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Models of Information Behaviour in the Internet Era

KEYWORDS: Information Seeking, Information Seeking behavior, Models of Information Seeking Behaviour

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ABSTRACT *Information is a treasure and it has to be passed on to the generations as the legacy of present society. The need for information is one of the cognitive needs of humankind. Information seeking is a conscious effort to acquire information in response to a need or gap in knowledge. Information seeking behaviour is a complex activity, requiring access to diverse information resources to deal with work-related, personal, and social information problems. The information flow on all sides brought changes in the users' information needs and seeking behaviour. The changing information needs of the user exert pressure in information dissemination process. The aim of the study is to learn the accessible models in the field of information behaviour and it is a journey towards finding out the suitable model. This article describes the salient features of each model to help the researchers to have a glimpse before taking up an user study. This shall also help in better organization of existing service delivery systems.*

INTRODUCTION

We are living in an information age. Information is a recorded experience that is used in decision-making. Everyone is in need of information for carrying out their day today activities. Indeed information has been described as the fifth need of man ranking after air, water, food and shelter. Information is readily available in different channels, formats, languages and sources as data, facts, opinions as well as statements. Information is a treasure and it has to be passed on to the generations as the legacy of present society. The concept of information is fundamentally associated with human communication and the chain of communication is unbreakable; it carries the information from the past to the present and from the present to the future.

The future of knowledge society depends upon the information creator, user and the preservator. With the increasing number of research activity information is produced enormously. In today's world, the types of information and the media which present them have become manifold and multifarious, offering researcher a vast selection. Exponential growth of information and rapid development in information and communication technology has an impact on the access to information and on information seeking behaviour of the user community. To overcome the problem faced by the user the librarian should plan, design and introduce new information services and assess the quality of existing services, facilities and their utilities.

The emergence of computer and internet facility has made it possible for the remote access of databases. In the changing scenario, library and information centers have to focus towards the user community in understanding their changing information needs and information seeking behavior.Many electronic resources and printed version of documents are available in the library. Electronic resources are popular among the researchers throughout the world because of the browsing, searching, multi-access capability, 24x7 access, remote accessibility, etc. The increase in information available on the Web has affected information seeking behavior. Innumerable types of information, in a large variety of containers and in many different locations, are all available in one place (Fidel et al., 1999).

Information-seeking is a special process of problem solving. It includes recognizing and interpreting the information problem, establishing a plan of search, conducting the search, evaluating the results, and if necessary, iterating through the process again. Information seeking is thus a natural and necessary mechanism of human existence (Marchionini, 1995). Information seeking has been found to be linked to a variety of interpersonal communication behaviour beyond asking of questions to include strategies such as candidate answers. This behaviour varies from individual to individual, as it depends on the individuals thirst for new knowledge. Information seeking behaviour 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 (Leckie, Pettigrew and Sylvain, 1996). 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, e.g. encyclopedias, journals and, more currently, electronic media. Abels (2004) mentioned that the frequency of use of the Internet in 1998-2000 had greatly increased.

The present era is the era of information and knowledge revolution. The library, therefore, is the treasure house of knowledge with all the electronic gadgets might be available to the user. Apart from the printed version of documents electronic resources are also available in the library; the information deluge can bewilder the users at time. So, the librarian should assist the users in finding their information. The librarian should possess adequate knowledge about what kind of information is being sought, and how it can be obtained. This quality is vital for developing library collections, services and facilities to meet their information needs effectively. Due to the rapidly escalating cost of purchasing and archiving printed scholarly journals and electronic media, the library has the duty to provide and maintain efficient services.

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Significance of the Study

To identify the concept of information and seeking behavior of the user in academic libraries begin with a user study. The initiative of the user study is to be conducted to scrutinize the needs and necessities of the user in finding their relevant information in carrying out their research as well as teaching and developmental activities. The user studies shall be better formulated keeping in mind the different models of information seeking behavior. The popularly used models are hereunder.

