

The Models of Information Seeking Behaviors: An Overview



Gundappa Nayak

Research scholar

Dept. Library and information science
Karnataka University Dharwad

Abstract

In this article to know the different types of ISB modals and its usefulness of end user community. Information needs and information seeking pattern are important aspects in information science. Information plays a vital role in teaching learning, research and higher education. Moreover, information is growing in ever increasing volume and rate, in every field of human movement. Information is recognized as a vital sources and the basic need, for the progress of humanity and the development of a nation, as a whole Information is necessary to be reprocessed and repackaged for different types of users so to fulfill their information needs. Information can be defined as a collection of facts organized in such a way that they have additional value beyond the value of the facts themselves. This study aim is to study of the various models and its importance to users. the technology integration has made a drastic change in society and among research scholar and teaching faculties in higher education . the modals Information seeking behaviour is mainly concerned with them the way who seek varied kinds of information for varied reasons, also how information is found, evaluated and used, and how their needs can be identified and satisfied. It is a process in which the users purposefully search for information by identifying, searching, selecting, interacting and analyzing with appropriate modals, which are guide to user for their information searching activities. It's a proven fact that technology has brought in many opportunities to developing countries like India. The concept modals of information seeking behaviour in digital era are challenging. In view of this, my study is undertaken to assess users' information needs, information seeking behavior in digital environment through the modals of information seeking behavior. The paper shows how the different factors influence the information needs of user groups. Different viewers' opinions on various models have been analysed and at the same time the testing groups of each model have also been identified. The study concludes that each model represents a different but also an overlapping or similar approach to information-seeking behaviour research.

Keywords: modals, information, information seeking behaviour, searching techniques.

1. Introduction

Information can be defined as a collection of facts organized in such a way that they have additional value beyond the value of the facts themselves. In simple word "information" can be defined as a processed data. Information, in the most restricted technical sense; it is an ordered sequence of symbols that can be interpreted as a message. This study aims to propose an overview of the various models and to find out how models are related to each other. These will serve the information community to illustrate that a number of factors which were responsible for, and contribute to, the different forms of sustainability of digital information services. Information seeking behavior refers to those activities a person engages in when identifying his or her own need for information, searching for such information in any way and using or transferring of information. Information behavior is the totality of human behavior in relation to the sources and channels of information, including both active and passive information seeking and information use. Thus it includes face to face and online communication with others as well as the passive reception of information. Information seeking behavior involves personal reasons for seeking information, the kinds of information which are being sought and the ways and sources with which needed information is being sought. Information seeking behavior is expressed in various forms, from reading printed material to research and experimentation. Scholars, students and faculties actively seek current information from the various media available in libraries, for example encyclopedias, journals and more currently, electronic media. In this age of information, information has become vital aspects of today socio-economic development. A social and economic progress of society depends on the standard of living of that particular society this depends on research and research work is depends on available information in the country. Modals of Information Seeking Behaviour refers to process of searching, locating, retrieving, identifying, using, evaluating and implementing information and to satisfy the information needs of users.

Human being is considered as the most intelligent animal among the animal kingdom. He strives hard to make his life comfortable by acquiring knowledge through various methods like observation, experiments etc. In this process he makes use of available information by applying different methods. This paper tries to explain the concepts related to Information, Information use and Information seeking Information is a basic need of human being. Information is need by all walks of life. Information s needed for socioeconomic development. People need information for decision making. The field of Information Seeking behaviour in Information Science can broadly be defined as that which is concerned with determining user's information needs, searching behaviour and subsequent use of information. Disciplines concerned with understanding how people seek and use of information, the channels they use to get information, and the factors that inhibit

