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Seeking knowledge: The role of social networks in the adoption of Ebooks by historians

Abstract: This article explores adoption rates of the Ebook amongst Historians at the University of Western Ontario. Employing the first stage of Rogers' *Innovation-Decision Process*, the researchers examine the role that social networks play in this process and what effect the Historians' desire for the possibility of serendipity has on electronic research.

Résumé : Cet article explore le taux d'adoption des livres numériques chez les historiens à l'Université Western Ontario. À l'aide du premier stade du *processus innovation-décision* de Rogers, on examine le rôle des réseaux sociaux dans ce processus ainsi que les effets sur la recherche électronique qu'a le désir des historiens à s'ouvrir à la serendipité.

1. Introduction

Ebooks and Ereaders are experiencing a rapid diffusion rate, with new technologies such as the Kindle and the Sony Reader gaining popularity (Tonkin, 2010). Although the technology used to read Ebooks is constantly changing and taking new shapes, the Ebook itself has experienced wide publicity with the creation of, for example, the Google Books Project and the availability of Ebooks through libraries. With some academic libraries, such as Oxford and Harvard, choosing to digitize their entire collections, the impact of the Ebook on the modern scholar cannot be ignored. It is important to examine the ways that these technologies are being adopted by academics for the purposes of research and teaching.

There is a preconception that humanist scholars tend to be reluctant to adopt technology and prefer working with familiar print formats. However, several recent studies have found humanists to be willing to experiment with new ways of accessing, storing, aggregating, and editing information that can facilitate their work (Barrett, 2005, Warwick et al, 2008). Previous studies have shown that historians have good relationships with their subject specialist librarians and that they are quick to adopt new technologies that might facilitate their learning and research (Delgadillo and Lynch, 1999).
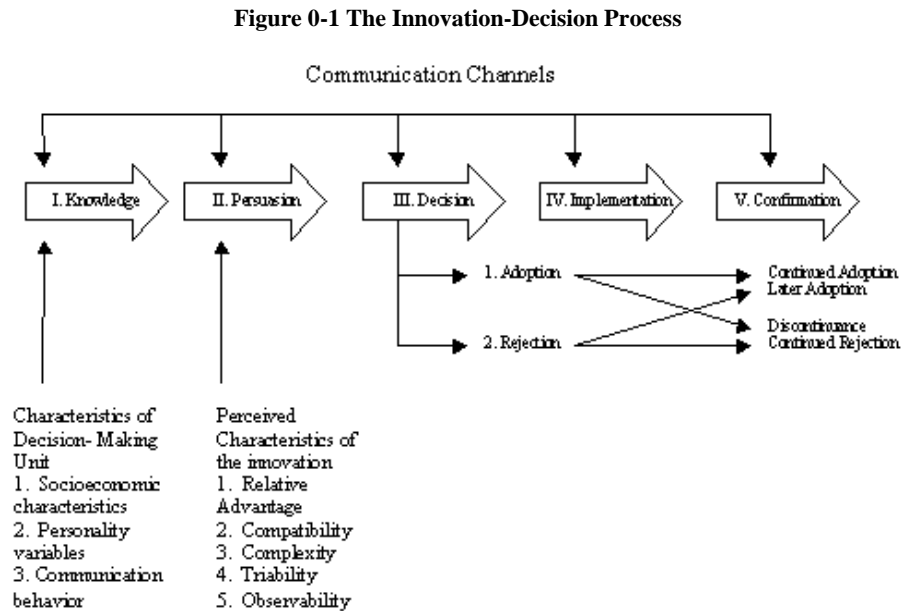
The research objectives were:

- To investigate how faculty in the history department are adopting Ebooks.
- To understand the role of social networks in the adoption process.
- To examine the perceived barriers by historians to Ebook adoption and use.

Although there has been some research done on both Ebook use and the information-seeking habits of historians, no study that we know of closely follows the perceptions and actions of a single group of scholars. Past research on historians recognizes their close relationship with the book, and this, together with their positive relationship with the library, is the reason that we have chosen to focus on this select group of scholars.

2. Theoretical Framework:

To describe what occurs when an individual makes a decision about the adoption of an innovation, Rogers (1983) examined the *innovation-decision process*. Figure 1 shows the five stages he has identified as central for the process and shows how they are related.

Figure 0-1 The Innovation-Decision Process

Past research has utilized Rogers's theories to define adoption rates and types of adopters (Walton 2008, Nicolle and Lou 2008). However, no study has looked at the adoption process systematically in the context of the humanities. Using Rogers' model allows us to analyze the entire process of Ebook adoption from the moment a potential user becomes aware of the technology to their decision about whether to adopt or to reject it, to how they implement it, and finally confirmation of having made the correct decision or not. For the purpose of the present study, we only examine the *knowledge stage* because our intent was to gain an understanding of the perceptions of potential adopters when they first encountered the technology. This was important because Ebooks are not as yet widely diffused and therefore it provides a unique opportunity to study this phase within an academic setting.

