

An Adoption Model to Predict Student Acceptance of E-Books

Abstract:

While US books sales were between 25 and 30 billion, electronic books (e-books) accounted for only \$20 million of those sales. The move from printed material to electronic has been slow but is expected to double each year (Nelson 2008). This paper explores what will influence students and faculty to adopt e-books. The proposed model was tested and the results are presented here.

Introduction

Of the 30 billion in book sales within the United States each year, only 20 million of those sales are electronic book (e-book) sales. While this transition from printed material to electronic has been slow, it is expected to double each year (Nelson 2008). This paper uses a field survey to explore what factors influences students and faculty to adopt e-books. A summary of the findings will be presented here.

Literature Review

There are two major issues to e-book adoption including e-reader portability and protecting intellectual property.

The compatibility issue occurs because E-books can be read on any type of screen (i.e. pda, e-book reader, computer screen, mobile phone), as long as the individual is using the matching format (i.e., Adobe Acrobat pdf, Microsoft reader, palm doc, kindle compatible, eReader) (Parvin 2007). This issue will be solved if academic publishers choose a standard format such as a XML-based format that can be read by any of the devices.

The second major issue is protecting the intellectual property of the author. This issue is beyond the scope of this paper.

When asked why they do not use e-books, students explain that they like to be able to highlight their books and make notes in the margins.

Proposed Model

While adoption and usage of technology has a rich history with several theoretical foundations including Roger's (1983) Innovation Diffusion Theory (IDT) and Davis's (1989) conceptualization of the technology acceptance model (TAM), little research has explored e-book adoption. IDT examines how social systems, innovation, communication channels, and interaction influence the diffusion of technology (Rogers, 1983). IDT is often explored using the following factors: observability, trialability, compatibility, complexity, and relative advantage. Social system theory uses factors including task, individual, organization and environment to examine adoption of technology. Kwon and Zmud (1987) suggested that these social system factors should be incorporated with Rogers IDT model to study user acceptance. TAM's perceived usefulness and perceived ease of use can examine an individual's intention to use a specific technology.

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To explore the adoption and use of e-books, we propose a model that consolidates Social System theory, TAM, and IDT similar to work conducted by Wu and Wu (2005) who integrated aspects of TAM with IDT to examine the acceptance of customer relationship management systems (CRM). Wu and Wu indicated that perceived ease of use, as used in TAM, is similar to the complexity construct in IDT and that perceived usefulness as found in TAM is comparable to relative advantage of the IDT model. Because e-book adoption is different than adoption of a CRM, our model incorporates factors influencing e-book adoption (i.e., reader compatibility, costs, and editing features) as antecedents to attitude, complexity (ease of use) and relative advantage (usefulness). with Wu and Wu's (2005) hybrid TAM model.

Because e-book adoption is different than adoption of a CRM, we consider the Wu and Wu model to be inadequate. Therefore, we include constructs directly related to e-book adoption – reader compatibility, costs, and editing features as antecedents to attitude, complexity (ease of use) and relative advantage (usefulness).

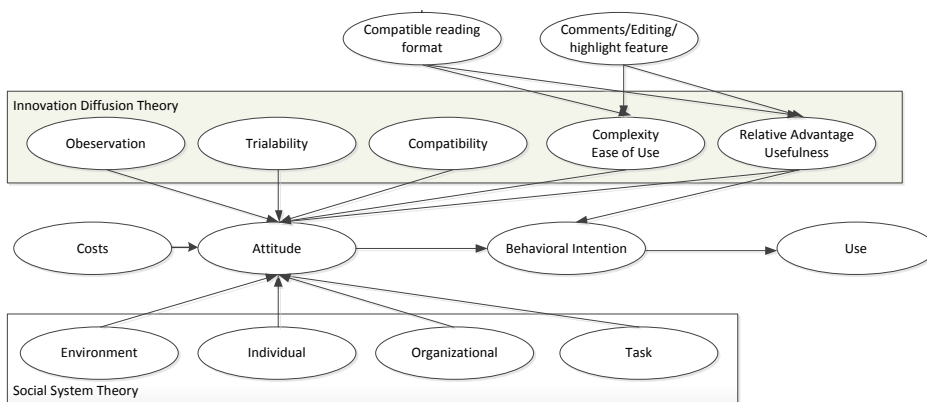


Figure 1: Proposed e-book Adoption Model

Figure 1 shows the integration of antecedents and attitudinal variables included in the extended e-book model. We will test the following hypotheses:

Hypothesis 1: The attitude of students (and faculty) will positively influence their intent to adopt e-books.

Hypothesis 2: Students' (and faculty) intent to use an e-book system (behavior intent) will positively affect their adoption of the books.

Hypotheses 4: The compatible reading format will positively influence the individual's belief that the e-book has relative advantage.

Hypotheses 5: Compatibility will positively influence the individual's attitude toward e-books.

Hypotheses 6: If an individual feels e-books are compatible with their goals (learning or teaching), they will positively see the relative advantage of using e-books.

Hypotheses 7: Individuals will believe that e-books are easy to use if they have a compatible reading format.

Hypotheses 8: The user's attitude concerning an e-book system will be positively affected by the cost of the electronic version of the book.

Hypotheses 9: The editing feature will positively influence the individual's belief that the e-book has relative advantage.

Hypotheses 10: The editing feature of the e-book will positively influence the individual's belief that the e-books are easy to use.

Hypotheses 11: An individual's attitude toward e-books will be positively influenced by perceived ease of use (complexity).

Hypotheses 12: The ease of use of e-books will positively affect an individual's perception of relative advantage toward e-books.

Hypotheses 13: Environmental factors will positively influence the individual's attitude toward e-books.

Hypotheses 24: Individual factors will positively influence the individual's attitude toward e-books.

Hypotheses 13: Being able to observe others using e-books (observability) will positively influence the individual's attitude toward an e-books.

Hypotheses 14: Organizational factors will positively influence the individual's attitude toward e-books.

Hypotheses 15: The individual's attitude toward e-books will be positively affected if the individual believes e-books are useful or advantageous

Hypotheses 16: The individual's intent to use e-books will be positively influenced by the relative advantage provided by the system.

Hypotheses 16: An individual's attitude toward e-books will be positively influenced by the lesser cost than regular books.

Hypotheses 17: The individual's attitude toward e-books will be positively affected by task.

Hypotheses 18: Being able to try e-books before adopting them (Triability) will positively influence the individual's attitude toward e-books.

Hypotheses 19: Environmental factors will positively influence the individual's attitude toward the e-books.

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Hypotheses 20: Individual factors will positively influence the individual's attitude toward the e-books.

Hypotheses 21: Organizational factors will positively influence the individual's attitude toward the e-books.

Methodology

The model incorporates several new constructs aimed at understanding e-book adopting and use. The model was tested using a field survey after adapting items from Wu and Wu (2005) and included new variables including editing capability, compatible reading format, and costs. A field survey will be administered to students and faculty at a major university to test the research model proposed above. After analyzing the results in Smart PLS, the results will be presented here.

Benefits

Since this research identifies factors that influence e-book adoption for students and faculty, this research should be of interest to publishers, faculty, and universities who are interested in promoting the adoption of e-books.

These results should be beneficial to faculty and publishers as it identifies motivations and hindrances to e-book adoption.

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