or encourage information use include: the study of personality in psychology, consumer behaviour, innovation research, health communication studies, organizational decision-making, and information requirements in information system design. Information Seeking Behavior of user in higher academic institutions is an exhaustive and complex process. The theoretical representation of such process is very difficult to comprehend, thus the graphical or pictorial representation will make things easier to understand and the same principle forms the base of Information Seeking Models. A model may be defined as a structure for thinking about a perceived problem and may evolve into a statement of the relationships among theoretical propositions. Information seeking models diagrammatically represent the complex tasks of information seeking process. Most Information Seeking Behavior models are generally the statements, often in the form of diagrams that attempt to explicate an information-seeking activity, the causes and consequences of that activity, or the relations among stages in information Seeking Behavior (Wilson, 1999). Information seeking models aim to describe the process that a user follows to satisfy his information need and while fulfilling that need, he approaches towards formal and informal information sources or available services which finally results in success or failure to retrieve desired information. A number of models have been designed by various authors and researchers from time to time globally relevant to information needs and seeking behavior of users in various academic institutions. Some models also highlight major as well as minor factors that may directly or indirectly influence the Information Seeking Behavior of users.

2. Definition of Information Seeking Behavior

Sridhar (1995) "when any researcher is in need of information first he will be seeking the required information and this seeking precedes gathering of information. Information seeking through reading published material, communicating with colleagues etc. Information seeking is concerned with establishing relationship with the people, information and system of an order so as to obtain best results.

According to Webster's dictionary the word information is derived from Latin word 'information' which is derived from the verb 'inform are', which means 'to give form to mind', 'instruct' and 'teach'.

2.1 Information

Information as a term has been derived from the Latin words formation and form. Which means giving shape to something and forming a pattern, respectively, information adds something new to our awareness and removes the vagueness of our ideas. The society has information on all knowledge divisions recorded in books, video, audio files, computer etc.

Generally speaking, "Information is that which is transmitted by the act or process of communication, it may be a message, a signal or a stimulus. It assumes a response in the receiving organism and therefore, possesses response potential." (Shera 1972)

According to ALA Glossary, information means "ideas, facts and imaginative works of mind have been communicated, recorded, published and or distributed formally and informally in any format.

2.2 Information Needs

Information has become the central theme of living these days. It is treated as a commodity and traded for a price. Information economics has emerged as a subject of recent interest. The world is witnessing a phenomenon of information explosion. Consequently, the present period of human civilization is also called the information age. Everybody needs information for some purpose or the other. The information need is different from one person to another which means that it will not be the same though it might be similar. Historically, the information age is supposed to have set in since early 1970s and is expected to last for another two more century.

Taylor (1968) introduced the concept of information need as a Personal, Psychological, sometimes in expressible, Vague and Unconscious conditions.

Wilson (1981) stated the view that information need motivates. Information behaviour is an embedded assumption of the user oriented paradigm which focuses upon what people think, do and feel when they seek and use information.

According to Dervin (1983) information need implies "a state that arises within a person, suggesting some kind of a gap that requires filling. When applied to the word information, as in information need, what is suggested is a gap that can be filled by something that the needing person calls "information"

2.3 Information seeking

Information seeking is the process of collecting and receiving information by any available means like published material, recall of memory, dedication, and communication with other people. It involves asking how a user goes about his information needs. How he selects information sources? How does he carry out his search for information etc.

2.4 Behaviour

Behaviour is a concept and not a thing. This term behavior is used in psychology to refer to a product of learning. In the present study, behavior means a regular fixed mode by which researcher of reader gather information to fulfill their information needs.

2.5 Information Behaviour

"Information behaviour can be defined by the general model of information behavior developed", a general model of information behaviour needs to include at least the following three elements.

- An information need and its drivers, i.e., the factors that give rise to an individual's perception of need;
- The factors that affect the individual's response to the perception of need; and
- The processes or actions involved in that response. (Wilson 1997)

Information needs, information seeking and formation behaviour are intertwined concepts which make the concept information behaviour very complex.

Case (2002) defined information behaviour as "Information behaviour encompasses information seeking as well as the totality of other unintentional or passive behaviours (such as glimpsing or encountering information) as well as purposive behaviour that do not involve seeking such as avoiding information"

2.6 Information Seeking Behavior

"Information seeking behaviour involves attitudes and character traits of individuals as well as environmental determinants. Behaviour is considered to be a compromise and result of multiple forces to which individuals are subjected to" (Sridhar 1995)

The term information seeking behaviour has been used to include all activities comprising finding, accessing information sources and acquiring information. There are many ways for finding user's behaviour in the libraries. This study find out the purpose of gathering of seeking the information, type of information required, ways and means of acquiring information, sources of information, use of library and user interaction with the librarian.