In the *knowledge stage* an individual learns about an innovation for the first time and obtains information about how it functions. Coleman et al. (1966) found that information about an innovation was obtained quite by accident through conversations with peers, interactions with sales personnel, and exposure to the media. Individuals vary in terms of how receptive they are to information about technological innovations. Those individuals who have a need to solve a specific problem or want to accomplish a particular task are more receptive to obtaining information related to their need. Hence, individuals seek out messages that are in agreement with their interests, needs, and attitudes. This process of seeking out relevant information is referred to as *selective exposure* and shows how individuals may be exposed to the same information, but evaluate its relevance in different ways based on their needs.
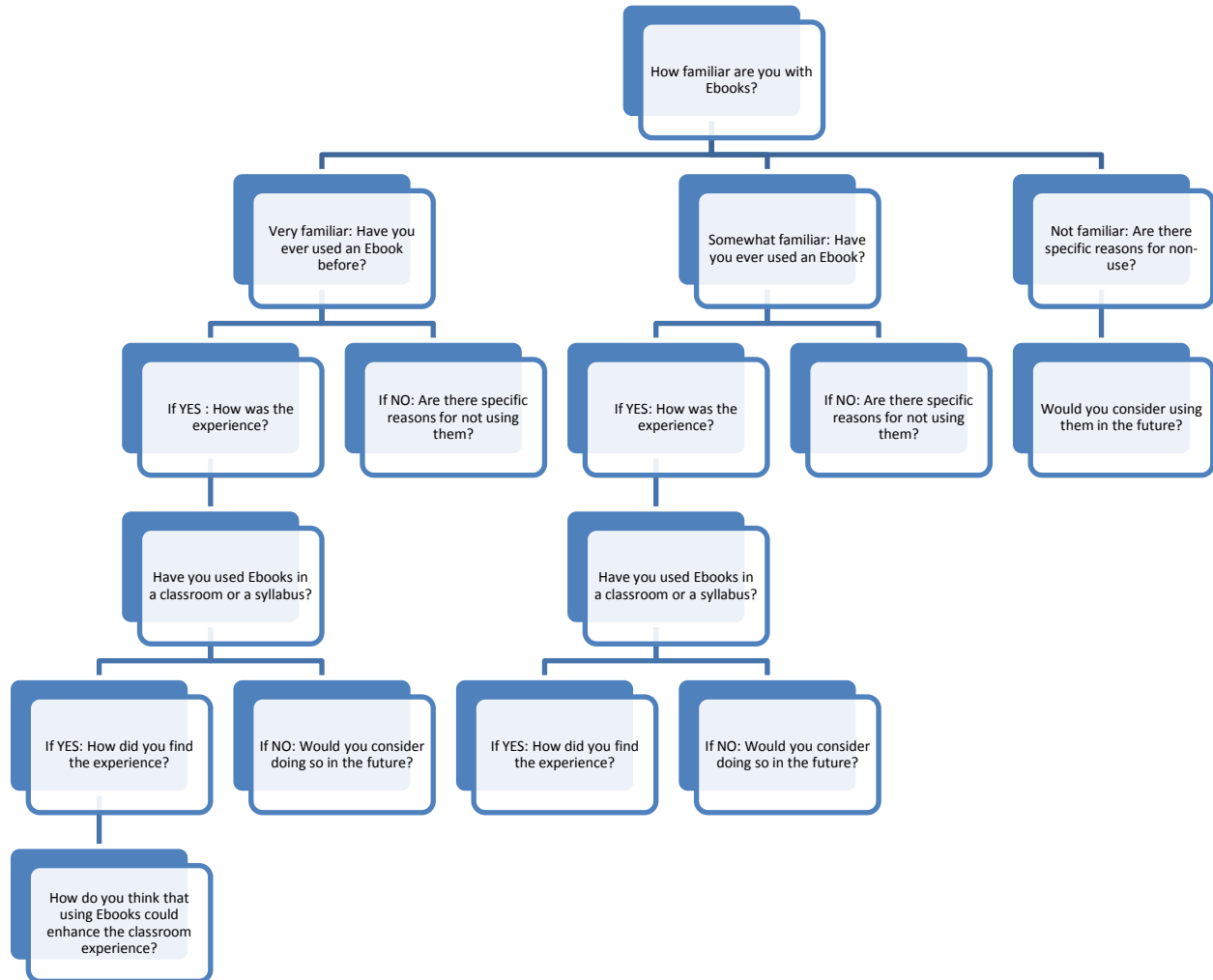Different kinds of knowledge are relevant in the knowledge stage.

a. *Awareness knowledge* initiates the process by making an individual aware of the existence of the technology and its potential adoption.
b. *How-to knowledge* emerges from the awareness of the innovation and explains how the innovation is used properly and in what settings it can be employed beneficially.
c. *Principle knowledge* encompasses an understanding of the mechanisms that lie behind an innovation. For example, understanding the usefulness of and need for sanitizers is based on germ theory.

