

AN ORIENTATION TO INFORMATION SEEKING MODELS

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Abstract: The paper talks about the basics about the models of information seeking behaviour. The list of models are revealed as the literature shows and little elaborate is provided. Prior to that the background literature is provided what and when the information is constituted and under which circumstances the information seeking occurs and what the experts say about these information seeking behaviour then after called models of information behaviour.

Keywords: Information, information seeking, Information Seeking behaviour, information seeking models

1.0 Introduction

The Information Seeking behaviour in Information Science can be defined as it is concerned with determination of information needs of users, use of information and searching behaviour. Disciplines related with knowing how people seek and use information, the channels of information they use to get information, and the factors that stop or increase use of information include: the study of personality in psychology, behavior of consumer, innovation in research, studies of communication of health, decision-making in group, and requirements of information in information system design. Thus, there exists a strong recognition amongst information scientists of the interconnectivity of disciplines involved in research on all aspects of information.

The aim of this paper is two way. First, it interrogates and analyses the concepts defining information needs, information seeking and information use. Subsequently, it aims to filter out and provide an overview of the most generally used conceptual models in the field of Information Seeking and Retrieval (IS&R). We feel that several of the proposed and commonly used models in the field may be confusing, and therefore that they must be contextualized in order to enable researchers' greater ease when identifying appropriate models for their studies. This paper attempts to interrogate the aforementioned concepts and thus provide clarity, allowing informed decisions on their selection through an intensive and extensive literature review.

2.0 Information Needs

An information need is a requirement that drives people into information seeking. An information need arises when an awareness of something missing is felt, which is essential for the information seeking that might contribute for understanding and meaning. Information is a method which is used to solve problems. A problem is known as an inadequate state of knowledge, better known as an Anomalous State of Knowledge (ASK). Information seeking is used to resolve the 'inadequacy' which can manifest itself as a gap, shortage, uncertainty or incoherence.

3.0 Information Seeking

Searching of information is not a straightforward act. It is a process and form of the problem solving that goes through the problem-recognition, problem- articulation, source-selection, query formulation, search-execution, results-testing, extraction of required information, and reflection. Information seekers may have responsibility of their processes, or act through or act with an intermediation. When important information is located then the seeker information studies, copies and integrates this information with what is already seen available, thus it enables solving of problem. Should the problem remain unresolved, the process may be iterated. This is, however, subject to the internal restrictions of the individual, either the enthusiasm to proceed with looking for further information or ending the process.

The information seeking process may be active or passive, purposeful or unintentional. So it is a strictly human process that needs adaptive and reflective command over the afferent and efferent activities of the seeker of information. The Progress in the episode of information seeking is a result of information seeker attributes, attributes of information environment, and the channel of communication through which information flows.

4.0 Information Seeking Behaviour

Studies of information-seeking behavior arise from interests surrounding how people utilize information in their work place environments. Behavior of Information seeking grows as a result of a need felt by the information user, who for satisfying it, gives requests upon formal or informal sources of information or services of information, giving in either success or failure . It is seen over two decades ago that a need of information is felt for the concerns of the environment of an individual. The individual considers an insufficiency in his or her knowledge that needs to be static for dealing with a problem. The attempt to complete the felt need causes in information seeking behaviour. It is added that in the seeking process, a number of information systems, be they are manual or based on computer, may be inquired.

5.0 Information Seeking Behavior Models

5.1 Wilson's model (1981)

In 1981, Wilson published two models: one about the use of information and other about the needs and seeking of information. He later merged these models into a more general model.

In 1981, Wilson's model was originated. Its main objective was not 'model building', but was mainly to describe the interrelationships of the concept. Information seeking process involves twelve components as identified by this model.

"Wilson's various models of information behavior (Wilson,1981,1999b;Wilson &Walsh,1996) were developed over a considerable period of time. The first set of models, published in 1981, had their origins in a doctoral seminar presentation at the University of Maryland in 1971,when an attempt was made to map the processes involved in what was known at the time " user needs research."(Wilson,1981,p.31)."

Wilson determined that the satisfaction of an information need is proposed to be the driving force behind the action taken by a user. In order to satisfy a perceived information need, demands are made upon either formal or informal sources/services resulting in failure or success. Success leads to the utilization of the information, which results in fully or partially fulfilling the perceived need. Should this not be the case, the search process is repeated. He also identified circumstantial elements playing a role in information-seeking behaviour, i.e. the situational context in which the need arises, the barriers preventing or enhancing a search, and information-seeking itself.

5.2 Krikelas (1983)

Krikelas suggested that the user feels a need in the context of his/her surrounding environment. The individual identifies inappropriateness in his/her knowledge which needs a resolution for dealing with a difficulty, so leading the user for a search for the needed information through a number of information sources. These may be human sources, systems of information or other resources of the needed information. Either success or failure is the result of this process; in the latter's case the process can be repeated in the latter's case. Uncertainty can be reduced by the information looking like a stimulus. Uncertainty in the individual's self or work-related life is recognized as a definition of an information need. Krikelas divided the information seeking into the short term immediate requirements as well as the long term deferred needs. Information-seeking behavior is the result of the effort of the satisfaction of a perceived need.

5.3 Ellis (1989)

As opposed to stages, Ellis explains the information seeking behaviors as 'features'. He declines the 'staging' label and implies that it is not necessary that the behaviors found in the sequence ; but, the distinct situations of the activities of the information seeking of the seeker of information at the specific point in the time effect the followed pattern.

