personal knowledge in the process of information seeking rather than regarding the reduction of uncertainty as the primary objective of information seeking. Uncertainty is a concept that offers insight into the user’s quest for meaning within the information seeking process (ISP). If uncertainty is viewed as a sign of the beginning of innovation and creativity, the goal of library and information services shifts from reducing uncertainty to supporting the user’s constructive process. Increased uncertainty in the information seeking process (ISP) indicates a need for intervention that enables the person to move on to further construction and understanding.

### **3.3 Anomalous State of Knowledge by Nicholas Belkin**

Nicholas J. Belkin is best known for his work on human-centered information retrieval and the hypothesis of Anomalous State of knowledge (ASK). He realized that in many cases, users of search systems are unable to precisely formulate what they need. The users miss some vital knowledge to formulate their queries. In such a situation, it is more suitable to attempt to describe a user's Anomalous state of knowledge than to ask the user to specify his/her need as a request to the system.

The basic assumption that the theory provided to Anomalous state of knowledge (ASK) based on information retrieval (IR) system is that users of information retrieval systems typically recognize the anomaly in their state of certain topic, but they cannot exactly identify what is necessary to solve the anomaly. Thus, it is unrealistic to ask them to precisely specify what they want and the information retrieval (IR) system should be designed by taking into account the non-specifiability of information need.

Belkin classified Anomalous State of Knowledge (ASK) into five different groups based on the level of specificity of information need, ranging from a well defined topic and problem to not well defined one. These include:

1. Well defined topic and problem.
2. Specific topics. Problem well defined information wanted to back-up research and/or hypothesis.
3. Topic quite specific: problem not so well defined. Research still at any early stage.
4. Topics fairly specific: problems not well defined. No hypothesis underlying research information needed to produce directions for research.
5. Topic and problem not well defined. Topic often unfamiliar.

Belkin proposed an alternative concept in information retrieval theory from a cognitive point of view based on the problem of non-specifiability of information needs. The traditional information retrieval systems assumed that the users always know exactly what they want, thus they should be able to simply specify their needs and obtain the results that ultimately match their request from the systems.

Belkin, argued against this notion and emphasized that this traditional viewpoint was not useful in helping the users in resolving their information needs and invariably undermined the effectiveness of the systems. He further concluded that people have an inexpressible need for information – thus some information need cannot be explicitly specified and this problem is rooted in the individuals' cognitive.

Belkin, further pointed out that the users realize that they have certain information need which cannot be resolved by their current state of knowledge. In other words, the users have an “anomaly” with respect to the problem. In such a situation, the users have to seek help by specifying their request to the information retrieval system. The users' anomaly and their perception of the problem will automatically change each instance of communication between the users and information retrieval mechanism. In view of this, the important factor that determines the effectiveness of information retrieval task is how well they can specify their information request. However, since they do not always have a solid knowledge of the problem, they may end up having some difficulties in explicitly specifying their need.

Belkin, stated that in anomalous state of knowledge (ASK) pointed out that the problem of non-specifiability of information needs are caused by three factors which cause the mismatch between the request and need. These include:

- The texts in the systems may not be appropriately represented.
- The need cannot be properly expressed in the system terms.
- The needs itself are unspecifiable in cognitive level.

### **The Implications of Belkin's Anomalous State of Knowledge to Library Services**

Belkin's anomalous state of knowledge research provided an important assumption for information retrieval theory.

- Traditional viewpoint of information retrieval (IR) system often assumed that users always know exactly what they want, therefore, they should be able to specify their request and get the results that precisely match their need from the information retrieval (IR) system. He argued that not all the users' needs are explicitly expressible based on the problem of non-specifiability of information

need from cognitive aspect. He expressed that the basic assumption in information retrieval (IR) system did not accurately reflect the actual situation of the users.

- Belkin suggested that people should not be forced to specify their information needs into information retrieval (IR) system. Instead, he suggested that users should play a central role in information retrieval (IR) systems, having the system provide supports for their information seeking tasks with respect to their states of knowledge.
- In order to achieve the above, he suggested that the information retrieval (IR) system should represent the users' information problems as well as texts in the system appropriately.
- The effective representation of need and texts will lead to an accurate classification of anomalous state of knowledge which indicates the different states of knowledge and the levels of specificity in the users' information needs.
- The appropriate retrieval strategies should be used for different types of anomalous state of knowledge (ASK). By focusing on this aspect, the retrieval performance will be improved since the users' needs are better matched with texts corresponding to their problems.

The major implication from anomalous state of knowledge (ASK) suggests that the representations of information needs and texts and the corresponding retrieval strategies for each class of anomalous state of knowledge (ASK) system should be the central focus in information retrieval (IR) system.

### **3.4 Non Linear Information Seeking by Allen Foster**

Allen Foster (2004) looked at the information seeking behaviours of the information seekers of the inter-disciplinary subjects. According to Klein and Newell (1997) inter-disciplinary studies is a process of answering a question, solving a problem or addressing a problem that is so broad or complex that it cannot be addressed through a

single discipline or field. It draws on other disciplines with the goal of integrating their insights to construct a more comprehensive understanding of the problem.

