Web for information seeking: A propositional study

WASEEM AFZAL

School of Library and Information Management, Emporia State University, Emporia, KS 66801
<wafzal@emporia.edu>

Information seeking represents the activities that are carried out during the search for information. The process of information seeking is important as it enables the individuals to collect information that can address a need. Depending on the nature of the need and the contemporary trends, the sources of information vary. In the pre-Web era, the dependence on information sources having physical structures was great. However, the emergence of the Web has changed markedly the nature of information seeking. Present-day information seekers use the Web with greater flexibility and ease to seek information pertaining to different needs. Various qualities of the Web play a central role in its adoption for information seeking. This paper uses the Rogers' theory of diffusion of innovations to develop propositions regarding the use of the Web for information seeking. These propositions represent the probable influence that the qualities of a medium can impinge on its use.

Keywords: Web, information seeking.

INTRODUCTION
Description

Information seeking (IS) has been an important human activity since the evolution. Humans seek information to gather, store, interpret, and use for various purposes. Information is important to increase the awareness, to change the current state of knowledge, to address a need, and to solve a problem. Information seeking is described as a planned search for information [1]. Information seeking includes purposive as well as incidental activity [2]. Before the advent of the Internet, the information resources in the physical world used to play a central role in IS. However, the birth of the information society has not only increased the number of information sources but also has placed greater demands on human endowments to seek and then to process larger amounts of information.

Information behavior (IB) is the totality of human behavior (purposive as well as non-purposive) in association of information sources and channels, while information seeking is a purposive human behavior, and information search is the interaction of a person with an information system [1]. Information seeking is thus a meso-level behavior that encompasses information search. Information seeking gained considerable attention within library and information science (LIS). Information seeking of various user groups (user studies), in addition to information retrieval (IR), occupies an important place in LIS research [3]. Afzal [4] examined the LIS literature to assess the use of various research methods and found a wealth of studies employing information seeking as a research problem driving the objectives of the research. Another important development in information seeking research is the increasing emphasis on the context in which

IS takes place. According to Vakkari, Savolainen, and Dervin [5] this emphasis on the context is placing greater value on social life, communities, organizations, and cultures in the studies of IS.

The Web is a mediator between a database and a user; a distributed information system [6], and an interface with which a user interacts to seek information, to search for alternatives, and finally to either complete the transaction or move to another Web site. Keeping in view the importance of the Web as an information resource as well as its centrality in the information society, many researchers in IS and IB are examining different aspects of interactions that take place between a user and the Web. Studies by Tauscher and Greenberg [7, 8], Choo, Deltor, and Turnbull [9], & Choo and Marton [10] examined information seeking on the Web.

Objective of the Study

The objective of this study is to develop propositions regarding the use of the Web for information seeking. These propositions suggest that qualities of a medium (Web) and personality traits may influence use of the Web for information seeking. Rogers' theory of diffusion of innovations [11] has provided the conceptual framework for this study. Below is the discussion of the relevant literature and presentation of the propositions.

LITERATURE REVIEW AND PROPOSITIONS
Innovativeness

According to Rogers and Shoemaker innovativeness represents "the degree to which an individual is relatively earlier in adopting an innovation than other members of his system" [12, p. 27]. The construct of innovativeness has been

used in relation with other constructs in different studies, e.g., Steenkamp, Hofstede, and Wedel [13] examined the relationship between innovativeness and cultural attributes of a consumer. They found that cultural values play an important role in shaping the innovativeness. Venkataraman [14] examined the role of cognitive or sensory innovative tendencies on adoption; Midgeley and Dowling [15] analyzed the relationship between innovativeness and adoption. They reported significant support regarding the role of innovativeness in the information search behavior and adoption.