6.0 "Ellis's Model Characterizes Eight Types of Information Activities or Features Observed Along the Typical Stages of Research Projects:

- **Starting:** initial information-gathering activities including formal and informal channels such as searching literature or asking colleagues.
- **Chaining:** following 'chains' of citations identified during starting activities.
- **Browsing:** casual or semi-directed looking for information in different sources such as journals, indexes and abstracts.
- **Differentiating:** filtering the amount of obtained information based on the known differences in the identity or origin of the sources such as author or journal.
- **Monitoring:** keeping abreast of developments in the field through regularly following particular sources such as core journals, conferences and catalogs
- **Extracting:** working through a selected source systematically to identify relevant materials such as a set of journals
- **Verifying:** checking if information is correct

- **Ending:** information seeking at a project's completion (a final search, and so on) (Wang, Peiling, 2011, p.20-21)".

Ellis does not subscribe to a sequenced set of stages, Wilson shows that the process has indeed embedded a certain pattern, for example that 'starting' and 'ending' shows the beginning and the end of the information search, but 'verifying' as a penultimate step. The remaining steps may be followed in any sequence suiting the search of the needed the information.

Jarvelin and Wilson criticized Ellis's model that it describes the information seeking behavior, but no possible cause factor is explained by it.

7.0 Kuhlthau (1991, 1993)

Descriptive in nature is information search process model of Kuhlthau. Development of this model was through the sustained empirical studies dealing with adolescents and college students for two decades. 'Search' word in this model has a wider sense than dealing with the information retrieval system." Kuhlthau describes information searching as a process of meaning construction during the lifecycle of completing an assigned research project in a learning context. (Wang, Peiling, 2011,p.23)". Initiation, Selection, Exploration, Formulation, Collection and Presentation are the six stages depicted by the two dimensional model. Various feelings, like uncertainty, are identified by the model, which are experienced by the information seekers in every stage of the search process. Information may decrease or increase uncertainty depending on the situations. Understanding the uncertainty reduces the frustration. For implication of the process of information search, the zone intervention strategy was proposed by Kuhlthau to strengthen users for the research processes.

" Kuhlthau(1988) studied the information search process(ISP) of high school students over the course of their research for a term paper topic. From her findings, she developed a model of the ISP, which attempts to identify the psychological states associated with different stages in the model.The beginning stages of the information search process are characterized by feelings of uncertainty, gradually changing to feelings of confidence and optimism as the topic is formulated and the search for information is begun. It appears as if a next step in this line of research will be to identify the specific information retrieval behaviors that correspond to the stages in her model and to evaluate where and to what extent electronic retrieval services fit in.(Cool, 2004,p.8)"

Kuhlthau's model postulates that the search process is an active process, engaging the cognitive processes of the information seeker. Triggered by feelings of uncertainty, the need for an information search manifests itself. The feelings of uncertainty probably increase during the exploration stage, when general, as opposed to specific, information on a topic is gathered. However, Kuhlthau's empirical studies reveal that this is likely to decrease during the next stage, i.e. the formulation stage, when a focused perspective on the topic, based on the information retrieved, is formulated.

8.0 Ingwersen (1996)

Ingwersen's (1996) model strengthens the role of the cognitive process in the information seeking process. It also incorporates Information Retrieval (IR) systems as possible information collection strategies. It suggests that a system should be included in an information seeking model for indicating the searcher to find the information objects that may be of interest. As with most other information seeking models, the concern of this model lies with the active search for information.

Ingwersen identifies three elements playing a role in the information retrieval process: Cognitive space, Information objects and the Information Retrieval setting. With each element he implies that the searcher's actions are influenced by implicit or explicit models related to their specific field of interest.

The searching actions are guided by an implicit work task, need of information, solving of the problem, or the models that are task oriented and that can be explicated.

It combines ideas dealing with behavior of information and needs of information with issues related to the design of the IR systems. Järvelin & Wilson identified a potential weakness, in that other than information retrieval, other information behaviour is not analyzed.

9.0 Wilson (1996)

"Wilson's model suggests that a perceived information need is bounded in a context; according to the stress/coping theory, the perceived need alone may not activate actions if the level of 'stress' is not high enough.(Wang, Peiling ,2011, p.18-19)".

Wilson's later development focuses on explaining general information behavior, as opposed to only information seeking. Its model is especially borrowed from a number of other disciplines like decision making, psychology, innovation and communication of health and research of consumer, Using specific theories,

Wilson explains how needs prompt people's information seeking behaviour, source preference, and why some pursue a goal more successfully than others.

10.0 Choo, Detlor & Turnbull (1999, 2000)

Choo *et al.* (1999, 2000) developed a two-dimensional model by adding Ellis's features of information seeking, Wilson's (1996) four modes of information seeking, and literature surrounding environmental scanning. This resulted in a flexible model of information seeking allowing for the explanation of the systematic changes in the mode of searching as an individual goes through the process.

11.0 Conclusion

Models are valuable for the description as well as prediction stages for understanding a phenomenon. Model is a proto-theory. "A common denominator of these models is their effort to describe information seeking processes and behaviour in general terms. As such, most general Information seeking behaviour models seem to take cognizance of the fact that a user in need of information may use a variety of information sources, services, systems, or even contact individuals in an effort to solve a problem. However, reference is seldom made to the use of a third person, such as a librarian, secretary or personal assistant for problem solving (see Mostert and Ocholla, 2005)." This oversight indicates a disregard for variations and context in information seeking.

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