Information Seeking Behaviour Models: A Brief Introduction

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ABSTRACT

This paper presents a brief introduction and outline of the Information Seeking Behaviour and Information Seeking Behaviour Models. The Paper specifically concentrates to reproduce the frequently cited studies viz. Wilson 1981 and 1996, Krikelas 1983, Dervin's Theory of Sense Making 1983 and 1992, Ellis 1989, Kuhlthau 1991 and 1993. Therefore, this paper may be very useful to the students/researchers of Information Science to get information on these models on Information Seeking Behaviour.

KeywWords: Information Seeking Behaviour, Information Seeking Behaviour Models, Wilson's Model, Krikelas Model, Dervin's Theory of Sense Making 1983, Ellis Model and Kuhlthau Model.

1. Introduction

The term Information Seeking Behaviour under Information Science, can broadly be defined as the activities performed and channels used by a person after identification of his/ her information needs and the subsequent use of the obtained information. Studies in information-seeking behaviour stem from concerns surrounding how people use information in their work environments. Information seeking behaviour arises as a consequence of a need perceived by the information user, who in order to satisfy it, makes demands upon formal or informal information sources or services, resulting in either success or failure (Wilson 1999:251).

2. Information Seeking Behaviour Models

A model may be described as a framework for thinking about a problem and may evolve into a statement of the relationships among theoretical propositions. Most models in the general field of information behaviour are 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. Kousoyiannus in Aina (2004:14) describes a model as a simplified representation, including the main features of the real situation it presents. Models therefore serve two purposes: that of analysing and that of predicting. Information Science has produced many models of Information Seeking Behaviour, in order to underpin our knowledge of information management, enabling us to understand the users' interaction with information environment. However, Wilson (1999:250) notes that rarely do such models 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. Despite this criticism, several models proposed are well regarded and now used in further studies of user information needs. A few of these models are discussed in the following sections. Included are those developed by Wilson 1981, 1996, Krikelas 1983, Dervin's Theory of Sense Making 1983, 1992, Ellis 1989, Kuhlthau 1991 and 1993. These models are discussed in brief as under:

2.1 Wilson's Model (1981)

Wilson's model has its origins in 1981 (figure 1). The main aim of this attempt was not so much 'model building', but mainly describing interrelationships between concepts (Wilson 1981). This model identified 12 components involved in the information seeking process (Aina 2004).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.
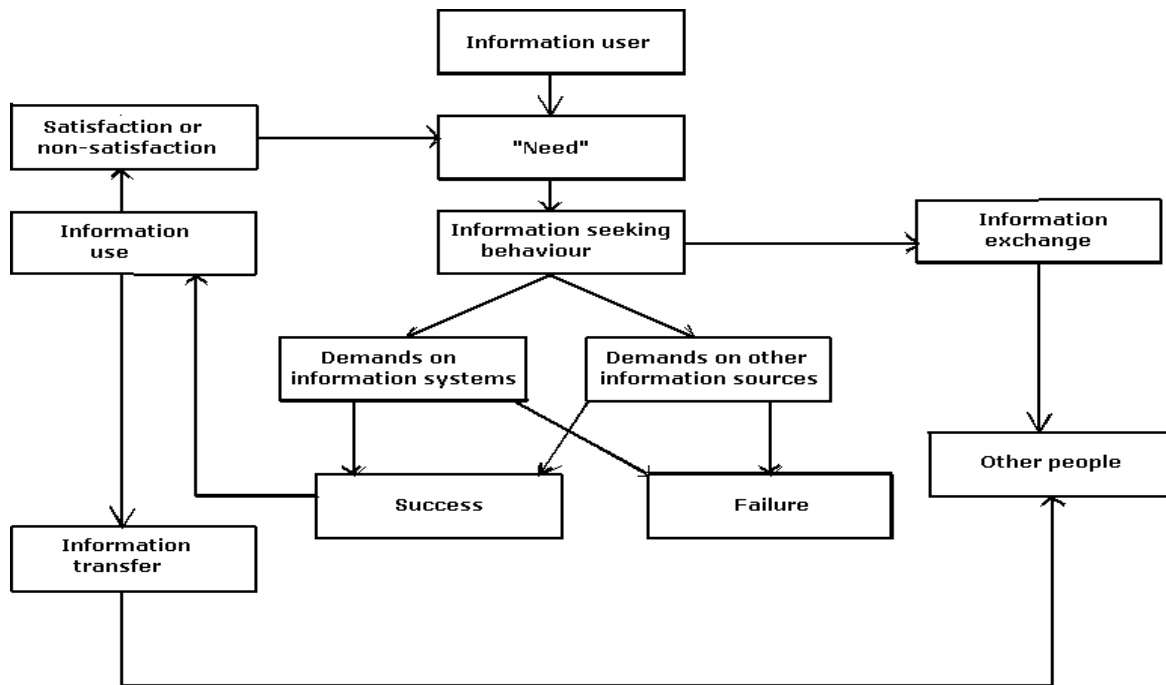
(Figure 1: Wilson's model of information behaviour 1981)

