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Judgment of Information Quality and Cognitive Authority in the Web

In the Web, making judgments of information quality and authority is a difficult task for most users because overall, there is no quality control mechanism. This study examines the problem of the judgment of information quality and cognitive authority by observing people's searching behavior in the Web. Its purpose is to understand the various factors that influence people's judgment of quality and authority in the Web, and the effects of those judgments on selection behaviors. Fifteen scholars from diverse disciplines participated, and data were collected combining verbal protocols during the searches, search logs, and postsearch interviews. It was found that the subjects made two distinct kinds of judgment: predictive judgment, and evaluative judgment. The factors influencing each judgment of quality and authority were identified in terms of characteristics of information objects, characteristics of sources, knowledge, situation, ranking in search output, and general assumption. Implications for Web design that will effectively support people's judgments of quality and authority are also discussed.

Introduction

One of the advantages of searching in the Web is its grant of access to a great amount and a wide variety of information. As a result, however, people need some ways to reduce the large amount of information to select the information that they want. In traditional information retrieval, this problem has long been discussed within the context of "topical relevance"; that is, in terms of whether the topic of the query matches the topic of a document. However, a substantial number of empirical studies (e.g., Barry, 1994; Cool, Belkin, Frieder, & Kantor, 1993; Park, 1993; Schamber, 1991; Spink & Greisdorf, 2001; Wang & Soergel, 1999) have revealed that people use much more diverse criteria than mere topicality to make relevance judgments in the traditional information retrieval environment. This study will take these findings a step further by focusing on two factors that appear consistently across the previous studies: quality and authority. These two factors were chosen because it is believed that they may be more important relevance criteria than any other criteria identified in the previous studies, especially in a large uncontrolled environment, such as the Web.

The concepts of quality and authority are not new. On the one hand, a number of studies of relevance criteria, particularly in the 1990s, identified various aspects of both concepts including "goodness" (Cool et al.), "usefulness" (Cool et al.), "accuracy/validity" (Barry), "recency" (Barry; Wang, & Soergel), "perceived quality" (Park), "actual quality" (Wang & Soergel), "expected quality" (Wang & Soergel), "authority" (Cool et al.; Wang & Soergel), and "reliability" (Schamber). On the other hand, in recent years, the notions of quality and authority have been discussed with respect to evaluation criteria of Web pages by examining different approaches and implementations. Librarians and researchers in library and information science (e.g., Cooke, 1999; Kjartansdottir & Widenius, 1995; Smith, 1997; Tate & Alexander, 1996), for example, have looked at the issues of quality from the standpoint of bibliographic instructors to develop a guideline or checklist. Researchers in computer science paid attention to the problem of quality and authority with respect to the effectiveness of a search engine, and implemented a way to "filter" information from a huge collection of relevant pages (e.g., Amento, Terveen, & Hill, 2000; Kleinberg, 1999; Price & Hersh, 1999; Zhu & Gauch, 2000). There were a few empirical studies that specifically addressed the issues of information quality in electronic information use environment (Olaisen, 1990), Internet (Klobas, 1995), or lodging Web sites (Jeong, 1998). Recently, Fritch and Cromwell (2001) presented a theoretical model and criteria for ascribing cognitive authority in a networked environment.

In general, although these studies interpreted the notions of quality and authority in various contexts, none of them examined these two concepts specifically from the perspective of information retrieval interactions (e.g., Belkin, 1993; Saracevic, 1997). As a result, the researchers were not able to perceive users as active seekers who look for texts of potential interest, make judgments about information, select information objects, and interpret the information content in

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