In doing this, he looked at the activities, strategies, contexts and behaviours used and perceived to be used by inter-disciplinary seekers. He looked at the relationship of the core processes, context and behaviour as part of inter-disciplinary information behaviour. In view of this, he propounded a model of inter-disciplinary information seeking behaviour called non-linear model which is represented in terms of three core processes and three levels of interaction.

The three core processes of inter-disciplinary information seeking include; **Opening, Orientation and Consolidation.**

**Opening Processes:** This was seen as a starting point for the actual seeking, exploring and revealing information. It actually described how the opened up their topics through information seeking activities. Opening is a non-linear component representing a collection of activities. Each of the activities interacted and informed both further opening activities and the other core processes. Breadth Exploration and Eclecticism were identified as complex and involved combination of other activities to form a large process. The key element was the combination and recombination of possibilities to achieve information.

Eclecticism includes accepting, gathering and starting information from a diverse range of both passive and active sources, for later incorporation and satisfaction of information needs. Eclecticism provides a conceptual approach to finding information which combines active, passive and serendipitous information acquisition.

Breadth Exploration is a conscious expansion of searching to allow exploration of every possibility.

In the process, the information seeker will make choice of keywords, selection of sources and initiation of combinations of other core processes. Networking is a significant activity of information seekers through many channels, including conferences, social gatherings, colleagues and departmental research groups. The internet, email and online discussion groups were valued for increasing the possibilities for networking and hence locating information and resources. Networking was



recognized by information seekers in the inter-disciplinary subjects as a tool for exploring and opening up new concepts and areas not revealed through traditional searching. Serendipity was identified through as a method for achieving breadth and identifying unknown result was found to be closely associated with browsing, eclecticism and networking. Serendipity and activities that encouraged the occurrence of serendipitous results played a valued role in information seeking.

**Orientation Process:** The second process of information seeking behaviour in the inter-disciplinary subject is called orientation process. Orientation was identified as **Problem Definition.** The activities and strategies found in the opening process feed results into orientation process, but can also lead back into further orientation or consolidation. Picture building was a composite set of behaviour patterns that is described as mapping out in their minds and on paper, the disciplines and concepts relevant to achieving an inter-disciplinary overview of the topic. Reviewing was used to identify existing knowledge in that area, reading or accessing a personal collection and considering material already gathered. Determining “where I am now” through Reviewing, that will help to establish a baseline of information from which ideas “identify which gaps need filling next” and developing those seeds of information followed.

Other simple processes as a part of Orientation were identified;

- Identifying keywords for subsequent searching.
- Identifying key names that will shape the existing Research.
- Identifying key Articles and latest Opinion in disciplines.
- Identifying, selecting sources using relevant criteria to decide which sources were appropriate.

**Consolidation Process:** Consolidation is a concept termed “knowing Enough”. It plays a vital role from an initial idea for a topic or information product. It also questions and judges the work in progress and deciding whether further information seeking is necessary or not. It questions whether sufficient materials were collected or not. As the information was collected and sources highlighted, sifting the process of deciding which materials and sources are relevant for the topic. This was a recurrent process of selecting

and pruning. Also judging the relevance and of relevance were important criteria for sifting.

**Verifying** was not common in inter-disciplinary information behaviour. It was discovered that a feeling of information overload prevented their additional searching to verify the contents of papers.

**Finishing** is identified as “sweeping up the loose ends” before closure and is composed of activities as diverse as browsing keyword searching and networking.

The three levels of interaction in information seeking behaviour as identified by Allen are as follows; internal context, external context and cognitive approach.

**Internal Context:** The internal context influences the level of experience and prior knowledge held by the information seeker. These influences are categorized as feelings and thought, coherence, knowledge and understanding. Each of these represents a complex concept which includes internal feelings of uncertainty, self perception, self efficacy, perception of topic, complexity and distinction. Knowledge and understanding covers experience, information need and knowledge level of the information seeker. Internal influences are unique to each information seeker’s own profile.

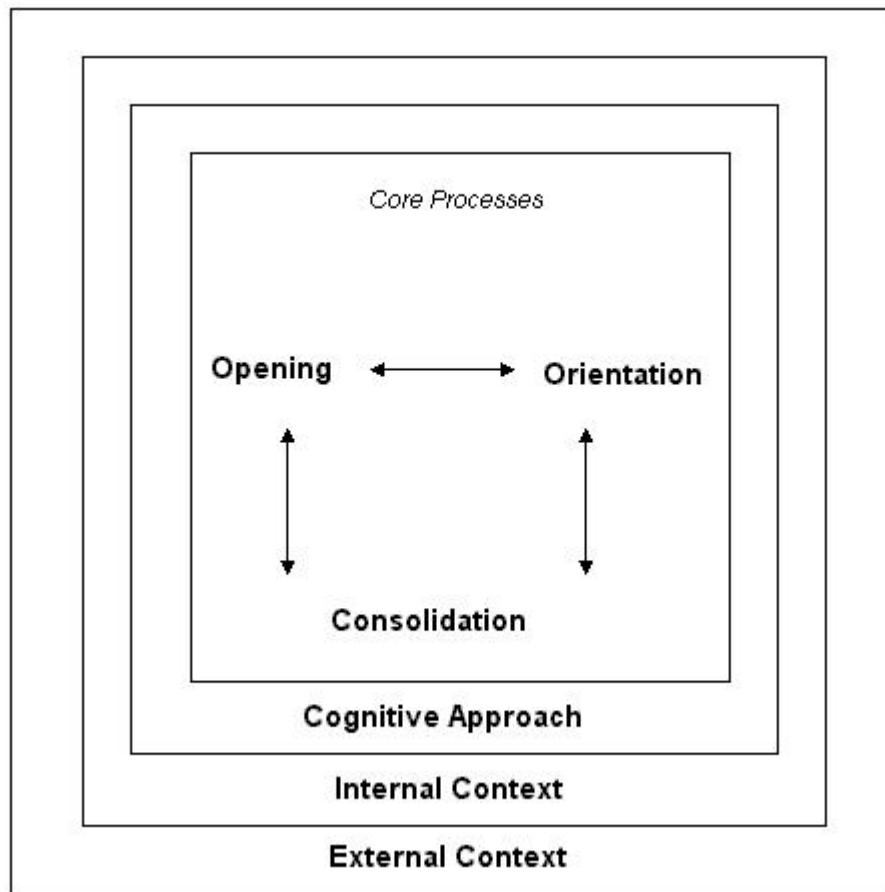
**External Context:** The non-linear model of information behaviour recognizes that from the context within which the information seeker works. The major external influences include; Social Networking and Organizational, Time, The Project, Navigation Issues and Access to Sources. Social Networking can have effect of either reducing access to information resources or significantly bolstering them. Information seeking was framed by the resolution of information problems, limited by time and financial resources, coded as Time and The Project.