Wilson (1999) defines the term information seeking 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. Thus it includes face-to-face communication with others, as well as the passive reception of information as in, for example watching television advertisements without any intention to act on the information given.

3. Changing Information Seeking Behaviour in Digital Era

Information Communication Technology (ICT) is one of the important words of today's world. It has changed the society into information society and our way of life. It has been integrated in every walk of our life and its impact has been evident in railway, air reservations, banking and insurance sectors, postal services, biotechnology, bioinformatics, biomedical sciences, media and communications teaching learning, library and information services, e-resources, digitization of documents, digital library, library trade, entertainment, etc. etc. It has penetrated in everywhere and its make our life comfortable and easy (Bhattacharjee, Bhattacharjee & Sinha, 2013). Nowadays, like books and periodicals, there are many articles which are also available on Internet only as digitized form. IT has also helped in the generation of quicker as well as better information. Before the advent of IT era, information search used to take a huge amount of time. Further, large volume of information in this universe is in non-electronic or analog form. This has helped in increasing the productivity of researchers and many other authors. Moreover, authors are now in a position to provide more updated information in their publications.

4. Review of Literature Related to Information Seeking Model

There are several kinds of conceptual models for information seeking behaviour. Generally, these models provide guidance in setting research questions, and formulation of hypotheses.

(Jarvelin & Wilson, 2003). Wilson (1999: 250) noted that the concern of the models of information behaviour among theoretical propositions. This extends Järvelin's (1987) discussion on criteria for assessing conceptual models. Jarvelin's suggestions led to empirical study (Byström & Jarvelin, 1995; Bystrom, (1999) and theoretical development

(Byström, 1999; Vakkari & Kuokkanen, 1987; Vakkari, 1999), which analyzed the relationships of task complexity and information seeking. Ellis's elaboration of the different behaviours involved in information seeking consists of six features. The strength of Ellis's model is that it is based on empirical research and has been tested in subsequent studies, most recently in the context of an engineering company (Ellis & Haugan, (1997).

Ingwersen's (1996) model is made by examined a number of other elements first within each area of his model (Borlund & Ingwersen 1997; 1998; Borlund, 2000) which had developed and tested an evaluative strategy on the basis of this model and had demonstrated its value in testing interactive information retrieval systems.

Any job consists of tasks, which consist of levels of progressively smaller subtasks. Each task also has a recognisable beginning and ending, the former containing recognisable stimuli and guidelines concerning goals and/or measures to be taken (Hackman, 1969). The relationships of objective and perceived tasks have been considered in organisational psychology (Hackman, 1969; Wood, 1986; Campbell, 1988).

The literature suggests many task characteristics related to complexity: repetition, analyzability, a priori determinability (Campbell, 1988; Daft et al., 1988), the number of alternative paths of task performance, outcome novelty (Fischer, 1979), number of goals and conflicting dependencies among them (Fiske & Maddi, 1961; Hart & Rice, 1991), uncertainties between performance and goals, number of inputs (March & Simon, 1967; MacMullin & Taylor, 1984; Tiarniyu, 1992), cognitive and skill requirements, as well as the time-varying conditions of task performance (Jarvelin, 1986; Tushman, 1978; Van de Ven & Ferry, 1980; Wood, 1986; Zeffane & Gul, 1993), communication (Robson & Robinson, 2015). Also, these characteristics have been understood in many different ways in the literature (Jarvelin & Wilson, 2003).

Seleznyov and Puuronen (2003) conducted study by using continuous user authentication to detect masqueraders. A prototype of a host-based intrusion detection system was built, which detects masqueraders by comparing the current user behaviour with his/ her stored behavioural model. The model itself was represented by a number of patterns that describe sequential and temporal behavioural regularities of the users. This paper also discussed about implementation issues, and provides performance results of the prototype.

Foster (2004) constructed nonlinear model of information-seeking behaviour, which contrasted with earlier stage models of information behaviour and represents a potential cornerstone for a shift toward a perspective for understanding user information behaviour.