MODELS OF INFORMATION SEEKING BEHAVIOUR

Models of information behavior may be statements, often in the form of diagrams that attempt to describe an information-seeking activity, the causes and consequences of that activity, or the relationships among stages in information-seeking behaviour. Information seeking behavior 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). Information Science deals with the concepts of information seeking, information retrieval, and information behaviour. Within this scientific discipline a variety of studies has been undertaken analyzing the interaction of an individual with sources of information in case of a specific information need, task, and context. The research models developed in these studies vary in their level of scope. The models of the information seeking behaviour are

1. Wilson's Nested Model of Conceptual Areas,
2. Dervin's Sense Making Theory,
3. Cognitive Models of Information Seeking,
4. Standard Model of Information Seeking,
5. Dynamic Model of Information Seeking and
6. David Ellis Model of Information Seeking Behaviour

1. WILSON'S NESTED MODEL

Wilson (1999) developed a nested model of conceptual areas, which visualizes the interrelation of the concepts involved in information seeking behaviour.

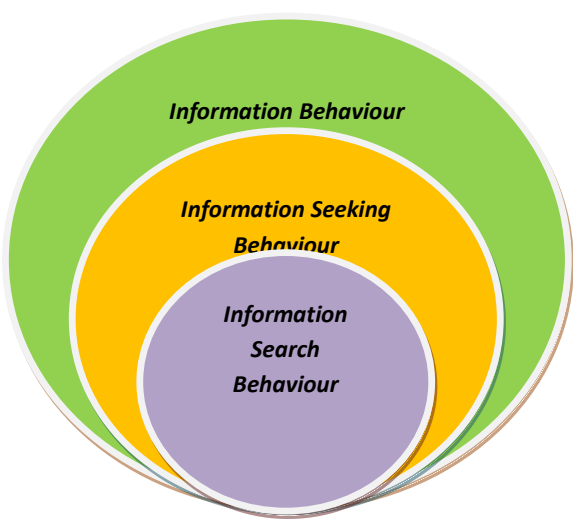

Figure 1.1: A nested model - from information behaviour to information searching

From the above picture it is clear that information behaviour is considered to be more general field of investigation, with information-seeking behaviour being a subset of the field, particularly concerned with the variety of methods people employ to discover and gain access to information resources. Information searching behaviour is then defined as a sub-set of information-seeking, particularly concerned with the interactions between information user (with or without an intermediary) and computer-based information systems, of which information retrieval systems for textual data may be seen as one type. 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(Wilson, 2000).

2. Dervin's Sense Making Theory

The theory developed by Dervin in the field of information-seeking behaviour states that information seeking behaviour is 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. The process involves of sense making involves four

constituent elements – situation, gap(time and space), bridge and outcome.

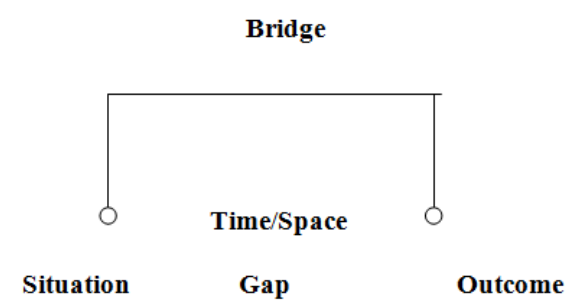

Figure 1.2 Dervin's Sense Making Model

The strength of Dervin's model lies partly in its methodological consequences and it lead to a way of questioning to reveal the nature of a problematic situation. Information serves to bridge the gap of uncertainty, confusion, or whatever, and the nature of the outcomes from the use of information. Applied consistently in 'micro-moment, timeline interviews' such questioning leads to genuine insights that can influence information service design and delivery.

3. THE STANDARD MODEL OF INFORMATION SEEKING

The standard model of search process was developed by Broader in 2002. In this model the information seeking process involves an interaction cycle consisting of identifying an information need, followed by the activities of query specification, examination of retrieval results, and if needed, reformulation of the query, repeating the cycle until a satisfactory result set is found (Salton, 1989, Shneiderman et al., 1998).