Navigation Issues and Access to sources referred to the organization of information, and the problems encountered by inter-disciplinary researchers as they move from the familiar territory of their home to other disciplines. The impact of this on the information seeker varies with factors associated with distance from home discipline and previous experience, which is also identified as part of internal context.

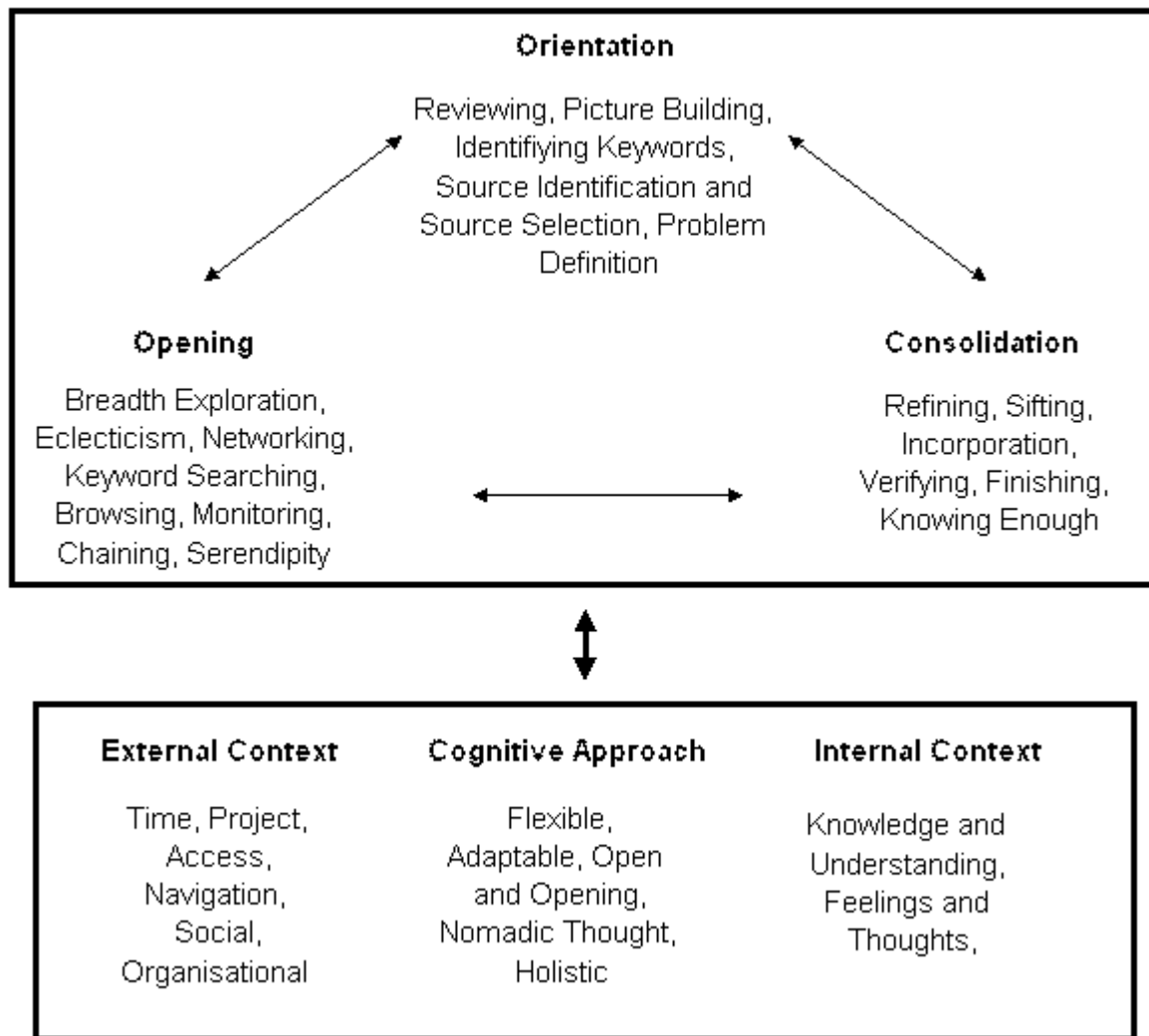
**Cognitive Approach:** The non-linear cognitive approach describes the mode of thinking observed by the information seeker, a willingness to identify and use

information that might be relevant to an inter-disciplinary problem. The inter-disciplinary researchers described four cognitive approaches as follows;