Bokhari (2005) carried out a study to understand the nature and strength of the relationship between system usage and user satisfaction in the information seeking (IS) research and to validate this relationship empirically as defined in Delone and McLean's IS success model. This research found a positive correlation between system usage and user satisfaction, although not very strong but "medium" in its nature, perhaps sufficient to perpetuate the tantalizing search for a relationship between such clear-cut metrics. It provided a direction for future research to find the moderators that might affect this relationship.

Ahmadi, Dileepan & Murgai (2012) carried out a study to examine the advantages of developing a simulation model of a university library, in order to balance the available resources with demand for services. The findings of the study has shown that a simulation model of the arrivals, flow, and usage patterns of library resources by the patrons described in this research, determined that there were four critical resources.

Objectives of the Study

- 1 To get idea about various information behaviour models;
- 2 To know how the models relate one to another and make an integration between models;
- 3 To know the usefulness of modals for searching information's in quality manner

Methodology of the Study

The models of Information seeking behaviour are numerous. The models that have been developed to date by information scientists are not necessarily applicable to all user groups. The present study is based on the qualitative method and the analysis of few models selected randomly applicable to information users. The data have been obtained from various journals, articles and website. Here nine models have been studied and evaluated to reach the findings.

Model of Information Seeking Behaviour

Most of the information seeking behaviour models are of variety: they are statements that attempt to describe an information-seeking activity, the causes and consequences of that activity, or the relationships among stages in information-seeking behaviour. Very few models do search advance to the stage of specifying relationships among theoretical propositions, rather, they are at a pre-theoretical stage, but may suggest relationships that might be fruitful to explore or test. Models of information behaviour, however, appear to be fewer than those devoted to information-seeking behaviour or information searching. The models have been discussed one by one.

1. Wilson's (1981) Model of Information Behaviour
2. Wilson's (1996) Model of Information Behaviour
3. Dervin's Model (1983)

4. Kirkelas's Model of Information Seeking
5. Johnson's Model (1987)
6. Kuhlthau Model (1992)
7. Leckie's Model of Information Seeking of Professionals

1. Wilson's (1981) Model of Information Behaviour

The aim of Wilson's 1981 model shown in figure 1 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.

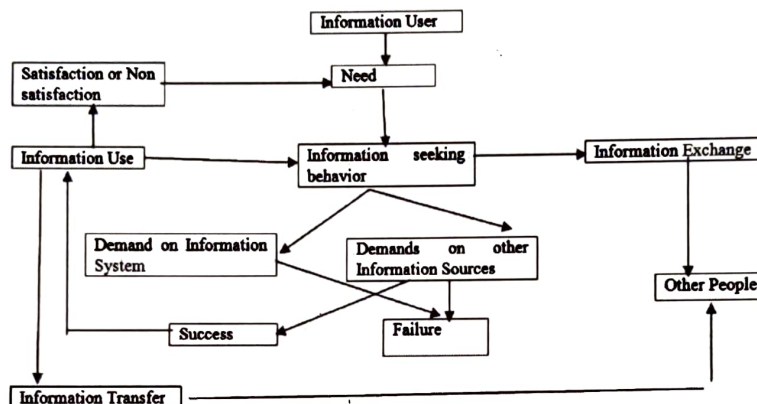


Fig.1: Wilson's information behaviour model

2. Wilson's (1996) Model of Information Behaviour

Wilson made another model which is revision to his 1981 model of information behaviour. In this model shown in figure 2, 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 in the picture show how the informationseeking 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.