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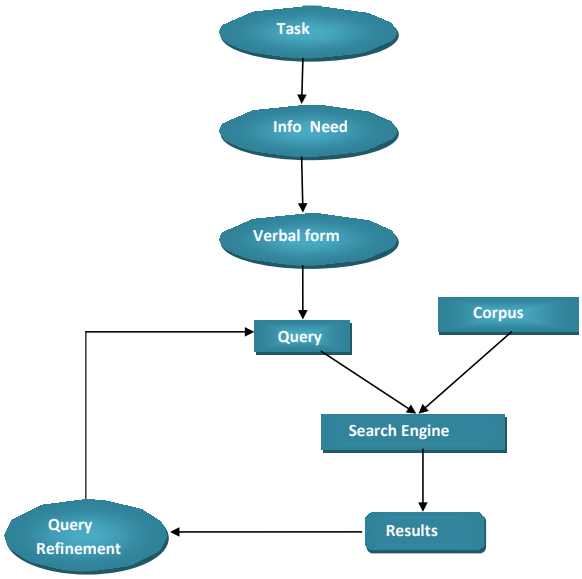
Figure 1.3: The standard model of the search process



The model is further elaborated by Sutcliffe and Ennis and they divided the information seeking process in to four main activities:

- Problem identification,
- Articulation of information need(s),
- Query formulation, and
- Results evaluation.

Their model also accounts for the role of the searcher's knowledge, the system, the information collections, and of searching in general.

The information-seeking process consists of:

- Recognizing a need for information,
- Accepting the challenge to take action to fulfill the need,
- Formulating the problem,
- Expressing the information need in a search system,
- Examination of the results,
- Reformulation of the problem and its expression, and
- Use of the results.

The above mentioned processes involve core actions within general information seeking tasks. Broder (2002) illustrates the process, in tandem with a sketch of the information access system that is used within the process. Standard Web search engines support query specification, examination of retrieval results, and query reformulation.

4. COGNITIVE MODELS OF INFORMATION SEEKING

Norman (1988) has developed a cognitive model of information seeking. This model presents a broad perspective on how people operate in the world. In the beginning of the search process a person must have a basic idea of what he/she wants _the goal to be achieved. Information seeking involves three stages such as goal setting, execution and evaluation of the result. After the execution, a person must assess what kind of change occurred, and whether or not the action achieved the intended goal. Recognizing a need for information is akin to formulating and becoming conscious of a goal. Formulating the problem and expressing the information need via queries or navigation in a search system corresponds to executing actions, and examination of the results to determine if the information need is satisfied corresponds to the evaluation part of the model. Query reformulation is needed if the gulf between the goal and the state of the world is too large.

5. THE DYNAMIC MODEL OF INFORMATION SEEKING

The standard model of the information seeking process states that the user's information need is static and the information seeking process is refining a query till the relevant information been retrieved. Observational studies of the information seeking process find that searchers' information needs change as they interact with the search system. Searchers learn about the topic as they scan retrieval results and term suggestions, and formulate new sub questions as previously posed sub questions are answered. Thus while useful for describing the basics of information access systems, the standard interaction model has been challenged on many fronts (Bates,1989).

This model of information seeking has two main points. The first point explains that the process of reading and learning from the information encountered throughout the search process, the searchers' information needs, and consequently their queries, continually shift. Information encountered at one point in a search may lead in a new, unanticipated direction. The original goal may become partly fulfilled, thus lowering the priority of one goal in favor of another. The second point is that searchers' information needs are not satisfied by a single, final retrieved set of documents, but rather by a series of selections and bits of information found along the way. This is in contrast to the assumption that the main goal of the search process is to hone down the set of retrieved documents into a perfect match of the original information need.

6. ELLIS'S MODEL OF INFORMATION SEEKING BEHAVIOUR

David Ellis (1993) has developed a behavioural model includes of six features such as starting, chaining, browsing, differentiating, monitoring, and extracting for gathering information.