- The Flexible and Adaptable approach which emphasizes the mental agility and willingness to adapt to the different information and disciplinary cultures that are intrinsic to working in an inter-disciplinary field.
- Openness of approach is an open-minded approach in which no prior framework for judging relevance is implemented: all sources, disciplines and ideas are viewed as viable until proven otherwise. The concept suggests that inter-disciplinary researchers use flexibility and adaptability in their information-seeking and, when they find a potential information source, are open to how this might match their information needs.
- Nomadic Thought appeared at first to be the same behaviour as Openness. However, it goes further, in that it embraces the process of thinking about a topic in many diverse ways to find the information needed in locations and ways remote from the original idea. Key elements include the idea of abandoning well-known and favoured disciplines and sources in search of new material. This tends to contradict the traditional idea of staying within known disciplines and well-trodden resources.
- The Holistic approach is important to grasping and incorporating concepts from diverse areas and bringing them together either as an answer or to generate new questions and information searching directions.



**Figure 1: Non-linear model of information seeking behaviour ([Foster 2004: 232](#)).**



**Figure 2: Non-linear model of information seeking behaviour illustrating component behaviour.**

#### **4.0 CONCLUSION**

You have learnt from this unit the meaning of information seeking process, information seeking behaviour, the three models of information seeking behaviour propounded by kuhlthau, Nicholas Belkin and Allen Foster.

#### **5.0 SUMMARY**

This unit discussed extensively the meaning of information seeking process, information seeking behaviour and the three models that described the information seeking behaviour of information seekers in different disciplines.

#### **6.0 TUTOR MARKED ASSIGNMENT**

1. What is information seeking process?
2. What is information seeking behaviour?
3. Discuss the six stages of information seeking behaviour by Kuhltau.
4. Explain the meaning of anomalous state of knowledge by Nicholas Belkin.
5. Discuss the three processes of information seeking behaviour of the inter-disciplinary subjects by Allen Foster.

## 7.0 REFERENCES/FURTHER READING

- <https://en.m.wikipedia.org/wiki>
- <https://www.researchgate.net/2386-->
- <https://pdfs.semanticscholar.org/>
- Faculty.washington.edu.Bel.
- Scholar.google.com.citations
- <https://wp.comminfo.rutgers.edu/>
- <https://www.sciencedirect.com/topics>
- <https://www.slideshare.net/mobile>
- [www.ijlis.org/img/2017](http://www.ijlis.org/img/2017) (PDF)
- [www.lisbdnet.com](http://www.lisbdnet.com)
- [www.information.net/paper222](http://www.information.net/paper222)
- <https://onlinelibrary.wiley.com>
- <https://link.springer.com/chapter>
- <https://www.semanticscholar.org>
- <https://www.sagepub.com/files> u.
- <https://www.chuonline.edu/articles>.

## **Unit 4: Model of Information Seeking on the Web and the Behavioural Modes**

### **CONTENTS**

1.0 Introduction

2.0 Objectives

3.0 Main Content

3.1 Model of information seeking on the web and the behavioural modes

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignment

7.0 References/Further Readings

### **1.0 INTRODUCTION**

In this unit, you will learn about model of information seeking on the web and the behavioural modes.

### **2.0 OBJECTIVES**

By the end of this unit, you should be able to:

- Explain the model of information seeking on the web.
- Discuss the behavioural modes of seekers of information on the web.
- Enumerate the problems encountered seeking information on the web.

### **3.0 MAIN CONTENT**

#### **3.1 Model of Information Seeking on the Web and the Behavioural Modes**

Before the advent of the internet, the information resources in the physical world used to play a central role in information seeking. However, the birth of the information society has not only increased the number of information sources but also has placed greater demands on human endowments to seek and then to process larger amount of

information through the internet, thus, the emergence of seeking information through the web. This led to formation of model of information seeking on the web and the behavioural modes. The following propounded models of information seeking on the web- Aguilar (1967) and Weick and Daft (1983) identified four scanning modes on the web. Ellis (1989, 1990) identified six categories of information seeking behaviours on the web. Marchionini (1995) identified three general modes of browsing and searching when seeking for information. Each mode of information seeking on the web is distinguished by the nature of information needs, information seeking tactics and the purpose of the information use. The information seeking tactics characterizing each mode were revealed by recurrent sequences of browser actions initiated by the information seeker.