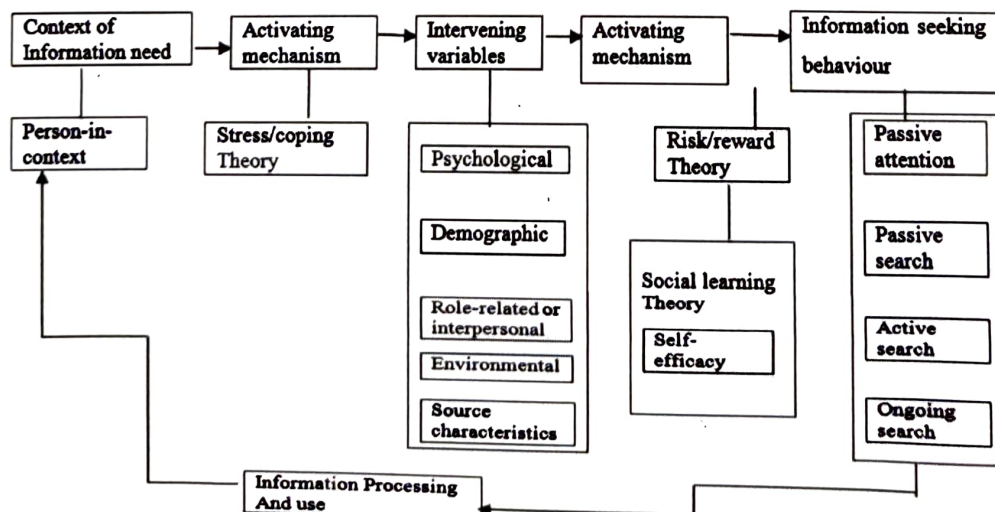


Fig.2: Wilson's (1996) model of information behaviour of information behavior

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 shown at the bottom 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" while Erdelez's.

3. Dervin's Model (1983)

Dervin's sense-making theory has developed over a number of years, and cannot be seen simply as a model of information-seeking behavior. She indicates this theory as a set of assumptions, a theoretic perspective, a methodological approach, a set of research methods, and a practice' designed to cope with information perceived as a human tool designed for making sense of a reality assumed to be both chaotic and orderly. However, sense-making is implemented in terms of four constituent elements - a situation in which information problems arise; a gap, which identifies the difference between the contextual situation and the desired situation an outcome, that is, the consequences of the sense-making process, and a bridge, that is, some means of closing the gap between situation and outcome. To bridge this gap, individuals seek information to make new sense and use this information to help them in everyday life. The outcome represents the use of information to complete a task. This makes the sense-making experience a holistic experience Situation Gap. Dervin presents these elements in terms of a triangle factors: situation, gap/bridge, and outcome, which is represented by figure 3.

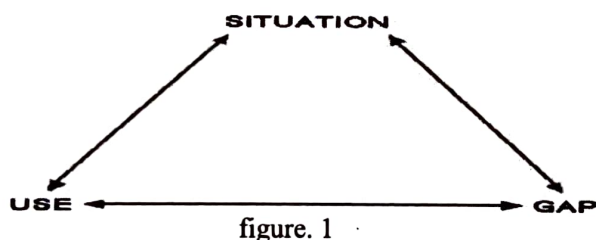


figure. 1

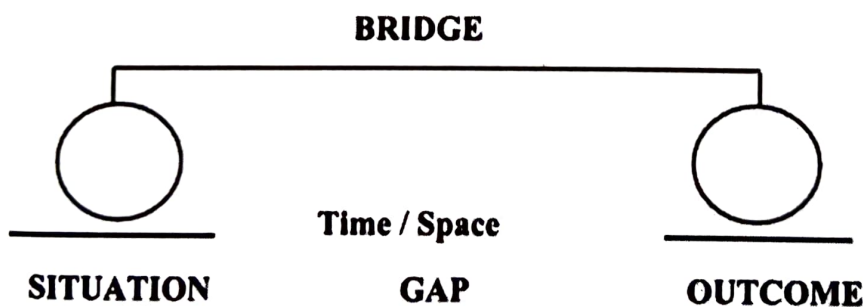


Figure.2

Kuhlthau Model (1992)

1. Initiation

When a person comes to know the lack of knowledge or understanding, uncertainty is felt. Thoughts would be vague and action for seeking information would be initiated.

2. Selection

In this stage the uncertainty on the area, topic or problem is got cleared and the person with a brief optimism get readies for exploration of the information.

3. Exploration

While exploring for information people will get doubt on the consistency of the information, confused on the compatibility and get frustrated in the process.

