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FOSTERING PURCHASING INTENTION: THE INFLUENCE OF APPEARANCE AND FUNCTIONALITY ON CONSUMERS' INITIAL TRUST IN A WEB VENDOR

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Abstract

In the highly competitive e-commerce environment, a large portion of the web vendors are new, small, or lack name recognition. When a customer visits an unknown vendor, the website needs to provide signals that it is trustworthy, or the customer may not complete a transaction. This research investigates how vendors may signal trustworthiness through features of the website. We examine how to win consumers' trust through examining appearance and functionality features of a website. Consumers' awareness and impressions of these features should influence their initial trust in a web vendor. If the vendor successfully fosters trust, then consumers will be more likely to make a purchase. We conduct an empirical study to test these relationships. This research contributes to the literature of online trust and web design. We will discuss the implications for research and practice in the conference.

Keywords: E-Commerce, Appearance, Functionality, Initial Trust, Purchasing Intention

Introduction

Trust is widely noted as a key enabler of e-commerce success (Lee & Turban, 2001). Extensive research has found that trust leads to consumers' reporting higher levels of purchasing intention, expressing greater loyalty to a web vendor, and engaging in actual purchasing behavior (Gefen, 2002; Gefen, Karahanna, & Straub, 2003; McKnight, Choudhury, & Kacmar, 2002a). Given that consumers have grown more familiar and experienced with online shopping method as well as the supporting information technology (IT) infrastructure and the institutional structure, it is important to turn our attention to levers directly under managerial control that may allow an e-commerce company to gain trust and win the loyalty of customers.

Because many web vendors lack the reputation of well-known companies such as Amazon, Yahoo, or Google, understanding how to foster initial trust among online consumers is important. Historically, companies have relied on marketing tools such as search engines to attract new customers (DoubleClick Inc., 2005-2006). However, converting visitors attracted through marketing to paying and loyal customers has proven more difficult than initial "rosy" forecasts for e-commerce (Thatcher & George, 2004).

To convert first-time visitors to paying customer, web vendors embed signals and cues in websites about their trustworthiness. On one hand, the website is the first, and in many cases the only, interface between the customers and a pure web vendor. Prior research views websites as the representative of a vendor. While in traditional markets, customers form initial trust perceptions through observing a new store's building, theme, and representatives, online customers form trust based on perceptions of a website (McKnight, Choudhury, & Kacmar, 2002a). Hence, web designers emphasize the appearance of a website as a means to foster perceptions of trustworthiness from customers.

In addition to appearance, customers' other primary concern is about a website's ability to complete a successful transaction. The functions and features embedded in the website will signal customers about the quality of transactions and shopping experience. They will influence customers' initial perceptions of the websites and vendors. Thus, the design of web functionality is also important in fostering customer initial trust.

Although substantial research has examined the implications of trust in web vendors, less research has simultaneously investigated the influence of web appearance and functionality on trust. To gain deeper insight into online consumer behavior, this research examines the following research question:

How do the appearance and functionality features of a website influence online consumers' initial trust perceptions of a web vendor?

In this study, we develop a general model of web appearance and functionality that influences consumers' initial trust perceptions of a web vendor. In terms of appearance features, we examine normality, social presence, and links to third-party assurance providers. In terms of functionality features, we examine the role of security, privacy, effort expectancy and performance expectancy. We design an empirical study to test the influence of these appearance and functionality features on initial trust and purchasing intentions. The data analysis and discussion of results will be presented at the conference. The paper concludes with a discussion of potential implications and contributions to research and practice.

Literature Review and Model Development

Trust underpins e-commerce relationships that are frequently characterized as fraught with risk and uncertainty. In the e-commerce environment, high uncertainty exists because of the complex enabling technologies and relative anonymity embedded in online transaction processes (Wang & Emurian, 2005). When engaging in online purchases, consumers perceive that they are vulnerable to not only financial loss but also privacy loss. To initiate a transaction over the web, the consumer must accept exposure to a potential loss imposed by the web vendor (Wang & Emurian, 2005). Thus, trust may be more relevant to understanding online consumer behavior than in the face-to-face business world.

