

PROJECT SUMMARY

Most information retrieval systems and underlying conceptualizations of information behavior are still viewed primarily from an individual user's perspective, despite the mounting evidence that collaborative information behavior (CIB) plays an important role in organizational work. Focusing solely on individual information behavior (IIB) has led to processes and technologies that support individual information seeking but often constrains collaborative information seeking. This is acutely problematic in settings where teams and team work are important. Simply, there is little support for collaborative information behavior. Our current inability to effectively support collaborative information behavior is an impediment to team success in critical domains. We must address this problem to help improve team effectiveness.

While individual information behavior is important, we must also develop processes and technologies to equally support collaborative information behavior. Effective integration of information retrieval technology into collaborative environments requires us to incorporate not eliminate collaboration in these technologies. The research activities proposed in this project are designed to deepen the developing conceptual understanding of CIB, to articulate its technical consequences, to develop specific technical strategies to address them, and to evaluate the effectiveness of these approaches. The goal of this research is to improve both our theoretical understanding of collaborative information behavior and advance the design of information retrieval systems. Specifically, we will investigate CIB in team settings within the healthcare and education domains, develop a model of CIB, design collaborative information retrieval prototype system and evaluate the prototype through both laboratory and field evaluations.

An important element of any CAREER project is the integration of research and educational components. As part of this project, I will closely integrate my research and educational activities through (1) development of an interdisciplinary curriculum; (2) training of interdisciplinary researchers; and (3) encouraging diversity in research.

Intellectual Merit: This research is grounded in action aimed at solving an immediate problem while carefully informing and advancing theory. Currently, there is limited understanding of collaborative information behavior and few systems support collaborative information retrieval activities. Therefore, we need to investigate how and why people collaborate when searching for information and to design technologies that effectively support this collaboration. This project will make two contributions to our knowledge of information behavior. First, it will advance the theoretical basis regarding the collaborative nature of information behavior. Second, this work will advance the design of information retrieval technology to focus on collaborative information behavior and in doing this extend beyond current state-of-the-science that focuses primarily on individual information behavior. Consequently, the research covers the spectrum from empirical study to system design to system evaluation.

Broader Impacts: With the advent and continuing spread of the Internet and the World-Wide Web, information resources are becoming more and more widely available. People in all walks of life are using these resources to try to find answers to questions about issues ranging from finance to personal health. However, at the same time, there is a general recognition that it is becoming more and more difficult for people to find relevant information. One approach to deal with this problem is to combine the abilities and experiences of multiple information seekers. Therefore, the future development of information retrieval systems must focus not only on how individuals can access and search the volumes of available information, but also how they can collaborate with each other to find the most relevant information that meets their information needs. That is the central thrust of the research proposed here; its broader impact lies in the development of new processes and technologies that will allow people to share their knowledge, techniques, and results with each other in order to quickly and effectively meet their information needs.