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A Conceptual Model of Determinants of Students' Intentions to Use Electronic Textbooks

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INTRODUCTION

College textbooks now constitute a significant portion of students' college expenses. Textbooks and supplies are about 26% of the tuition costs at 4-year public institutions and 72 % at 2-year public institutions (Government Accountability Office study, 2005). As a result, there has been a surge in the interest in e-textbooks among established textbook publishers. This interest has produced a growing Web presence for e-textbooks. Certain Web sites such as coursesmart.com and ichapters.com offer digital course materials to students and instructors alike. Coursemart.com has even unveiled e-textbooks for the iPhone and iPod touch (Trachtenberg, 2009) and Apple inc. has unveiled e-textbooks with its ibooks. Given these developments in e-textbook products, this study aims to understand the purchase intentions of college students toward e-textbooks. Student intentions to e-textbook offerings are explained through a conceptual model formed under the framework of Appraisal → Emotional Reactions → Coping Responses Theory proposed by Bagozzi (1992).

LITERATURE REVIEW

Research on e-textbooks has been mostly exploratory in nature and has progressed in two directions. One stream of research focused on the state of usage of e-textbooks. Simon (2001) conducted a study in which students were assigned e-textbooks to read from during the semester and their opinions about e-textbook usage were recorded through an anonymous poll. The study concluded that students wanted more courses to incorporate e-textbooks and suggested some design changes, but more importantly, they were ready to spend as high as \$200 to purchase e-textbooks. Noorhidawati and Gibb (2008) conducted a web survey that revealed the different types of e-book use in an academic setting, and their findings included several recommendations for customized design of e-books solely for the purpose they are being used. A second stream of research focused on the barriers facing the adoptability of e-textbooks.

Noorhidawati and Gibb's (2006) findings indicated that one of the main reasons for the lack of usage among the students was the lack of awareness about e-textbooks. Bennett and Landoni's (2005) study concluded that there was higher preference for traditional print books than e-textbooks because of the poor usability of e-textbooks due to their design. Allen's (2008) study suggested that digital textbooks should be affordable, printable, and accessible for them to become more popular. Allen (2008) further suggested that e-textbooks should start out as open textbooks available free online and give printing and downloading options to the users for a plausible fee. At least one publisher, Flatworld Knowledge, follows this model. Bodomo (2003) has suggested that it is absolutely necessary to raise awareness and promote the advantages of using digital reading material.

One of the biggest hurdles for e-textbook manufacturers would be to change the cultural perceptions associated with book reading – it is not meant to be done on a flickering screen (Young, 2008). So far, the e-textbook manufacturers have tried to mimic the traditional book-like experience in their designs without giving importance to enhanced embedded features like highlighting, hyperlinks, or audio/ video features (Stone, 2008). Thomas (2007) suggested that that it is important for the manufacturers to come up with a less expensive product that would be printable and can also be manipulated, especially the

embedded text, like a real book. Applications (e-reader devices) have also been developed so e-books can be read from mobile devices. Widespread usage of these applications is just beginning to catch-on around college campuses. According to Juniper Research, digital books earned a record \$3.2 billion in revenues in 2011 (Holden, 2011).

Bagozzi's (1992) Appraisal → Emotional Reactions → Coping Responses theory offers the framework to understand the interrelationship between cognitive, affective, and conative variables. Using a self-regulatory process, Bagozzi (1992) argued that cognitive evaluations by themselves do not turn into intentions. Cognitive evaluations lead to intentions by stimulating desire. Thus, emotional response is the mechanism that translates evaluations into intentions. In the study at hand, cognitive (trust, perceived value, and environmental attitudes), affective (attitude towards brand), and conative (purchase intentions) variables were used.