In this study, we examine consumers' initial trust in a web vendor. *Initial trust* refers to consumers' beliefs that an online store is trustworthy after limited exposure to, and limited sources of information and cues about a web vendor (McKnight, Cummings, & Chervany, 1998). Lacking prior interaction or knowledge of a vendor, online consumer's initial trust is primarily based on their first impression of a website. When scanning a website, a consumer will trust a web vendor who they perceive is high on competence, benevolence, and integrity (McKnight, Choudhury, & Kacmar, 2002a).

Initial trust is important because vendors often rely on referrals from search engines or portals to attract new customers (DoubleClick Inc., 2005-2006). Given web users' limited attention spans (Galletta, Henry, McCoy, & Polak, 2006), and diverse choices made available by search engine (DoubleClick Inc., 2005-2006), consumers' initial responses to a website, and the inferences they make about its trustworthiness may be important determinants of their web behavior. A web vendor's ability to foster initial trust is a reflection of its ability to convert casual visitors to paying customers.

Consistent with prior online trust research (Gefen, Karahanna, & Straub, 2003; McKnight, Choudhury, & Kacmar, 2002a), we focus our study on initial trust's relationship to purchase intention. *Purchase intention* refers to consumers' willingness to engage in online exchange relationships with web vendors (Pavlou & Gefen, 2004). When consumers trust a vendor, they believe that it is capable of protecting one's privacy, selling high quality products, and safely completing an online transaction. When consumers express initial trust in a web vendor, they are more likely to form the intention to purchase from a vendor. Hence,

H1: Initial trust in web vendor positively affects purchase intention.

Initial trust reflects consumers' beliefs and perceptions formed after their first exposure to a web vendor. Frequently, consumers focus on easy-to-observe and important website features. Prior research shows two distinct roles of websites in e-commerce – the interface of the online store and the technology to enable online transactions (Gefen, Karahanna, & Straub, 2003). Thus, consumers focus their attention on easily interpretable web features that send cues about online stores – the appearance, and those to enable the online transactions – the functionality. In the following sections, we discuss these features and their impacts on initial trust and purchase intention. The relationships are also presented in Figure 1.

Appearance Features

A website is an electronic storefront of a web vendor. For a pure e-commerce company, the electronic storefront replaces all physical artifacts, human contacts, and characteristic of traditional brick and mortar stores. For pure play vendors the website is the only access point through which consumers may collect information on, and interact with, the web vendor. Because of the website's centrality in the consumer/web vendor relationship, a website's appearance sends cues about the trustworthiness of a web vendor. For example, online consumers are more likely to express trust when a website's appearance is consistent with their experience such as having a shopping cart or search function. In the current research, we focus on three appearance features of a website – normality, social presence and links to the third-party assurance. We propose that consumers' perceptions of these web features should directly affect their initial trust formation.