4. Formulation

In this stage the person gets focused perception which leads to clarity and the process of seeking for information gets continued

of seeking for

5. Collection

The process of information seeking, senses the right direction, information related to the focused perspective is gathered and it minimizes the ambiguity of the information

6. Presentation

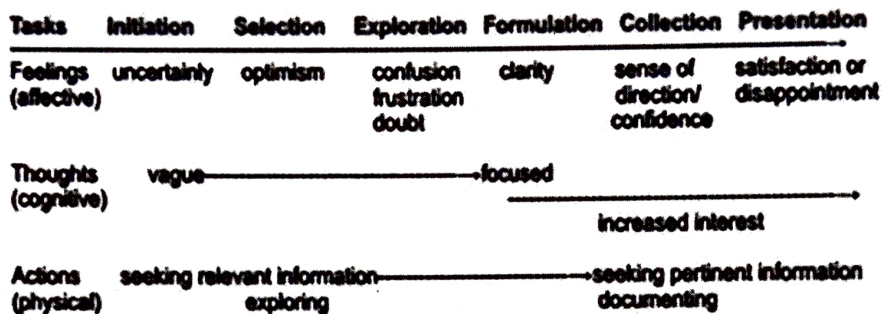
After the completion of the search the seeker gets new knowledge which the person can present to others and put the knowledge to use.

7. Assessment

When the information seeker attains the required knowledge, seeker gets a sense of accomplishment and the self awareness increases.

Kuhlthau Model (1992)

Model of the Information Search Process



Leckie Et Al's (1996) Model of the Information-Seeking of Professionals

According to Leckie et al this model is a general model, the research scholar decided to group the model with task performance and task based models in work related contexts. Leckie et al focused on how the professional's work roles and tasks influence his or her information seeking behaviour. The study was conducted to examine the information-seeking behaviour of librarians, academics, researchers, doctors, nurses, engineers, lawyers, and many others. She notes that these studies examine how information practices embedded within professional work, how those information-related practices function to contribute to the professional's work, and whether or not those practices can be improved or changed for the better.

• Leckie et al., (1996) model

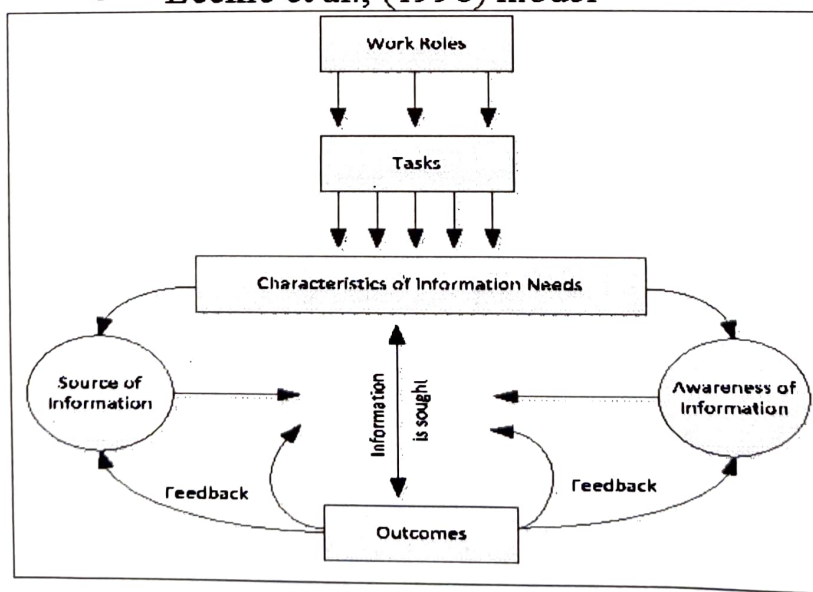


Figure 5. Leckie et al.. (1996) model of information seeking

5. Conclusion

Current human information behavior models do not take the matter of human multiple information task interaction phenomena. Such models are limited to explaining the process of information access and use while carrying out a single task. In 2007, Joint carried out a study to point out those past models of information ownership may not carry over to the age of digital information (Joint, 2007). Thus, this study gives a clear picture of the overview of the various models and shows how models are related to each other. This paper will serve the information community to illustrate that a number of factors to decide the responsibility, and contribution of the different forms of sustainability of digital information services.