### **3.1.1 Aguilar (1967) and Weick and Daft (1983) Model of Information Seeking on the Web**

They identified four scanning mode on the web;

- Undirected viewing
- Conditioned viewing
- Informal search
- Formal search

- 1. Undirected viewing:** the individual is exposed to information with no specific informational need. The overall purpose is to scan broadly in order to detect signals of change early. The goal of broad scanning implies the use of a large number of different sources and different types of sources.
- 2. Conditioned viewing:** the individual directs viewing to information about selected topics or to certain types of information. In conditioned viewing mode on the web, we expect browsing, differentiating and monitoring that are common. The individual selects websites or pages that they expect to provide relevant information. The overall purpose is to evaluate the significance of the information encountered in order to assess the general nature of impact on the organization.



3. **Informal search:** the individual actively looks for information to deepen the knowledge and understanding of a specific issue. It is informal in that it involves a relatively limited and unstructured effort. The main purpose is to gather information to elaborate on issue so as to determine the need for action by the organization.
4. **Formal search:** the individual makes a deliberate or planned effort to obtain specific information or types of information about a particular issue. The search is formal because it is structured according to some pre-established procedure or methodology. The main purpose is to systematically retrieve information relevant to an issue in order to provide a basis for developing a decision or course of action. During the formal search on the web, the information seekers use extracting operations and some complement monitoring activities. The information seeker spends more time on the search, to learn and use complex search features and to evaluate the sources that are found in terms of quality and accuracy. Formal search can be of two stages; multi-site searching which identifies significant sources which is followed by within-site searching. The extracting may be supported by such monitoring activity, through such services as website, alerts, push channels/agents and e-mail announcements in order to avoid late-breaking information.

**Fig.1 Combination of Aguilar and Ellis behavioural modes and moves of information seeking on the web**

	<b>Starting</b>	<b>Chainin g</b>	<b>Browsin g</b>	<b>Differentiatin g</b>	<b>Monitorin g</b>	<b>Extractin g</b>
<b>Undirected Viewing</b>	Identifyin g, selecting, starting	Followin g links on initial pages				

	pages and sites					
<b>Conditioned Viewing</b>			Browsing entry pages, headings, site maps	Bookmarking, printing, copying; Going directly to known site	Revisiting 'favorite' or bookmarked sites for new information	
<b>Informal Search</b>				Bookmarking, printing, copying; Going directly to known site	Revisiting 'favorite' or bookmarked sites for new information	Using (local) search engines to extract information
<b>Formal Search</b>					Revisiting 'favorite' or bookmarked sites for new information	Using search engines to extract information

### 3.1.2 Ellis (1989, 1990) Model of Information seeking on the web

Ellis identified eight categories of information seeking behaviour on the web.

- Starting
- Chaining
- Browsing
- Differentiating
- Monitoring
- Extracting
- Verifying
- Ending

1. **Starting:** this is the means employed by the information user to begin seeking of information e.g. asking some knowledgeable colleagues about his information needs. It comprises those activities that formed the initial search for the

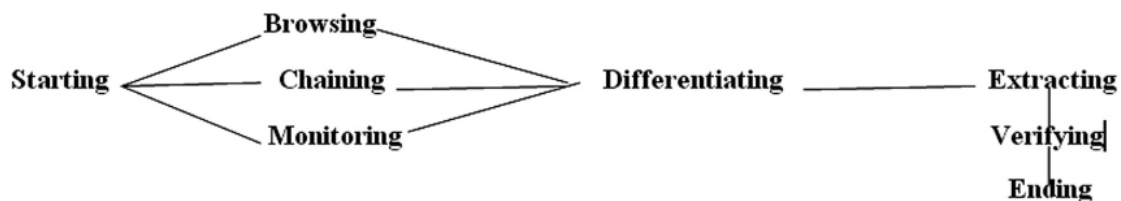
information like identifying sources of interest that could serve as starting point of the search. Identified sources often include familiar and unfamiliar sources. While searching these initial sources, they may point to, suggest sources or recommend additional references.

2. **Chaining:** this following upon this new IDS leads from an initial source is the activity of chaining- which can be backward or forward. Backward chaining takes place when pointers or references from an initial source are followed. Forward chaining identifies and follows up on other sources such as footnote and citations of the initial source or document.
3. **Browsing:** this is the activity of semi-directed or semi-structured searching in areas of potential search. Browsing takes place in many situations in which related information has been grouped together according to subject affinity. The individual often simplifies browsing by looking through tables of contents, lists of titles, subject headings, names of organizations or persons, abstract and summary etc.
4. **Differentiating:** the individual filters and selects from among the sources scanned by noticing differences between the nature and quality of information offered. The differentiation process is likely to depend on the individual's prior or initial experiences with the sources, recommendations from personal contact or reviews in published sources. According to Taylor (1986) he identified six criteria by which an individual can select and differentiate between sources: Ease of use, noise reduction, quality, adaptability, time savings and cost savings.
5. **Monitoring:** it is the activity of keeping abstract of developments in an area by regularly following particular sources. The individual monitors by concentrating on a small number of core sources which vary between professional groups, but usually include key personal contacts and publications. Track developments through core journals, online search updates, newspapers, conferences, magazines, books, catalogues e.t.c
6. **Extracting:** this is the activity of the individual systematically working through a particular source or sources order to identify material of interest. It selectively identifies the relevant material in an information source. As a form of

retrospective searching, extracting may be achieved by directly consulting the source or by indirectly looking through bibliographies, indexes or online database.

7. **Verifying:** it involves checking the accuracy of information that is obtained by the user from various sources.
8. **Ending:** ending can be defined as “tying up loose ends” through a final search. Here the task of information seeking is complete and the user has obtained all the required information, thus satisfying his needs.