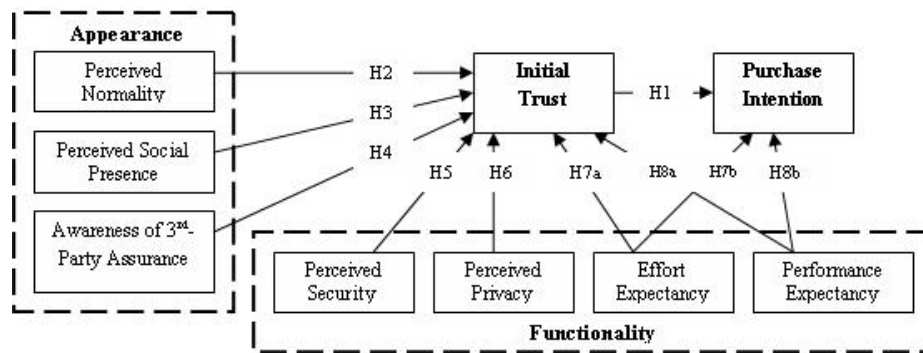


Figure 1: The Initial Online Trust Model

Perceived normality. Perceived normality refers to the consumers' perception of the website as being normal or customary. When consumers first visit a website, the normality of a website signals to a consumer that everything on the website is typical and in order, and will fulfill the consumer's expectations (Gefen, Karahanna, & Straub, 2003). Consumers will be more inclined to trust such a website. On the contrary, an unusual web design may not be trusted, especially one with limited exposure and unusual ways of accessing information. To complete online transactions, consumers are concerned about normality in three aspects. They are 1) the purchase process, 2) the information required to complete a purchase, and 3) the nature of interaction with the website (Gefen, Karahanna, & Straub, 2003). For example, most consumers are familiar with one-click shopping. If, on a new website, the consumers find that they need to go through a complicated process and provide unusually detailed information to complete a transaction, or they have a complicated communication with online representatives, they may not trust the web vendor and not complete a transaction. Thus, we anticipate that consumers who perceive normality of a website are more likely to express initial trust towards a web vendor. Hence,

H2: Perceived normality positively affects initial trust in web vendor.

Perceived social presence. Perceived social presence refers to consumers' perception that there is personal, sociable, and sensitive human contact and/or peer community on the website. As an IT artifact, a website can project a social presence similar to what consumers perceive in offline stores. Gefen and Straub (2004) found that when a website is perceived as having a higher level of social presence, it will enable more effective interaction and communication between a consumer and web vendor, and thus, render consumers more inclined to extend trust towards a web vendor. In practice, we see web vendors exert social presence through chatting customer service functions. Through an interactive, pop-up window, customer service representatives may ask consumers if they need help or more information, or offer to complete a transaction. Many websites foster virtual communities, where customers can participate in peer discussions, provide product/store reviews, and receive peer assistance (e.g., newegg.com and target.com). If a website projects social presence of a vendor or a community, we anticipate that consumers will respond more positively to the site. Although vendors are not able to use salespersons or store assistants to directly interact with customers, they may send cues or project presence through images of high quality products, happy customers, or content employees. Also, if the website prominently features access to chat functions or a call center, customers will be more likely to perceive the website as high on social presence. If, after initial contact, customers perceive a website as being high on social presence, we anticipate they will be more likely to trust a website. Hence,

H3: Perceived social presence positively affects initial trust in web vendor.

Awareness of Third-Party Assurance. Awareness of the third-party assurance refers to consumers' knowledge and awareness of third-party institutional mechanisms that ensure a trustworthy environment for website operations and

business transactions (McKnight, Choudhury, & Kacmar, 2002b). Several institutional mechanisms are widely used in e-commerce, including seal programs (e.g., Trust-e reliability and privacy seal programs, VeriSign security seal program), credit card protections (e.g., Visa card security and protection programs, Master card security and credit basics), and customer certified store ratings and feedback systems (e.g., BizRate.com) (Pavlou & Gefen, 2004). Prior research suggests that these mechanisms provide a safe and reliable environment. When dealing with an unfamiliar web vendor, consumers who are aware of the third-party assurance and the goodness of the environment are more likely to trust the web vendor (McKnight, Choudhury, & Kacmar, 2002b; Pavlou & Gefen, 2004). Through the placement of seals and icons on a website, institutional mechanisms transfer trust from well-known established institutional structures to unfamiliar vendors (Stewart, 2003). We propose that customers' awareness of the third-party assurance should positively influence initial trust in a web vendor. Hence:

H4: Awareness of the third-party assurance positively affects initial trust in web vendor.