Wilson gave another model in year 1981 which may be identified as Wilson's second model of 1981 (figure 2). This diagram models the idea of the personal, social role, and environmental context that may give rise to a need for information. Of particular significance of this model was the division of the 'needs' that give rise to information seeking behaviour into physiological, affective and cognitive needs and also presence of barriers which must be overcome before information seeking takes place. This model focuses more on information needs of the users and the types of barriers that users may face in seeking information but does not detail in any specific way how users look for information.
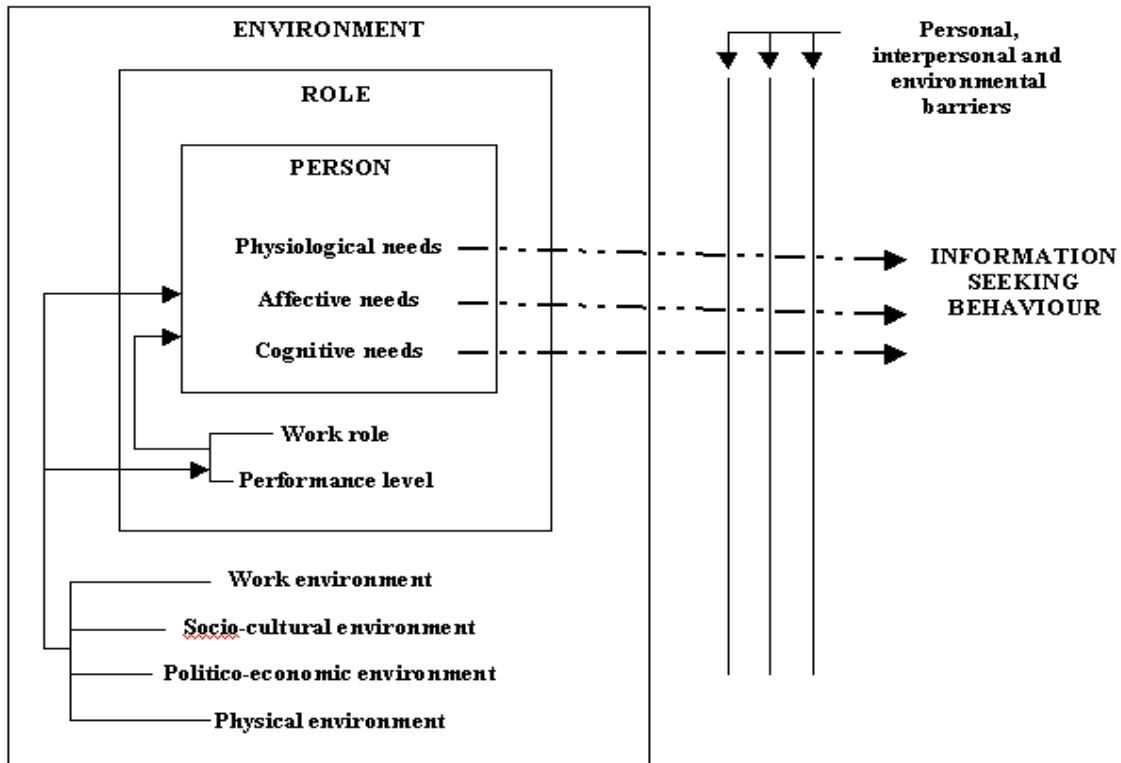
(Figure 2: Information need and seeking)

Wilson later (1999) described this 1981 model as a 'macro model or a model of the gross information–seeking behaviour', suggesting that it implies hypotheses about information context without making them explicit, and that it does not indicate the processes whereby a person is affected by context, nor how context then affects his or her perception of barriers to information seeking.