HYPOTHESES DEVELOPMENT

Chaudhuri and Holbrook (2001) study argued that trust reduces the uncertainty in situations in which consumers may not be knowledgeable or have extensive experience with the product and, hence, know that they can rely on the trusted brand. Thus, when an established publisher starts offering titles in the form of e-textbooks, customers' trust perception with the publisher will impact their decision to purchase the titles in the digital formats and try a new reading experience. Sirdeshmukh et al., (2002), findings were along similar lines. Using goal and action identification theories, they posited that trust creates perception of consumer value, which in turn drives purchase intentions. Hence, we offer the following hypothesis.

H1: Trust has a direct positive relationship with perceived value.

E-textbooks are promoted by publishers as environmentally friendly alternatives for printed text books. For example, Apple's iPad has partnered up with publishers like McGrawhill and Pearson to target high schools and replace print books with iPads. Customers with ecofriendly attitudes would be willing to pay more to buy eco-friendly products (Laroche et al., 2001). Kim (2011) also argues that customers who are concerned about the environment would find eco-friendly products to offer more benefits to the society and thus would engage in eco-friendly purchases. This shows that customers with eco-friendly attitudes would perceive eco-friendly products to have higher perceived value. Rios et al. (2006) found that customers would believe brands that are perceived to be eco-friendly and this would result in increased levels of brand attitudes. This study identified a positive link between environmental associations and brand attitudes. Thus:

H2: Environmental attitudes have a direct positive relationship with perceived value.

H3: Environmental attitudes have a direct positive relationship with attitude towards brand

It would be reasonable to assume that a product like electronic textbooks needs to possess value. In their campaigns, e-textbook publishers like www.coursesmart.com and www.ichapters.com specifically talk about features like half-price, portability, usability, and many more value-added benefits of using an e-textbook. Many firms such as Wal-Mart, Southwest Airlines, Saturn, Kroger, Best Western Hotels, and Old Navy have built their brand images around value. Extant research provides evidence for the linkage between value and attitude towards the brand. For instance, studying the relationship between brand attitudes and willingness to pay among buyers of milk in Chile, Schnettler et al. (2008) found that customers had higher levels of positive brand attitudes towards national brands than store brands and, hence, were willing to pay more to buy national brands. Schnettler et al. (2008) posited that customers found higher value in national brands and, thus, were willing to pay more. Further, the relationship between cognition dominated value and affect dominated attitude towards the brand can be explained by the cognition → affect → intentions theoretical framework of Bagozzi (1992). Perceived value leads a customer to develop positive brand attitude, which in turn drives his/her purchase intentions. Thus, it is hypothesized that:

H4: Value has a direct positive relationship with attitude towards brand.

Perceived value is considered as the link between sacrifice, benefits, and customers' willingness to buy (Dodds, 1991). Lehtola et al., (2008) found that the promise of value addition leads to positive consequences like enhanced product image and increased purchase intentions. In the context of e-textbooks, it is assumed that enhanced embedded usage features will provide significant product value to e-textbooks and increase the purchase intentions among students. This leads to the following hypothesis:

H5: Perceived value has a direct positive relationship with purchase intentions.

Taylor and Hunter (2003) contended that attitude towards brand plays a fundamental role in determining purchase intentions. Arguing on similar lines, Dabholkar and Bagozzi (2002) suggested that attitude towards brand plays a unique role in determining purchase intentions in technology dependent industries. Furthermore, in a study about online shopping trends of

Brazilian consumers, Joia and de Oliveira (2008) found that visitors of websites that provided enhanced user-friendly, interactive, and safety features had a positive attitude and purchase intentions about the site.

Thus, it can be hypothesized that

H6: Attitude towards brand has a direct positive relationship with purchase intentions.

