Chapter 96
Researching Information Seeking in Digital Libraries Through Information–Seeking Models

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ABSTRACT

There has been an increasing amount of research focus on the development of digital libraries, particularly on information seeking. A variety of information-seeking models used by library and information science (LIS) academics investigate the manner in which information is sought and transformed into knowledge, which should be taken into account during the design of digital libraries. However, in part this reflects the lack of knowledge about how these models explain user information seeking behaviors in a digital library environment. This chapter aims to address this lack of knowledge. It presents a set of information-seeking models that can be used by LIS scholars or experts to comprehend the dynamics of information seeking by users of digital libraries. The major role of this chapter is to provide a review of the existing "models" to date, and also to present a comparative analysis of the notable models that may contribute to ways of understanding the research on information seeking in digital libraries.

INTRODUCTION

During the past couple of years, Information Technologies (ITs) have been an inspiration to the transformation in the way people have conventionally gone about seeking and retrieving information. Libraries have been fast to react to this change to the need for Web-based information. Users currently have readily available access to a plethora of Web-based information services, comprising digital libraries. The modern digital library has progressively carried some key alterations to person-information behavior related sources and services. However, users of traditional libraries have dealt with only a small range of information sources: basic reference sources, manuscripts, magazines, main papers, tabloids, and academic journals. The digital library environment offers novel opportunities to collect, establish, and retrieve massive volumes of information from numerous sources, while making distributed diverse resources spread through the network seem like a single uniform federated source (Chen & Schatz, 1999). In fact, digital libraries are becoming an alternative to traditional information systems for providing access to needed information because they are able to transcend the traditional boundaries of time, space, and physicality that are typically associated with 'brick-and-mortar' libraries (Lesk, 2005, pp. 2–3; Witten, Bainbridge, & Nichols, 2010).

These digital library features are further divided to cover aspects of interface design, as well as system functionality. Since the recent past, there has been a wealth of research on the development of digital libraries, particularly regarding information seeking behavior (Fidel & Pejtersen, 2004; Pharo, 2004; Wang, Hawk, & Tenopir, 2000). These studies have demonstrated the evolution and maturing of digital libraries from information search support systems to powerful mechanisms that support an entire range of information management activities. Dania Bilal and Joe Kirby (2001) stated that information seeking research maintains the notion that customers exhibit shared features of information actions at dissimilar phases of the information seeking procedure. In addition, the changes in the area of information retrieval (IR) systems, users and information limited in IR systems raise issues for researchers to be able to gain a better understanding of information-seeking strategies in new information milieus, and posture contests for creators to design IR systems that effectively simplify user-system interactions.

In this regard, research on digital library evaluation has also made possible the emergence of a variety of the related information seeking models for evaluating the performance of digital libraries (Belkin's episode model 1996; Ingwersen's cognitive model, 1996; Kuhlthau's ISP model, 1991; Wilson's model, 1999). These information seeking models explain specific problems and processes. The procedure of information searching can be modelled in a variety of different ways based on the viewpoint employed, and thus has been defined in a variety of models. Wilson (1999) mentioned that models of information seeking may be described as frameworks to conceptualize a particular problem, and in turn may change into a statement of the association amongst theoretical suggestions.

Though, many of these models utilized by library and information science (LIS) academics concentrate on how info is sought and transformed into knowledge, and how this should influence digital library design. To some degree it reflects the lack of knowledge about the manner in which these models are able to explain user information seeking behaviors in digital library environments. As Fox and Urs (2002) emphasized, digital library research is in despairing need of effective theoretical models. Without a suitable theoretical model embracing an extensive setting of information resource uses, awareness of the real usage of digital information sources is incomplete, and thus the design of digital libraries will continue to follow the "build-it-and-they-will-come" mind set. Thus, a central theme of this chapter is to address this lack of knowledge. It begins with an evaluation of previous investigations on the infor-

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