**Fig.2 Ellis information seeking behaviour on the web.**



### 3.1.3 Marchionini (1995) Model of Information Seeking on the Web

1. **Directed browsing:** it occurs when browsing is systematic, focused and directed by a specific object or target. E.g. scanning a list for a known item and verifying information such as dates or other attributes.
2. **Semi directed:** browsing occurs when browsing is predictive or generally purposeful- the target is less definite and browsing is less systematic. E.g. is entering a single general term into a database and casually examining the retrieved records.
3. **Undirected browsing:** this occurs when there is no real goal and very little focus. E.g. flipping through a magazine and “channel surfing”.

## 4.0 CONCLUSION

You have learnt from this study unit the model of information seeking on the web and behavioural modes. Models of information seeking on the web by Aguilar, Ellis and Marchionini were extensively discussed.

## 5.1 SUMMARY

This unit have discussed extensively on model of information seeking on the web and the behavioural modes.

## 6.0 TUTOR MARKED ASSIGNMENT

1. What is information seeking on the web?
2. List and explain the three types of browsing and searching modes on the web.
3. List the eight seeking behaviour of information on the web by Ellis.

## 7.0 REFERENCES/FURTHER READINGS

- <https://www.slideshare.net>
- A Behavioural Model of Seeking Information on the web  
choo.fis.utoronto.ca.Res puds
- <https://www.sciencedirect.com>
- <https://firstmonday.org>
- David Ellis, D. Cox, and K. Hall, 1993. "A Comparison of the Information Seeking Patterns of Researchers in the Physical and Social Sciences," *Journal of Documentation*, volume 49, number 4, pp. 356-369.  
<http://dx.doi.org/10.1108/eb026919>
- David Ellis, 1989. "A Behavioural Model for Information Retrieval System Design," *Journal of Information Science*, volume 15, numbers 4/5, pp. 237-247.
- David Ellis and Merete Haugan, 1997. "Modelling the Information Seeking Patterns of Engineers and Research Scientists in an Industrial Environment," *Journal of Documentation*, volume 53, number 4, pp. 384-403.  
<http://dx.doi.org/10.1108/eb026919>

## **MODULE 4 Factors Influencing Information Use And Information Users / Customers**

- Unit 1        Macro and Micro Environmental Factors Influencing Information Use and Information Users / Consumers
- Unit 2        Information and Information Users/ Customers in the Digital Age

- Unit 1**        Macro and Micro Environmental Factors Influencing Information Use and Information Users / Consumers

### **CONTENTS**

- 1.0            Introduction
- 2.0            Objectives
- 3.0            Main Content
  - 3.1            Factors of Micro - Environments
  - 3.2            Factors of Macro – Environments
  - 3.3            Key Differences between Micro and Macro Environments
- 4.0            Conclusion
- 5.0            Summary
- 6.0            Tutor – Marked Assignment
- 7.0            References / Further Reading

### **1.0            INTRODUCTION**

Libraries like any other business organization operates within different environments. The library environment is categorized into Micro-environment and Macro-environment. Internal library activities are affected by micro – environment while the external library activities are affected by macro – environment.

## **2.0 OBJECTIVES**

At the end of this unit you should be able to:-

- Explain micro – environment
- Define macro – environment
- Explain the features of both macro and micro environment

## **3.0 MAIN CONTENT**

### **3.1 Factors of Micro - Environment**

Micro – environment has a direct impact on the routine carried out in the library. It consists of internal factors that are capable of influencing the daily operations and performance of the library. These primary factors of the library environment are:- customers , employees, vendors/ distributors and library stakeholders.

#### **i) Customers**

Customers or users are always right and therefore they are the king of any library. Libraries are in business because of the users who require their services. Libraries are meant to focus on existing customers and attract potential customers. Value added services plays a key role in increasing the customer base.

#### **ii) Employees**

Employees constitutes the staff that work at the library.by employing the right employees and providing adequate training and development opportunities to them, the library can ensure success.

### **iii) Vendors / Distributors**

Vendors are also known as Distributors, this group of people constitute those that supply library resource materials to them. When libraries order for physical resources like hardcover books, vendors are the one who take orders and deliver after payment is done.

### **iv) Stakeholders**

Stakeholders are the people who invest their money in the library and by so doing they attain ownership. Be it private or public library, ultimately, they are eligible for positive return on investment.

## **3.2 Factors of Macro – Environment**

Macro – environment on the other hand deals with a larger environment which is built upon factors outside the library control, hence it is called the external or macro – environment. The external factors of the library environment originates from Local , Regional, National or International levels. These factors includes:- Political Factor , Economic Factor, Sociocultural and Demographic Factor, Technology Factor, Legal Factor and Physical Factor.

### **i) Political Factors**

Political factors are likely changes that affects the library environment, it includes; regulation and de-regulation trends; social and employment legislation; tax policy, trade and tariff controls and most importantly, the government type and the stability that comes with it.

### **ii) Economic Factor**

Economic factors explains the nature of the competition faced by the library or its services, including the financial resources available within the economy. The economic factors that affects the library environment are unemployment and labour supply; impact of globalization; levels of disposable income and income



distribution; current and project economic growth, inflation and interest rates are likely changes that may affect the library externally.