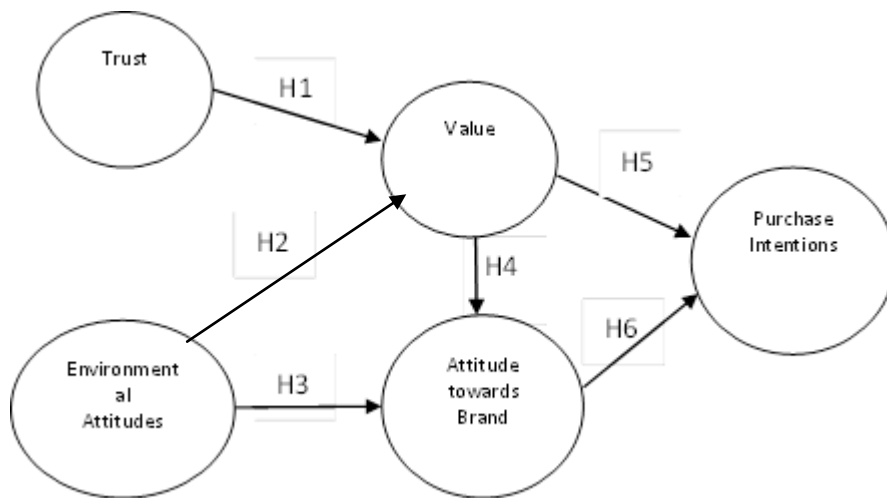


Figure 1. STUDY MODEL

DISCUSSIONS

This paper conceptualizes a study model that predicts the purchase intentions of e-textbooks among college students. This study model posits perceived value as an antecedent variable of purchase intentions. When it comes to online products or e-commerce initiatives in which the consumers are not interacting with the sellers in a physical location, it is very important for the online companies to offer products of significant value to induce purchase intentions (Torkzadeh and Dhillion, 2002).

Study model posits that trust has a significant influence on value. This indicates that students who trust a brand would feel that they are getting more benefits for their sacrifice by buying a brand that they trust. Trust increases student perception of benefits received in a transaction. This increases value perception in students' minds. Trust is also expected to exert a significant indirect influence on purchase intentions. Since e-textbooks are reasonably new products and are not used extensively, inexperienced customers would probably derive confidence from their previous experience with the publisher brands that are offering the titles and, thus, trust enough to try the new value-added e-textbooks that are being offered through *ichapters.com* or *coursesmart.com*.

Attitude towards the brand is posited as a direct antecedent of purchase intentions. This indicates that students' intention to purchase an e-textbook is significantly influenced by their attitude towards the e-textbook brand. This is in accordance with the study of Wu and Lo (2009), who found that in a hi-tech electronic product category (Microsoft PC), attitude towards brand has a direct positive relationship with purchase intentions. It was also concluded by Joia and de Oliveira (2008) that when websites have enhanced features and product offerings, it generates trust among consumers that leads to a positive attitude towards the brand and higher purchase intentions.

Attitude towards the brand and perceived value are also posited as key determinants of students' intention to purchase e-textbooks. It is believed that the recent developments in e-textbook technology, ease of e-textbooks' availability, and the number of titles available from established brands would contribute extensively to alter the existing attitudes among students, which would lead to higher adoption of an e-textbook-based curriculum in the near future. This study posits that

environmental attitudes would enhance customer's level of perceived value and brand attitudes towards e-textbooks. It is recommended that consumers' perception of e-textbooks as eco-friendly products needs to be pre-tested before the study model is empirically tested.

The study at hand is conceptual in nature. The authors strongly believe that e-textbooks, having many embedded features and being an eco-friendly product, would have a better adoption rate at this stage in the product's life cycle. It is recommended, however, that further research be conducted on trends, both, behavioral and technological, related to e-textbook adoption and purchase. Another limitation was that study variables were classified as either cognitive or affective based upon the literature. Note that, at present, there is no unanimity of opinion among marketing scholars about whether the variables used in this study are actually cognitive or affective. Results might differ if an alternative perspective is used to define the study variables. Testing this conceptual model across campuses would help to see if there is a generational effect at work behind the changed perceptions about e-textbooks among users, with the more technologically-oriented Generations X and Y being more prone to adopt different e-initiatives than their predecessors.

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