- Starting – includes activities characteristic of the initial search for information, such as asking colleagues or consulting literature reviews, online catalogs and indexes and abstracts,
- Chaining – following chains of citations and other forms of referential connection between materials,
- Browsing - semi-directed searching in an area of potential interest, such as scanning published journals, tables of contents, references, and abstracts,
- Differentiating – using differences (authors or journal hierarchies) between sources as a filter on the nature and quality of the material examined,
- Monitoring – maintaining awareness of developments in an area through the monitoring of particular sources such as core journals, newspapers, conferences, magazines, books and catalogs, and
- Extracting – systematically working through a particular source to locate material of interest, for example, sets of journals, collections of indexes, abstracts and bibliogra-

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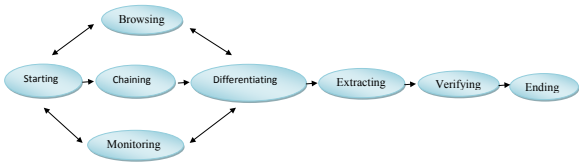
phies.

Figure 1.4 Ellis's Model of Information Seeking Behaviour



The strength of Ellis's model as with Kuhlthau's, is that it is based on empirical research and has been tested in subsequent studies, most recently in the context of an engineering company.

By going through the various models, the author came to an understanding that the Elli's model is the best suited one for the Indian conditions.

CONCLUSION

Models are the basics in information behaviour research. The activities involved in the process of information-seeking, the stages involved in seeking information may be explained by various authors with diagrams. Each model is unique in its nature, has the advantages and disadvantages. While adopting the model the researcher must have a thorough knowledge about all the models and choose the suitable one for successful conduct of the user study.

REFERENCE

• Abels, E. (2004). Information seekers' perspectives of libraries and librarians. Advances in Librarianship, 28, 151-170. | • Bates, M. J. (1989). The design for browsing and berry-picking techniques for the online search interface. Online Review, 13(5):407-431. | • Dervin, B., From the mind's eye of the user: the sense-making qualitative-quantitative methodology. In J.D. Glazier & R.R. Powell, (Eds.). Qualitative research in information management. (pp. 61-84). Englewood, CO: Libraries Unlimited, 1992. | • Ellis, D. and M. Haugan, Modelling the information seeking patterns of engineers and research scientists in an industrial environment. Journal of Documentation, 1997. 53(4): p. 384-403. | • Fidel, R., Davies, R.K., Douglass, M.H., Holder, J.K., Hopkins, C.J., Kushner, E.J., Miyagishima, B.K., & Toney, C.D. (1999). A visit to the information mall: Web searching behavior of high school students. Journal of the American Society for Information Science, 50(1), 24-37. | • Kuhlthau, C.C., Inside the search process: information seeking from the user's perspective. Journal of the American Society for Information Science, 1991. 42: 361-371. | • Leckie, G.J., Pettigrew, K.E., & Sylvain, C. (1996). Modeling the information seeking of professionals: A general model derived from research on engineers, health care professionals, and lawyers. Library Quarterly, 66(2), 161-193. | • Marchionini, G. (1995). Information seeking in electronic environments. UK: Cambridge University Press. | • Norman, D. A. (1988).The Design of Everyday Things. Basic Books, New York, NY, USA. Originally published as 'The Psychology of Everyday Things'. | • Salton, G., and Buckley, C. (1990). Improving retrieval performance by relevance feedback. Journal of the American Society for Information Science, Vol.41, No.4, pp.288–297. | • Shneiderman, B. (1992). Designing the User Interface: Strategies for Effective Human-Computer Interaction. Addison-Wesley, 2d. edition. | • Sutcliffe, A., and Ennis M. (1998). Towards a cognitive theory of information retrieval. Interacting With Computers, Vol.10, pp.321-351. | • Wilson, T.D. (1999). Models in information behaviour research, Journal of Documentation, Vol. 55, | • No.3, pp. 249-270. | • Wilson, T. D. (2000). Human information behavior. Informing Sciences, 3(2), 49-55. |