An innovative person seeks information actively and has a greater exposure to different media sources [11]. An innovator would be more aware of the available information channels due to greater information seeking, which would be necessary to maintain the quality of being an innovative individual. Taylor [16] considered attitude towards new technology, risk taking, education, and innovation as the factors that influence the information behavior of a person. Innovativeness represents an attitudinal disposition and can persuade an individual to seek information from those channels that increase the awareness and may involve some experimentation and risk taking. Vishwanath [17] used global and technological innovativeness in his stipulated model for adoption, and found a significant relationship between technological innovativeness and adoption.

Based on the aforementioned discussion it is thus proposed: P_1 — *Innovativeness will influence the use of the Web for information seeking.*

Relative Advantage

According to Rogers "Relative advantage is the degree to which an innovation is perceived as being better than the idea it supersedes" [11, p. 229]. Relative advantage has been found an important determinant of the adoption. Lin and Yu [18] suggested that relative advantage should increase the willingness to adopt. Relative advantage is an important attribute of a product and helps the adopters to use it. Yang [19] examined the adoption of wireless Internet in a student population and found that students considered relative advantage important during the adoption.

In the context of information seeking on the Web, various qualities of an information source (Web site) have been found affecting the choice of that medium. Ease of access of information [16], that is, the relative ease with which an information resource can be accessed increases its use to satisfy an information need. Usefulness of information available online [20] and availability of information resources [21] are found to be important drivers of information seeking in online context. According to Junni [22] ease of access,

availability of larger numbers of resources and minimum physical exertion are among many variables that make online information seeking attractive. Music scholars described relative advantage and compatibility as two important features of electronic discussion groups [23].

It is therefore posited that: P_2 — *Relative advantage will impact the use of the Web for information seeking.*

Compatibility

Rogers wrote that "Compatibility is the degree to which an innovation is perceived as consistent with the existent values, past experiences, and needs of potential adopters" [11, p. 240]. Compatibility has an important relationship with the lifestyle of an individual [24]. As experience with different products increases, the potential adoption of a new product also increases. Exposure to different products broadens the sphere of compatibility, that is, a positive perception develops regarding the consistency of a product with one's lifestyle. Compatibility has been found significant in influencing the adoption behavior [e.g., 25]. Past experience also can play an important role in the adoption of an information source, for example, Ingweresen [26] argued that people choose an information source on the basis of familiarity.

Familiarity with a certain product/practice can be increased by acquiring more knowledge and getting experience. Ramzan [27] examined information technology applications in libraries of Pakistan and found librarians' level of technological knowledge an important predictor of the probable adoption of information technology. Sahin and Thompson [28] found lack of knowledge and experience as an important barrier to the adoption of computer use by faculty members; Al-Suqri [29] also stressed the need of providing more training and experience to faculty to increase the familiarity with the new technology, which can optimize the use of electronic resources during IS. Compatibility of a product can be developed by providing relevant information and, if possible, hands-on experience.

It is therefore posited that: P_3 — *Compatibility will impact the use of the Web for information seeking.*

Complexity

Complexity represents the extent of difficulty that an individual perceives to experience while using as well as understanding an innovation [11]. The Internet and the Web are considered as recent technological innovations [18]. The Web has revolutionized information seeking by providing a greater ease (lower complexity) in all the activities (e.g. searching, browsing, & chaining) that are associated with information seeking. Marcchionini [2] emphasized the need

to examine the physical as well as intellectual consequences of information available through electronic sources. Large amounts of information, reduced effort and time, flexibility [2], ease of going back to recently viewed Web pages [9] are some of the features that have influenced information seeking in the virtual environment.

Retrieval of information with greater speed, convenience, and leverage on the part of the user to choose among saving, printing, or reading the information online makes information seeking on the Web attractive [22]. Low complexity enables a user to try, experience, and learn about a product/practice with greater flexibility. Ability of the Web to facilitate the research process [e.g., 30], and its ease of use [e.g., 31] have been found important in increasing its use.

