Search Situations and Transitions

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INTRODUCTION

Several studies of Web information searching (Agosto, 2002, Pharo & Järvelin, 2006, Prabha et al. 2007) have pointed out that searchers tend to satisfice. This means that, instead of planning for optimal search outcomes based on the best available knowledge, and on choosing the best information sources for their purpose, they aim at obtaining satisfactory results with a minimum of effort. Thus it is necessary to study other factors than the information needs and sources to explain Web search behaviour. Web information search processes are influenced by the interplay of factors at the micro-level and we need to understand how search process related factors such as the actions performed by the searcher on the system are influenced by various factors, e.g. those related to the searcher's work task, search task, knowledge about the work task or searching etc. The Search Situation Transition (SST) method schema provides a framework for such analysis.

BACKGROUND

Studies of information seeking and retrieval (IS&R) have identified many factors that influence the selection and use of sources for information seeking and retrieval. Web information searching often seems to be a rather haphazard behaviour where searchers seem to behave irrationally, i.e., they do not follow optimal textbook prescriptions (e.g., Ackermann & Hartman, 2003).

Other than the actual information need factors related to the searcher's personal characteristics, search task, work task, and social/organisational environment influence the searcher during his selection and use of information sources. These factors have been classified and discussed in great detail in the literature, and the SST method schema focuses specifically on the search process and how it is affected by external factors.

Early studies of Web searching to a large degree used log analysis (see review in Jansen and Pooch, 2001 and a summary in Spink and Jansen, 2004) or surveys (e.g., GVU's WWW user surveys (2001)) as their data collection methods. Log analysis can provide researchers with data on large numbers of user-system interactions focusing on users' actions. One common use has been to see how searchers formulate and reformulate queries (e.g., Spink et al, 2001). The user surveys have focused on demographics of web users and collected information on the use of different kinds of web resources, time spent on web use, e-shopping etc. Both these kinds of methods may reveal important information about how and why people use the Web, but they are unable to point out what causes the searcher to perform the actions he/she does. To learn how work tasks, search tasks, and searcher's personality directly affect Web information search processes the SST method schema (Pharo, 2002; Pharo & Järvelin, 2004) was developed.

MAIN THRUST OF THE CHAPTER

To present a method (e.g. Bunge, 1967), as well as a method schema (Eloranta, 1979), one needs to define its domain, procedure and justifications (Newell, 1969, Pharo, 2002). Both the domain and procedure is presented below to clarify the usability of the SST method schema.

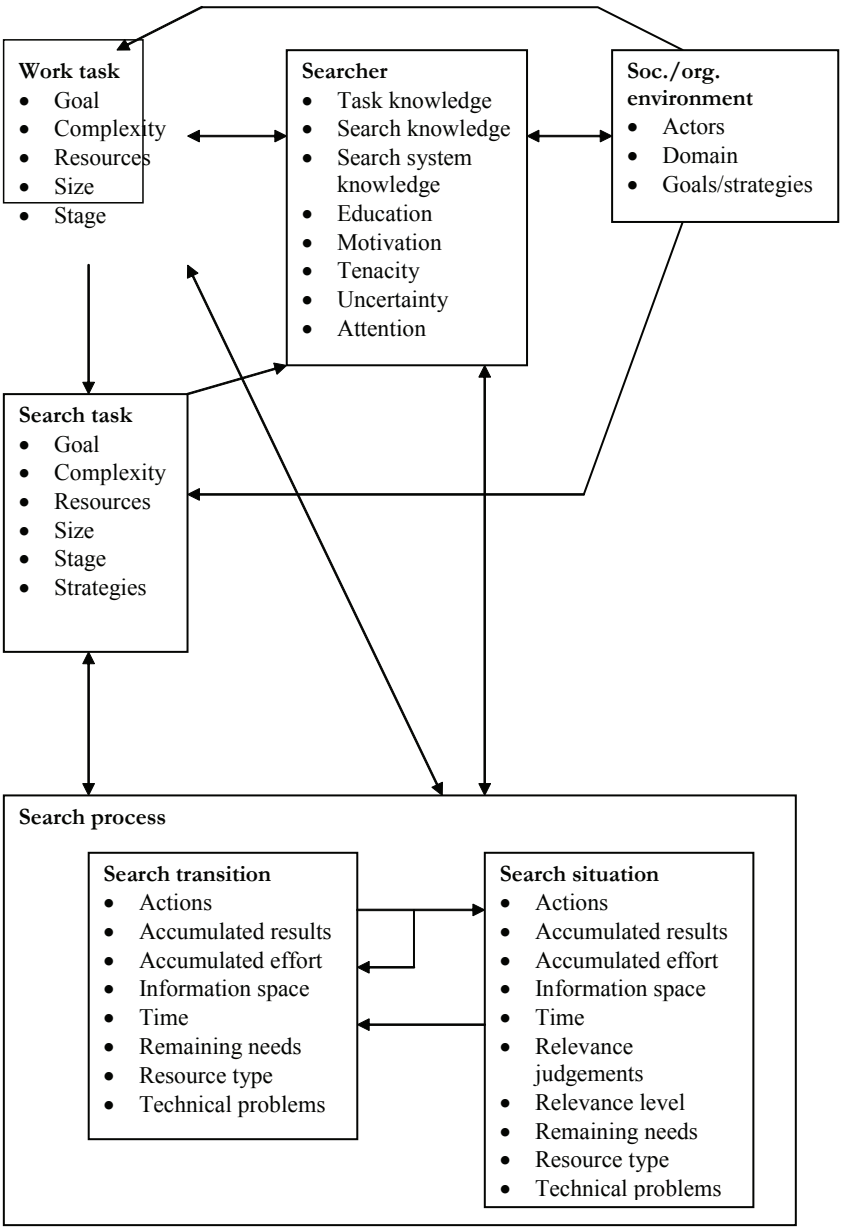
The Method Schema's Domain

The problem statement, or *domain,* which is used in the following, states the properties of the problem the method is intended for and their relationships. This designates how general it is possible to make the procedure for handling the problem.

Figure 1 is a representation of the framework's five *categories* and the relationships existing between them.

The *search process* category consists of two subcategories; *search situation* and *search transition*. The

Figure 1. The conceptual framework - the domain of the method schema



search process category will be emphasised here, the other categories and their attributes are well known from the IS&R literature (for details see Pharo, 2002).

Search *situations* are the periods during a search process when the searcher examines a resource in order to find information that may be of help in executing his work task. Situations may take place in the same kind of resources as transitions depending on the search task; if the searcher wants to learn more about the structuring of subject indices it would be natural to examine such resource types for that purpose.

Search *transitions* are executed in order to find resources in which the searcher believes there may be information that can help execute his task. The transitions