**iii) Sociocultural and Demographic Factor**

These are trends in the way people live, work and think. Sociocultural and Demographic Factors includes the population growth rate and age profile of the economy. The population of educated people and their social mobility and attitudes are likely changes in the library environment.

**iv) Technology Factor**

With the impact of emerging technologies, there is bound to be some environmental changes. Emerging technologies are new approaches to doing old things, which includes impact of internet; reduction in communication costs; research and development activity and impact of technology transfer. For a library to remain relevant to its users, it has to be at par with the technology that is obtainable in the developed world.

**v) Legal Factor**

Legal factors that affects the library environment basically has to do with employment laws.

**vi) Physical Factor**

Physical factor is also known as natural factor this explains how the library environment interacts with their ecological environment, these includes;- pollution discharge, water quality; waste management; land use; coastal resources

### **3.3 Key Differences between Micro and Macro Environments**

- a) Micro environment includes internal factors while macro environment includes external factors.
- b) Factors of the micro environment are under the control of the organization but controlling the macro environmental factors is next to impossible for libraries.

- c) The micro environment can affect a specific libraries, whereas factors of the macro – environment influences the all library.

#### **4.0 CONCLUSION**

The micro (internal) environment that affects the library is made up of customers, employees, vendors / distributors and stakeholders and together they influence the information use. The macro (external) environment that affects the library on the other hand is made up of several factors namely;- political factor, economic factor, sociocultural and demographic factor, technology factor, legal and physical factors.

#### **5.0 SUMMARY**

For any library to function properly it has to interact with both its internal environment and its external environment.

#### **6.0 TUTOR-MARKED ASSIGNMENT**

- 1) Define the library micro – environment?
- 2) What do you understand by macro – environment as it affects library?
- 3) Itemize and explain in detail the factors of macro – environment?
- 4) Explain the forces responsible for micro – environment?

#### **7.0 REFERENCES / FURTHER READING**

Fraser, B.T., Nelson, T.W. & McClure, C.R., (2002). “Describing the economic impacts and benefits of Florida public libraries: Findings and methodological applications for future work”. In: Library & information science research, 24(3), pp.211–233.

Koontz, C.M. 2003. “An Environmental Analysis: a Marketing Research Approach,” in An Integrated Approach to Services Marketing: a Book of Readings on Marketing of Library and Information Services. Mumbai, India: Allied Publishers Private Limited.

Mchombu, K. (1991). Which way African librarianship? International Library Review, 23(3), 183–200.

Morrison, J.L. 1991. "Environmental Scanning," in A Primer for New Institutional Researchers, edited by M.A. Whitely, J.D. Porter and R.H. Fenske. Tallahassee, FL.: The Association for Institutional Research.

WORLD LIBRARY AND INFORMATION CONGRESS: 72ND IFLA GENERAL CONFERENCE AND COUNCIL 20-24 August 2006, Seoul, Korea.<http://www.ifla.org/IV/ifla72/index.htm>

## **UNIT 2 INFORMATION AND INFORMATION USERS / CONSUMERS IN THE DIGITAL AGE**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Concept of the Digital Age
  - 3.2 Functions of Digital Age Based Library
  - 3.3 Core Areas for Digital Age Libraries Training in LIS Programmes
  - 3.4 Challenges of Digital Providers in the Digital Age
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor – Marked Assignment
- 7.0 References / Further Reading

## **1.0 INTRODUCTION**

In today's world, people spend most of their time online. People who advertise their products and services are aware of this fact and they capitalize on it and seize the opportunity. Some of the popular advertisement opportunities and channels engage in re-targeting, video advertisements, mobile advertisements and social media advertisements stand out (Taylor, 2013).

## **2.0 OBJECTIVES**

At the end of this unit you should be able to:-

- Understand what digital age is all about.
- Identify the functions of digital age based library
- Itemize the benefit of digital age based library
- Understand the core areas for digital age library training for LIS training programmes
- Understand the challenges of digital providers in the digital age.

## **3.0 MAIN CONTENT**

### **3.1 Concept of The Digital Age**

Digital Age in the 21<sup>st</sup> century is characterized by the advent of information technologies to create, collate, manage, manipulate, store and share information regardless of time and space. The importance of information cannot be overemphasized as it cut across all spheres of human endeavors and professions. However, the difference between the advanced countries and the developing countries lies in their information awareness, access, and use. This is why information is regarded as "power" (Ikenwe & Omigie, 2015).

### **3.2 Functions of Digital Age Based Library Services.**

Atram (2017) explained the benefits of functions of digital age based library services

**a) Acquisition and budget**

Preparing budget for the digital age based library has been automated. Acquiring of resources can also be done online as well as delivery provide all the resources are on-line.

**b) Cataloguing**

Cataloguing is the process of maintaining bibliographic and authority records in the library. Resources that can be catalogued includes, books, serials, sound recording, moving images, computer files, e-resources etc.

**c) Circulation**

Circulation department can also be referred to as a lending department. This department / desk is usually found at the entrance of the library and it provides lending services or return of loaned resources.