3. Methods

The information reported here was gathered in a series of interviews conducted with history professors at the University of Western Ontario in the autumn of 2010. Four professors in the history department to an invitation to participate in a 30 minute interview regarding their perceptions of Ebooks. It is from their responses that these initial observations are taken.

The four respondents all participated in semi-structured interviews which were recorded on digital recording devices and later transcribed for coding. The following interview guide was employed to ensure the research objectives were addressed:

Figure 2. Interview guide

How familiar are you with Ebooks?

Very familiar: Have you ever used an Ebook before?

Somewhat familiar: Have you ever used an Ebook?

Not familiar: Are there specific reasons for non-use?

If YES : How was the experience?

If NO: Are there specific reasons for not using them?

If YES: How was the experience?

If NO: Are there specific reasons for not using them?

Would you consider using them in the future?

Have you used Ebooks in a classroom or a syllabus?

Have you used Ebooks in a classroom or a syllabus?

If YES: How did you find the experience?

If NO: Would you consider doing so in the future?

If YES: How did you find the experience?

If NO: Would you consider doing so in the future?

How do you think that using Ebooks could enhance the classroom experience?

The interview questions were intentionally left open-ended so that participants could describe their knowledge of this technology in their own terms. The interviews were semi-structured so that the interviewer was able to probe further into answers that opened new avenues for discussion (Berg, 2005). As the interviews progressed, some questions were added so that answers on certain subjects which the interviewer had not anticipated could be compared and contrasted.

The interviews were transcribed and a coding scheme was employed to analyze the data. The creation of the coding scheme was based on the grounded theory approach put forth by Charmaz (2006). Building upon the analytical framework developed by Rogers in his *knowledge*

stage the following coding scheme enabled us to explore the users' awareness of technology, their attitude towards Ebooks and the areas of their lives that were being impacted by the Ebook.

Figure 3| Coding scheme for Ebook adoption

Main Codes	Topics within Codes
P (Preconditions of the user)	1 - Technology not owned 2 - Technology never tried 3 - First encounter with technology
SK (Skepticism)	1 – About individual Ebook 2 – About Ebooks as a whole 3 – About Ebook use in education 4 – About technology in general
CU (Curiosity)	1 – About individual Ebook 2 – About Ebooks as a whole 3 – About Ebook use in education 4 – About technology in general
BC (Background characteristics)	1 – Interests 2 – Needs 3 – Attitudes
AI (Areas impacted)	1 – Publishing 2 – Research 3 – Teaching 4– Leisure reading
SE (Selective Exposure)	1– Already thinking about the Technology 2– Knowledge because of Humanities interest 3– General baseline awareness
TK (Types of Knowledge)	1- Awareness knowledge 2- How-to knowledge 3- Principle knowledge

4. Results

The findings of these interviews focused on two main segments that were included in the knowledge stage of Roger's Innovation-Decision Process: the attitude towards the technology based on user's needs and interests, and the role of the social network in increasing users' awareness and understanding of the Ebook. As one might expect, positive experience with Ebooks prior to the interviews often resulted in a more intense curiosity about different ways that they could be put to use. There were two prevailing attitudes toward Ebooks: skepticism (a negative outlook) and curiosity (a negative outlook). Often the participants showed both of these attitudes in the interviews, depending on what characteristic of the Ebook was being discussed.

Skepticism regarding Ebooks was caused by four factors: the perceived lack of availability of online documents, the method of access to Ebooks as a hindrance to serendipitous findings, the costs associated with the tools used to view Ebooks, and the simple preference for the printed book. With the exception of the final factor, each of these barriers to adoption could

be overcome with technological advances, which will likely see continual growth of Ebooks and new ways in which they can be aggregated, as well as a reduction in cost of Ereaders as these technologies become integrated into the marketplace. The tradition factor, or the preference for the printed book, will be a difficult barrier to overcome, especially amongst historians, who work closely with these texts.

There were also four main factors which sparked curiosity about Ebooks amongst the historians: they expressed a comfort with technology that made Ebooks easy to use, they were drawn to using the library portal to access Ebooks, they were interested in using Ebooks on a course syllabus, and they believed Ebooks could benefit their own research. For the most part, the participants were only in the beginning stages of Ebook use: they were aware that they existed but had not implemented their use for anything other than browsing books online. The idea that most intrigued the participants was that they would be able to access out-of-print books that they would previously have had to travel to read.

Another interesting finding derived from these interviews was the importance of the role of the social network in the adoption process. All of the participants were aware of Ebooks at the time of the interviews, and all had either been introduced to the technology or made aware of its possibilities by friends or coworkers. Students also played a role in the adoption process of Ebooks by professors, who often thought that they should make use of this technology because it would be expected by the new generation of scholars. Finally, all of the historians interviewed expressed an interest in attending a workshop on Ebooks if offered by the librarians on campus. Between the creation of the library website, the promotion of Ebooks in both the physical and virtual library and the provision of instructional workshops on the technology, it was found that librarians play a central role in the adoption process.

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