A LITERATURE REVIEW ON CONFIDENCE AND TIMELY SUCCESSFUL WEB SEARCHING

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ABSTRACT

This paper reviews studies about the question of what determines an efficient searcher on the Web in terms of personal factors, i.e. confidence and the use of Google's Advanced Search. Bandura's social cognitive theory maintains that people operate on a model of triadic reciprocity in which behavior, environmental events, and personal factors in terms of cognitive, affective and biological events, all interact as determinants of each other [2]. Studies using self-efficacy theory, for example, have shown that when confronted with a problem, those who doubt their capabilities usually reduce their efforts or give up, whereas those with a strong sense of efficacy tend to exert more effort. People usually use the term self-efficacy and confidence interchangeably probably because they are similar in concept. However, a problem-solving confidence construct was developed by Heppner as a measure of people's general confidence about themselves [6]. Studies using the confidence measure by Heppner, have shown that a person's confidence affects his/her performance. Most search engines, if not every, provide advanced search functions to facilitate people's searching on the Web. How much does this "facilitation" help people's searching compared to the two similar but different "confidence" measures which have been researched and validated as affecting performance?

This paper extends my previous research [3] and asks a question that further defines efficient Web searching as finding the correct answer in a timely manner. I argue that information seeking on the Web is a problem-solving task based on Chi and Glaser's definition of a problem [4]. I further argue that when facing a problem, two seemingly related theories about "confidence" may affect Web searching: self-efficacy [2] and problem-solving confidence [6]. On the other hand, the way searchers "interact" with search engines may play an important role as well. When searching on the Web, search engine interface is the only interface between humans and computers, be it simple search interface or advanced search interface. Two schools of research show conflicting results of use of search engines' advanced search functions. Some researchers found that, in general, query operators in search engines provide little or no benefit and these search engines are counter productive in some cases [5]. Other researchers maintain that advanced search features on search engines are useful to users [8] [9]. In everyday life we only have a certain amount of time to look for information. This kind of Web search task (a "production task" according to Marchionini [7]). When it is time-sensitive, there is only a narrow window of opportunity for finding relevant information and the searcher must decide whether it is worth the time and energy to initiate a search. This kind of decision-making is happening every day. Since Google is the dominant search engine with 86% market share worldwide [1], the study reviews research about the question: How do self-efficacy, problem-solving confidence, and the use of Google's Advanced Search affect timely successful Web searching? In the context of Google search engine, my literature review looks at problem-solving in searching in terms of both self-efficacy and confidence theory.

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