**d) Serial Control**

Serial control simply refers to the entire process of obtaining materials sold on subscription basis, including periodicals, newspapers, yearbooks, transactions and proceedings. In many libraries, Placement of orders in most libraries is centralized

**e) OPAC**

Digital age based libraries are exposed to OPAC- Online Public Access Catalogue. This is an electronic database of materials held by a library or group of libraries. The users search the library catalogue to locate books and other resources.

**Benefits of Digital Age Based Library**

**a) It saves time of service providers**

The time of both the users and the library personnel are saved in the sense that the result of the query is solved quickly with the use of digital age equipment.

**b) It takes small space to save the information**

Digital age equipment doesn't require much space at all but rather everything is inbuilt in small devices as storage. The use of flash drives, CD's and hard drives has made storage of information easy and requires just a shelf space thereby creating more room for other activities in the library.

**c) It saves the energy and resources**

With the advent of digital age library, the energy of the staff is saved in the sense that he/she is not walking around to deliver or collect memos/emails but rather it can be sent and received through the internet. The resources of the library is also saved in the sense that making enquiries or traveling to get things delivered or can be done via mail or a telephone.

**d) It helps to control the information**

Digital age introduced the world to so much information that most times it takes a library professional to sieve the information and bring out what is genuine. There are journals and sites on the internet that only publish what is genuine.

### **3.3 Core Areas for Digital Age Libraries Training in LIS Programmes**

Urs (2002) suggested the core areas for Digital Age Libraries training in LIS Programmes

**a) Information Users**

This simply involves understanding the user, identifying and analyzing user needs and the reference interview and query formulation

**b) Information Resources**

Information resources involves the identification, evaluation and selection of information resources that should be included in the digital collections.

**c) Value added processes**

Value added processes involves the compilation of bibliographic databases, developing virtual libraries, design and development of user interfaces, organizing (classification, cataloguing, indexing and abstracting) information resources and information analysis and consolidation, design and development of e-content and the development of digital libraries.

**d) Information Technologies**

Information technologies involves systems study / analysis and requirements analysis, IT market survey, identification and selection of suitable hardware and software for automation, LANs , Internet, Intranets, setting up the system, data conversion, website development and registration.

**e) Information Management**

Information management involves planning, resource management, developing decision support systems, organizational re-engineering, information flow and management, project management, market research, pricing and marketing, evaluation and quality management.

**3.4 Challenges of Digital Providers in the Digital Age**

Rosenberg (2006) highlighted some challenges digital libraries face in the digital age:-

**a) Funding**

Funding is the availability of money. Funding can be regarded as a challenge when it is not sufficient to buy the equipment that a digital age library needs. A digital age library needs money to train staff on the new skill, money is required to hire the personnel that will put the staff through and lastly money is required for purchasing digital age equipment like modern computers, printers, fax machines and a whole bunch of other things.

#### **b) IT Infrastructure**

IT Infrastructure includes both skilled staff as well as digital equipment. The absence of both causes a huge challenge to the library, its users and the institution at large. IT infrastructure can pose as a challenge when it is insufficient or non-existent.

#### **c) Lack of commitment from staff**

Lack of staff commitment of staff can arise when the staff are not satisfied or the institution is neglecting the staff. Non commitment of staff can stand as a challenge because if they are committed they will not be able to deliver their services very well.

#### **d) Unavailability of African generated resources**

Most libraries are equipped with foreign resources and that is not good enough. Most times when users need African resources, they are faced with a challenge. Digital age libraries are supposed to have both foreign resources as well as African generated resources. Foreigners had the foresight to store resources digitally but Africans didn't have the foresight or privilege to do so, hence the absence of African resources.

## **4.0**

### **CONCLUSION**

The Digital Age has brought new changes in the world of information for its users. Computers and new technologies have brought revolution in



knowledge society. Without embracing the digital age and its benefits, the librarian profession won't be at par with the other professions.

## **5.0 SUMMARY**

Digital age has brought tremendous changes in library services. In the world of today, highly sophisticated information technology facilitates the storage of huge amount of data or information in a very compact space. The digital age enables easy access to digital information resources without any restriction to specified hours and day of the week like a physical library.

## **6.0 TUTOR – MARKED ASSIGNMENT**

- a) What do you understand by the concept of digital age?
- b) Explain the functions of digital age based library?
- c) Itemize the benefits of a digital age based library?
- d) What are the challenges faced by adopting a digital age based library?

## **7.0 REFERENCES / FURTHER READING**

Atram, K.N., (2017). Digital library services in the digital age. *International Journal of Library and Information Science*, 6 (1), 78-82.

Chiware, E. R. T. (2007). Training Librarians for the digital age in African universities libraries. Pre- IFLA Satellite Meeting, Durban August, 2007. Available at <http://www.ifla.org/IV/ifla73/satellite1Programme-en.pdf>. Accessed on 25, July 2020).

Ikenwe, I. J.; & Omigie, C. A. (2015). Obstacles to information access and use in developing countries in the 21st century. *Ekpoma Journal of Social Sciences*, 5(2).

Taylor, G. (2013). Advertising in a digital age. USA: Global & Digital Publishing.

Urs, Shalini R. (2002). Redefining, reinventing and repositioning the information professional and digital libraries in the new information landscape. Joint Conference on Digital Libraries (JCDL 2002), Portland, Oregon, USA, July 14-18, 2002. Available at: <http://lair.indiana.edu/papers/urs.doc> (Accessed 25 July, 2020)).

