Chapter 5
Collaborative Information Behavior: Exploring Collaboration and Coordination during Information Seeking and Retrieval Activities

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ABSTRACT
Collaborative information behavior is an important and growing area of research in the field of information behavior. Although collaboration is a key component of work in organizational and other settings, most research has primarily focused on individual information behavior and not the collaborative aspects of information behavior. Consequently, there is a pressing need to understand both the conceptual features of this type of behavior and the technical approaches to support these collaborative activities. In this chapter, the authors describe current research in this area and what we are learning about collaboration and coordination during these activities. In particular, the authors present details of ethnographic field studies that are starting to uncover the characteristics of collaborative information behavior. They also discuss a preliminary collaborative information behavior model and some technical explorations that they are conducting in this space.

INTRODUCTION
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...
Collaborative Information Behavior (IIB) has lead to processes and technologies that support individual information seeking but often constrains collaborative information behavior. However, many models and studies of information seeking behavior have focused on individual needs and behavior. For example,

- Kuhlthau’s studies (1989; 1991) of high school students examined individual information seeking behavior; therefore, her model conceptualized information seeking as an individual activity.
- Ellis’ model reflects his studies’ (1993; 1997) emphasis on information seeking as an individual activity.
- Wilson (1981) developed his model after examining information needs and seeking studies. The model is his conception of the information needs and seeking process but also reflects the individual nature of the information seeking typified in earlier user studies.
- Leckie et al.’s model (1996) was developed from a literature survey of studies examining the largely individual information seeking behavior of engineers, physicians, and lawyers.

These studies and models focused on IIB primarily because information seeking was viewed as being embedded in individual not collaborative work. Furthermore, the focus was on the conventional pattern of interaction between a single user and technology. However, this is acutely problematic in settings where teams and team work are important. Consequently, this perspective of focusing primarily on IIB is now being challenged by a number of studies examining information seeking in a wide variety of collaborative settings (Fidel, Bruce et al. 2000; Foster 2006). These studies are starting to pave the way for both a conceptual understanding of collaborative information seeking and the improved design of collaborative information retrieval (CIR) systems.

Our research team has been exploring collaborative information seeking practices in a variety of organizational settings such intensive care units (Reddy and Dourish 2002), emergency departments (Reddy and Spence 2006), and academic research (Spence, Reddy et al. 2005) for the last ten years. We have used the term collaborative information behavior (CIB) in our research studies to describe these broad range of activities (Reddy and Jansen 2008). Our team’s research goals have been two-fold: First, to develop a conceptual understanding of CIB and second, to gather requirements for the design of organizational CIR systems.

In this chapter, we focus our attention on some of the empirical and technical aspects of our team’s research. We synthesize findings from our earlier studies and describe what we are learning about collaboration and coordination during CIB activities. In the rest of the chapter, we provide some background in this area, describe our methodology for collecting data on CIB, present a general overview of our research, discuss lessons that we are learning about CIB, and highlight future directions that we need to further explore in the CIB research space.

BACKGROUND

Even though information seeking is an important part of collaborative work (Cicourel 1990; Paepcke 1996; Hansen and Jarvelin 2005; Foster 2006), researchers have only recently begun to examine the particulars of CIB (Foster 2006). For instance, Talja and Hansen (2005) describe the important role that collaborative information seeking play in everyday work. Much of this research has been influenced by Dervin’s (1992) work on sense-making and Kling’s (1980) research on the role of technology in organizations. Dervin’s sense-making research highlights the sense-making “gaps” and addresses how people try to bridge these gaps. Kling focuses our attention on the