Design-to-lure in the e-shopping environment: A landscape preference approach

Yung-Shao Yeh, Yung-Ming Li *

Institute of Information Management, National Chiao Tung University, Hsinchu 300, Taiwan, ROC

ABSTRACT

With the increasing popularity of online shopping, e-shoppers have been provided with a new medium for making purchases and this has attracted increasing attention from researchers and practitioners. Researchers are challenged to understand what constitutes a theoretical model for website design research. In exploratory work, we employ Kaplan and Kaplan's landscape preference model involving coherence, legibility and complexity, and investigate their relationship to trust and satisfaction and their impact on e-shoppers' willingness to buy. Data from a survey of 300 shoppers were used to validate the model. A multi-group analysis with gender was further used to cross-validate it. The results show that trust and satisfaction are great influences of willingness to buy. Coherence and complexity have great influences on trust and satisfaction, but legibility only has adequate influences on these two variables. The structural weights are invariant across different gender subgroups. Implications for researchers and practitioners are also discussed.

© 2014 Elsevier B.V. All rights reserved.

1. Introduction

The realization of the remarkable benefits brought by the Internet depends on the willingness of e-customers to use websites to transact business. Evidence reveals that web surfers are satisfied with fast load website. When business takes place online, the Internet environment where the e-vendor is faceless does not allow e-shoppers to inspect products or interact with the customer receptionist. Thus, without an appealing storefront or store image, e-shoppers find it difficult to evaluate whether e-vendors will deliver on their commitments [19]. Consequently, e-shoppers become reluctant to engage in transacting with e-vendors [1,32].

The concept of website design is explored in this research because website design has the potential of making e-shoppers decide whether or not they will use the site in the future. When e-shoppers first engage with an unfamiliar website and the website itself is not logical to shoppers, the way that website design makes e-shoppers willing to use a website and make a purchase with e-vendors is critical [10]. For this reason, website design plays an important role in inducing e-shoppers to transact with e-vendors and is thus critical to the success of an e-vendor in attracting

e-shoppers [13]. Essentially, e-shoppers rely on a website's appearance, symbols, colors or whatever information it has, to arouse the willingness to purchase [21].

Lack of good design on a website makes e-shoppers hesitate before transacting with e-vendors [22]. Compounding this issue, there are studies examining e-stores as an environment or landscape affecting shopping behavior [11]. A "pleasant" environment influences shopping behavior variables, such as unplanned spending, duration of store visit and social interaction. Thus, e-shoppers react negatively when put in an unpleasant web environment. Consequently, they will not bring any benefits such as sales to e-vendors [37]. Furthermore, when the website is viewed as a physical landscape [12], people wish to make sense of and get involved with their landscapes. When e-stores do not make sense to e-shoppers, they will not generate higher e-customer response in the form of higher sales volume.

Website designers have analyzed the web in terms of design aesthetics to ensure that the web gives e-shoppers an enjoyable experience [28]. Researchers have stressed design aesthetics, such as a mixture of colors, shapes, language, music or animation, as an important tool in producing effective website design. In another vein, some researchers are investigating the concept of usability and how usability impacts on e-customer behavioral intentions such as the reinforcement of e-loyalty [30]. Moreover, perceived risks as well as uncertainty when interacting with e-vendors [19] are also related to website design. These research topics originate

* Corresponding author. Tel.: +886 3 5712121x57414; fax: +886 3 5723792.
E-mail addresses: dyyeh67@gmail.com (Y.-S. Yeh), yml@mail.nctu.edu.tw (Y.-M. Li).

from the difference between e-vendors and brick-and-mortar vendors. Surprisingly enough, the use of a theoretical model in website design to study e-customer behavior is very scarce, making it an interesting research problem to address.

A particular approach to the web – landscape preference – was chosen for the following reasons. Landscape preference is an evaluation on how people perceive the surrounding environment and what preferred landscape is for people in mind [12]. Landscape preference views that environments could provide information in many different ways, such as icons, signs, words or non-words. Designing web content is very similar to designing a physical landscape [27]. The Kaplan and Kaplan's framework of landscape preference [12] provides some guidelines for designing an effective web landscape. From the literature point of view, very few studies focus on the impact of landscape preference in website design on e-shopper behavioral intention and they rarely use such a theoretical model to empirically investigate how such a website design model affects e-shoppers' cognitive perceptions. Then, from an understanding of marketing strategies, the problem of how to convert web surfers into actual buyers is important. The success of e-vendors depends on this conversion. Finally, for web developers, web design features should not be just limited to technology-driven or service quality-enhancing features, but should be extended to a cognitive approach that may also ultimately and effectively lead to continued visits and repeat business. A website with a landscape preference is really a lens into a better understanding of what constitutes a high quality, yet interactive, website design. In addition, from cognitive psychology, environmental psychologists such as Kaplan and Kaplan [12] suggest that the concept of landscape preference can increase our understanding of how the interactive experience can be gained in such a setup [12]. What entails an interactive experience is often a pleasant feeling [37] and subsequently purchase behavior [22]. Thus, an investigation from the perspective of cognitive psychology is clearly one way of examining the development of effective web design. We propose a research model, developed from existing research, explore and validate the path factors in landscape preferences that affect the cognitive perceptions of e-shoppers and their impact on e-shoppers' willingness to buy.