2.2 Krikelas Model

Krikelas (1983) suggests that a user perceives a need within the context of his/her environment. The individual recognizes an inadequacy in his/her knowledge which requires resolution in order to deal with a problem, thus leading the user on a search for information through various information sources. These could be human sources, information systems or any other information resources. The process may result in either success or failure; in the latter's case the process can be repeated (Hayden n.d.). According to Krikelas (1983) information can be seen as any stimulus that reduces uncertainty. An information need is defined as the recognition of the existence of this uncertainty in the personal or work-related life of the individual.

Krikelas further divides information seeking into short term immediate requirements, & long term deferred needs. The effort to satisfy a perceived need results in information-seeking

behaviour. However, according to Krikelas (1983), unconscious needs do not necessarily lead to eventual action.

2.3 Dervin's Therory of Sense-Making (1983; 1992)

This theory has been developed over a number of years and is one of the most widely studied and used theories in current information science research. Dervin's (1983; 1992) sense-making theory is more than simply a model of information seeking behaviour. Although it was originally designed for studying information needs, seeking, and use from a communication perspective, it has evolved into "a generalized communication-based methodology seen as useful for study of human sense-making (and sense-unmaking) in any context" (Dervin, 1999). the sense-making theory consists of four major elements: Situation – a particular period in space and time that provides context for the information problem. Outcome – The end result of the sense-making activity. Gap – the barriers (e.g., uncertainty) between the situation and desired outcome. Bridge – the means by which the gap between the situation and outcome is crossed (Dervin, 1983). Dervin presented these elements in terms of a Triangle (Figure 3): situation, gap/bridge, and outcome.
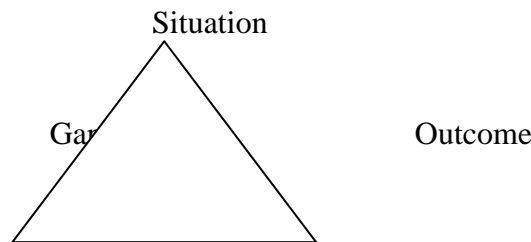

Figure 3: Dervin's sense making framework (1983)

However, it appears simpler to understand this concept using a bridge metaphor of Dervin (figure 4) which is the extended and elaborated form of Dervin's sense making framework (1983).
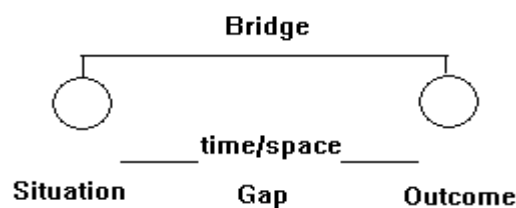

Figure 4: Dervin's sense-making metaphor (1992)

This model highlights the questions about nature of the situation and also clearly depicts the challenges that an information seeker faces in reaching the desired outcome by utilizing the information to bridge up the gap.

2.4 Ellis Model (1989)

Ellis provided features of information seeking behaviours instead of stages. By mentioning the 'staging' label, he implies that the behaviours do not necessarily occur in sequence; instead, the unique circumstances of the information seeking activities of the information seeker at that specific point in time influence the pattern followed (Ellis 1989). These features are:

- Starting: this implies the initiation of information
- Chaining: Using the references as links between different materials to identify the suitable sources of information.
- Browsing: semi-directed or semi-structured searching
- Differentiating: Distinguishing the information sources in terms of its relevance
- Monitoring: Using different sources to keep up-to-date or current awareness searching
- Extracting: selectively identifying and taking the relevant material in an information source
- Verifying: Scrutinizing the accuracy of the obtained information
- Ending: Finalizing by tying up loose ends through a final search.

Although Ellis never provided any sequence in which these stages occur, yet Wilson provides a diagrammatic stage model of Ellis' features (figure 5)
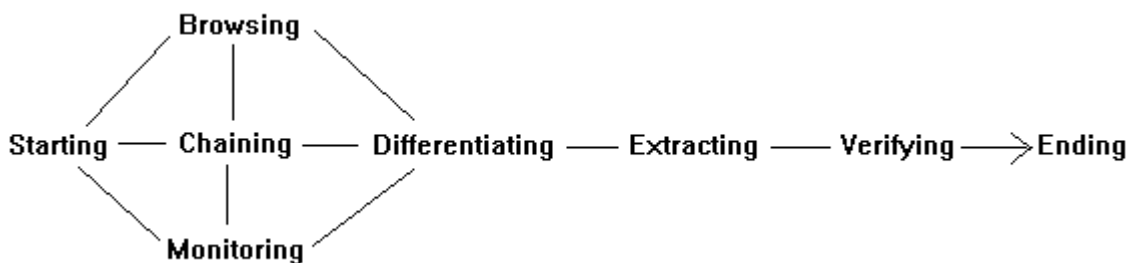