Functionality Features

For pure play companies, websites are the venue through which they supply information on products, offer services, and complete business transaction with customers. A customer's impression of a website's functionality, i.e., its ability to safely complete a transaction, influences initial trust formation. Although deep understanding of functionality requires extensive interaction with website, short exposure to a website may yield impressions critical to the formation of initial trust. Online transactions are self-service processes, in which consumers use specific web technologies such as menus, search functions, and credit-card processing systems to complete transactions. Consumers will trust sites that they perceive provide a safe environment to conduct a transaction. Consistent with prior research (Gefen, Karahanna, & Straub, 2003; Thatcher & George, 2004), we examine four perceptions of functionality that influence initial trust: Security, privacy, effort expectancy and performance expectancy.

Perceived Security. Perceived security refers to consumers' perceptions that a website possesses the ability to safely complete transactions. Online consumers are exposed to a variety of security threats such as credit card theft, defective products/services, and delivery failure. Prior research suggests that consumers' security concerns are the major determinant of their web perceptions and behaviors (Salisbury, Pearson, Pearson, & Miller, 2001). When considering a transaction with an unknown party, consumers are extremely sensitive to a vendor's ability to protect their information, successfully complete a transaction, or offer help resolving a dispute. For example, Amazon.com provides easy access to information on how to open an account, make purchases, and arrange returns on its homepage. By doing so, Amazon.com sends signals about its confidence in its ability to provide a safe, secure website. Similarly, many web vendors send signals about security through providing order status and order history information on the websites or via emails. When Customers are well informed about their orders and the vendors' operations, they will express fewer security concerns and be more likely to trust web vendors. Thus, we propose:

H5: Perceived security positively affects initial trust in web vendor.

Perceived Privacy. Perceived privacy refers to a consumers' belief that a web vendor will protect consumers' personal and financial information. An online transaction requires more personal and financial information than that in a brick and mortar environment. For example, online transactions typically require providing a billing and shipping address, something that most conventional stores do not require. Also, e-commerce companies frequently use cookies to collect information and provide customized suggestions to consumers. Due to demands for consumer information, as well as a web vendor's ability to collect information on a consumer, privacy concerns have become a defining issue for many web consumers (Malhotra, Kim, & Agarwal, 2004). When considering a transaction with an unfamiliar store, privacy may be a salient issue for a consumer. Empirical evidence suggests that perceived privacy influences consumer trust in a web vendor (Liu, Marchewka, Lu, & Yu, 2005). A website may address privacy concerns through prominently featuring links to a privacy notice or policies, by stating how they collect data on consumers, and by providing illustrations of how such data may be used by the firm. When consumers recognize a web vendor offers privacy protections, they are more likely to express initial trust in a website. Hence, we propose a relationship between consumers' privacy perception and initial trust:

H6: Perceived privacy positively affects initial trust in web Vendor.

Effort Expectancy and Performance Expectancy. In general, prior research on technology adoption and use has found strong relationships between effort expectancy and performance expectancy on intentions and actual use of information technology. Effort expectancy (also referred to as ease of use) refers to the degree to which the consumers believe that using a new website would be free of effort. Performance expectancy (also referred to as perceived usefulness) refers to the degree to which the consumers believe that using a new website would enhance their ability to safely, effectively, purchase goods.

Within the domain of e-commerce, effort expectancy and performance expectancy have been tied to trust and purchase intentions. Gefen et al. (2003) integrated effort expectancy and performance expectancy into a model of online trust and shopping. They found that customers' perceptions of website effort expectancy influence trust. Gefen et al.'s findings also indicate that trust, effort expectancy, and performance expectancy influenced customers' usage intentions towards a website. Consistent with Gefen et al. (2003), we believe that when a website's functions are perceived as low on effort expectancy, consumers will be more likely to report initial trust as well as intentions to use a website. Hence:

H7a: Effort expectancy positively affects initial trust in web vendor.

H7b: Effort expectancy positively affects purchase intentions.