The remainder of this paper is organized as follows. In keeping with existing research, we felt that the cognitive aspect of website development is important and may have implications on e-shopper behavioral intentions. Thus, we summarize the relevant literature and develop our hypotheses in Section 2. Then, Section 3 explains the research methodology and introduces the experiment, followed by Section 4 which provides the results of the model. Section 5 gives a discussion of the results and of the implications as well as potential limitations of the study. Finally, Section 6 concludes this paper.

2. Literature

Relevant works on utilizing the principles of landscape preference to construct theories about websites are scarce in the literature. So as to complement the literature, the present study identified those components that a website should incorporate especially when it is designed along these principles. Based on prior works, three components were identified: coherence, legibility, and complexity. Although these variables were identified and their effectiveness was supported by relevant literature [27], the efficacies of these design components in making the site effective and in generating higher customer response in the form of a behavioral intention to purchase were still not clearly understood.

2.1. E-shopping behavior intentions

The research on e-commerce is extensive and online behavioral intentions such as purchasing have remained one of the fastest growing areas of Internet research [9,15]. This is the case because the Internet environment is enabled by information technology and numerous studies of technology acceptance have measured behavioral intentions rather than behaviors [15]. More importantly, Venkatesh and Davis [33] confirmed a strong correlation between behavioral intentions and actual behaviors. In addition, Mcknight et al. [23] defined e-shopping behavior intentions as anyone who is willing to transact with the vendor through the web. To purchase, a customer needs to share personal information, such as name, telephone numbers, address, and credit card numbers. In this situation, the customer must have shopping behavior intention and then provide personal information to the website.

For most shopping sites, the major objective is to persuade e-shoppers to make a purchase [32]. That e-shoppers purchase may be a result of high trust and high satisfaction. Moreover, antecedent factors within the trust and satisfaction domains are also effective at luring e-shoppers and converting visitors into buyers. Addressing technology-based factors such as social presence [9], cognition-based factors such as information quality [15], and institutional-based factors such as reputation [5], researchers found these variables to have a significant effect on developing consumer trust [23]. This rationale taps into the traditional online shopping sequence (e.g. [15]).

The development of trust and satisfaction has been shown to be sensitively associated with various website design factors by prior studies. Moreover, as confirmed by Cyr [5], trust and satisfaction are recognized as imperative antecedents to online purchasing in different cultures (i.e. Indian and Hong Kong) and closely related to website success or effectiveness. Hence, we wish to test their relationships to a willingness to shop, but in another culture (i.e. Taiwan). Collectively, our understanding of other website design factors and their research focus has been enriched as shown in Appendix A.

2.1.1. Trust in e-shopping

Trust is the basic connection in human society, the essential factor between interpersonal cooperation, and is also the primary mechanism in many economical activities. Evidence suggests that consumers often hesitate to transact with e-retailing because of uncertainty about vendor behavior [2] or the perceived risk of having personal information stolen by hackers [19]. Trust plays a central role in helping consumers overcome perceptions of risk and insecurity. Trust makes consumers comfortably share personal information, make purchases, and act on web vendor advice—behaviors essential to widespread adoption of e-commerce. As for antecedent factors of trust, Walczuch and Lundgren [34] indicated that psychological antecedents such as reputation and word-of-mouth can be used to build consumer trust in e-retailing. Thus the following hypothesis was tested:

H1. Higher perceived trust will result in higher willingness to shop on websites.

2.1.2. User satisfaction in e-shopping

In another vein, Zviran et al. [38] tested the effect of user satisfaction on the acceptance of e-shopping in the technology sector. It was found that satisfaction significantly influences e-shopper online buying behavior. Li and Yeh [18] found satisfaction to be the main variable influencing customer buying decisions in mobile commerce. This point of view was also posited by [35]. Other antecedent factors of satisfaction in relevant fields from the utility aspect such as convenience and usability and perception