(Figure 5: A stage process version of Ellis's behavioural framework - by Wilson)

2.5 Kuhlthau (1991, 1993)

Kuhlthau's work complements that of Ellis by attaching to stages of information Search Process the In contrast with Ellis, Kuhlthau ascribes definite stages to the 'information seeking process' the associated feelings, thoughts and actions. She identified six stages, i.e. Initiation, Selection, Exploration, Formulation, Collection, and Search closure/Presentation, that are followed in sequence (Kuhlthau,1991). Rather than just mechanically searching for information, this model incorporates the affective (feelings), the cognitive (thoughts) and the physical (actions and strategies) (Hayden n.d.).

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 (Hayden n.d.; Kuhlthau 1996). Wilson (1999) describes this information seeking process as 'a process of gradual refinement of the problem area, with information searching of one kind or another going on while refinement takes place'. Hayden (n.d.), however, points out that this model does not cater for the manipulation of information, i.e the analysis, digestion,organisation, synthesis and evaluation of the retrieved information.

2.6 Wilson's Model (1996)

Wilson's Model of 1996 is a substantially revised form of his model given in 1981. The new model concentrates on describing general information behaviour, as opposed to only information seeking behaviour (Wilson 1997).
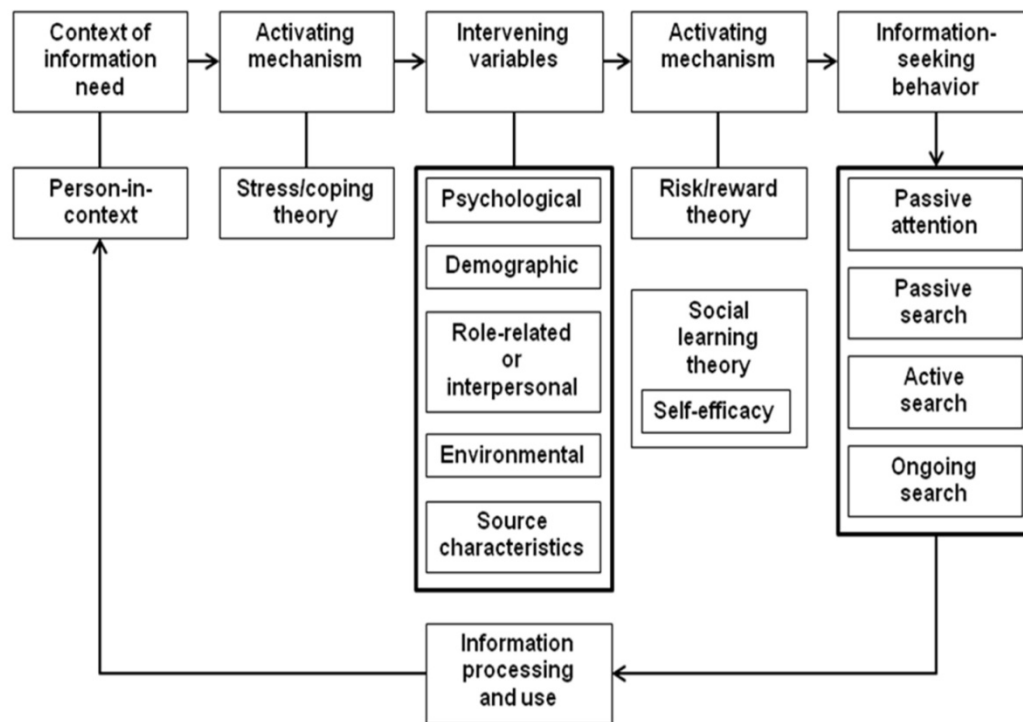
(Figure 6: Wilson's Model of Information seeking behaviour 1996)

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.

This model also seeks to explain the role played by various activating mechanisms or motivators influencing the 'what', 'how' and extent of a search. He identifies variables such as psychological, demographic, and social/environmental factors, and the characteristics of information sources in determining information seeking behaviour that affect motivation.

The model also expanded on different types of information seeking behaviour, including 'passive' methods of seeking information, i.e. 'passive search', where unintentional searching leads to the acquisition of relevant information, and 'passive attention' where no intentional information seeking takes place, but information is still unconsciously acquired through listening to the radio or watching television (Mckenzie 2002; Mostert 2004).

3. Conclusion

It can easily be perceived that all these models are complementary to each other and focus to describe the Information Seeking process in a broad approach. 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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