Thus it is posited that: P_4 — *Complexity will impact the use of the Web for information seeking.*

Trialability

Trialability is the extent to which an innovation can be tried on a limited basis [11]. Choice of a specific information resource partly depends on its trialability. During online information seeking, people can search various Web sites, compare them, browse back and forth, and then can choose a specific Web source that suits ones information need as well as seeking behavior. Tauscher and Greenberg [7, 8] observed Web information seeking and described Web browsing as an activity that involves lots of repetitive activity, revisiting of Web pages and exploring new avenues for the search. According to Choo, Detlor, and Turnbull [9] functionality of Web pages, that is the ability to go back, can be an important factor to influence information seeking on the Web. It can be suggested that ability to go back on a Web page provides a chance for the user to experiment and interact with the Web page.

Based on the aforementioned arguments it is proposed that: P_5 — *Trialability will impact the use of the Web for information seeking.*

Observability

Observability represents the extent to which results of adoption are observable to others. That is, how easily and clearly the benefits of adopting a certain product/practice can be communicated and made visible to others. However, there are some products/practices, according to Rogers [11], that if adopted may yield results that would be difficult to communicate to others. In various instances, information seeking on the Web provides observable benefits. For example, a user can compare the prices of a single product, during information seeking on the Web, offered by different sellers.

In a short period of time and without exerting significant physical energies, a user becomes aware of a vast range of prices. This experience clearly manifests the advantages of Web searching to a user as s/he can feel, explain to others, and make an informed choice. Observability together with trialbility has a relationship with social support [28]. In their study of computer use by faculty members, Sahin and Thomspon [28] found lack of social support from the administration as a barrier to computer use. It could be argued that the benefits of computer adoption were not observable enough that could persuade administration to support the adoption.

Social support and observability has an interesting relationship. On one hand, the social support can facilitate the adoption; however, on the other ability to clearly express the benefits of a prospective adoption can engender greater social support. Therefore, it can be suggested that observability and social support has a non-recursive relationship, that is, there is a two-way flow of influences. In the context of information seeking on the Web, congruence between information available from the source and the users' need can make the information seeking process observably rewarding, which according to Wilson [3] and Wilson and Walsh [32] is important for the success of the information seeking process. Owing to spontaneous retrieval of information in vast quantities and provision of a great array of relevant sources, the Web provides quite observable benefits to users in terms of information seeking.

It can be proposed therefore that: P_6 — *Observability will impact the use of the Web for information seeking.*

Demographic Variables

The examination of information seeking behavior can be facilitated by forming sets of people. Particular sets help to compare as well as to contrast the members of a set on the attributes that form the basis of describing the membership of a set. According to Lillard "defining exactly what determines a set of people in terms of information behavior involves examining differences in demographic and non-demographic characteristics" [21, p. 33]. Different demographic qualities can influence the information seeking behavior. Gender differences during information seeking have been recognized, for example, boys found to seek information on the Web by focusing on the available information and narrowing it in accordance to the relevance with the task; whereas girls tried to process the information comprehensively [33].

Kwasitsu [34] found a relationship between level of education and use of library, such that the higher the level of education the more the use of library and less the reliance on ones own

memory. Variables such as occupation, education, location, and gender have been found important in distinguishing different segments of Internet users [35]. Ford, Miller, and Moss [36] examined the roles of cognitive styles, age, gender, and level of prior experience. They found Internet perceptions, and study approaches in Internet searching; male gender, low cognitive complexity, an imager (as opposed to verbalizer) cognitive style along with different Internet perceptions and study approaches were linked with retrieval effectiveness.

P_7 — *Demographic traits will impact the use of the Web for information seeking.*

Conclusion

This study, though propositional in nature, has provided an opportunity to do empirical research in relation to information seeking on the Web. The empirical validation of the above presented propositions can aid in developing models encapsulating the factors that contribute to the choice of the Web for information seeking. The ensuing extensions, replications, and elaborations of the models can contribute to the development of an empirical theory of information seeking on the Web.

Acknowledgments

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