The models of information behaviour focus on the micro-processes in the daily lives of users within particular contexts and social settings that could potentially influence users' information behaviour. The models developed by Ellis and Kuhlthau focus on the different activities involved in the information-seeking process. Dervin's Sense-making approach and Cheuk Wai-Yi's Information seeking and using process model provide for the study of the way in which individuals perceive and bridge cognitive gaps to make sense of their world. An understanding of the sense-making process is very relevant to a study of consulting engineers' information behaviour in their quest to retrieve relevant information that could assist in problem-solving. The model of the information seeking of professionals developed by Leckie et al. is used to provide the framework for a discussion of research findings reported in the subject literature on the information needs and information-seeking behaviour of engineers. As shown above, it is a comprehensive model and when considering the research problem, it also seems to be the best model to systematise the data collected in the current empirical study of consulting engineers. As a method, Sense-making could be invaluable in identifying consulting engineers' specific information needs that arise from their work roles and associated work tasks and in investigating their selection of information sources. Sense-making questioning, through the use of 'micro-moment or time-line interviews' can lead to insights that could influence information service design and delivery.

It is evident from the discussion that each model represents a different in nature but also an overlapping or similar approach to information-seeking behaviour research. Common factors existed in all the models are that information usage is a process involving multiple phases. These phases include the identification of information needs, the decision to use information, selecting and acquiring information sources, finding and gathering, interpreting and processing the information, and putting the information to use. The outcome of the information seeking process is the utilisation of the required information to complete a task

Reference

1. Bhattacharjee, Sudip, Bhattacharjee, Sucheta and Sinha, Manoj Kumar. (2013). *Information seeking behaviour: Concept, models, case study*. Germany: LAP LAMBERT Academic Publishing
2. Ahmadi, Mohammad, Dileepan, Parthasarati & Murgai, Sarla R. (2012). A simulation model of the arrival, flow, and usage pattern of library resources by the patrons. *The Bottom Line*, 25 (4), 177 – 189.
3. Calaresu, Michael & Shiri, Ali. (2015). Understanding Semantic Web: a conceptual model. *Library Review*, 64(1/2), 82 – 100.
4. Wilson, T. D. (1999) Models in information behavior research. *Journal of Documentation*. 55(3), pp. 249-270.
5. Wilson, T.D. (1999). Models in information behaviour research. *Journal of Documentation*. 55(3), 249-27
6. Dang, D. and Umamoto, K. (2009). Modeling the development toward the knowledge economy: a national capability approach. *Journal of Knowledge Management*, 13 (5), 359-72.
7. Foster, A.E, (2004). A Nonlinear Model of Information Seeking Behavior. *Journal of the American Society for Information Science and Technology*. 55 (3), 228-237.
8. Järvelin, K. & Wilson, T.D. (2003). On conceptual models for information seeking and retrieval research. *Information Research*, 9(1), 163.
9. Khosrowjerdi, Mahmood & Alidousti, Sirous. (2010). Scientific information transfer: a conceptual model for scientific communication in IranDoc. *The Electronic Library*, 28 (6), 818 – 828.
10. Sinha, Manoj Kumar, Bhattacharjee, Sudip and Bhattacharjee, Sucheta. (2013). A study on ICT literacy and Internet use pattern among college library users of Barak Valley, South Assam, North East India. *Current Trends in Technology and Science*. 2 (5), 301-316.
11. Stokes, Peter. (2013). *Developing an information seeking profile for nursing students: the role of personality, learning style and self-efficacy* (Unpublished doctoral thesis). Aberystwyth University, UK.
12. Dr. Dipak Kumar Kundu Models of Information Seeking Behaviour: A Comparative Study Vol.7(4) Oct-Dec, 2017 ISSN: 2231-4911
13. *International Journal of Library and Information Studies* Vol.7(4) Oct-Dec, 2017 ISSN: 2231-4911
14. Leckie, G J , Pettigrew, K E & Sylvain, C. (1996). Modeling the information seeking of professionals : a general model derived from research on engineers, health careprofess lawyers. *Library Quarterly*, 66(2), 161-193