In contrast to Gefen et al. (2003), we argue that performance expectancy should positively influence initial trust. Because first-time visitors lack actual experience with the tools provided by a web vendor, expectations about performance reflect how they interpret cues embedded in a website. For example, a standard "useful" feature of a shopping site is the ability to search for products. Similarly, a comparison tool can help consumers compare similar products in terms of price, specifications and features in a more effective way. When consumers perceive a website possesses tools that enable searching for and acquiring products, they will be more likely to express positive expectations of performance. Given initial trust reflects limited interaction with a website, we anticipate that the presence of these "useful" tools sends positive cues about the trustworthiness of the web vendor and positively influences purchase intentions. Hence:

H8a: Performance expectancy positively affects initial trust in web vendor.

H8b: Performance expectancy positively affects purchase intention.

Method

A quasi-experimental design was used to test the research model. The studies were conducted in three southeast public universities and the data were collected from junior and senior levels college students. Although student samples have been criticized in many IS research contexts, we believe college students with computer and Internet experiences are active online shoppers, and thus, are valid to test our hypotheses (Suh & Lee, 2005).

OverStock.com was selected in this study as the online store for two reasons. First, it is a pure e-commerce company. Subjects would not confound trust in it with their experience with any physical representation. Second, it is an online supermarket where subjects could have free shopping choices. To study the initial trust, we controlled the subjects' experiences with OverStock.com. Subjects reporting past experiences with OverStock.com were excluded from the sample.

The experiment consisted of a task and a survey. The subjects were first assigned a shopping task on OverStock.com. They were given about 10 minutes to do the shopping research and view the web pages. No actual purchase was required in the shopping task. Then subjects were asked to complete a survey. The survey includes scales of all constructs in the research model and demographic information.

Many trust related measures have been published in e-commerce research (Gefen, Karahanna, & Straub, 2003; McKnight, Choudhury, & Kacmar, 2002a; Pavlou & Gefen, 2004). In this study, we adapted the measurement scales mostly from the prior literature. Every scale item was measured by a 7-point Likert-type scale (anchored with 1=strongly disagree, 7=strongly agree).

Purchase Intention was measured with four items adapted from Pavlou and Gefen (2004). In this study, we measure *Initial Trust* in terms of the consumers' perceptions about *competence*, *benevolence* and *integrity* of a new web vendor. Positive perceptions indicate the vendor can be trusted. Each of the three dimensions were then measured by 3-4 items adapted from McKnight et al. (2002a). The measures of most appearance perceptions were adapted from prior studies. *Perceived Normality* was measured by items adapted from Gefen et al. (2003). *Perceived Social Presence* was measured by items adapted from Gefen and Straub (2004). Only the items of *Awareness of Third-Party Assurance* were self developed based on the study context – OverStock.com. The OverStock website presents the icons and links of Trust-e reliability seal program, VeriSign security seal program, several credit card partners, and the BizRate.com store ratings and feedback system. Four items were developed to check if the display of the icons on the OverStock website makes the subjects feel trustful. The measures of functionality perceptions were all adapted from prior studies. The measures of *Perceived Security* and *Perceived Privacy* were adapted from Salisbury et al. (2001) and Smith et al. (2002). The measures of *Effort Expectancy* and *Performance Expectancy* were adapted from Gefen et al. (2003).

A pilot study was conducted at one of the universities to validate the instruments and the study design. In general, the instrument was well received by the pilot group. Minor changes were made in wording and the item order. The full data collection was then conducted in the three universities simultaneously with new subjects. The final sample includes 224 valid respondents, 118 females and 106 males, with Internet usage and online shopping experiences. We are currently in the data analysis stage. The data will be analyzed using the Partial Least Square (PLS) structural equation modeling technique. We will first validate the measurement by assessing the convergent and discriminant validity. The research model will then be tested with a structural regression model. The data analysis and discussion will be presented in the conference.

Conclusion

In this study, we investigate the influences of web appearance and functionality on consumers' initial trust and purchase intention on a new web store. This study contributes in both online trust and web design literature. First, while most existing trust research focused on trust development based on the less-controllable factors such as past experience, personality and institutional structures, we study the factors under managerial control. With limited exposure to and limited information of a web vendor, a website is the key reference of customer trust. A study of the web design and how the web features influence customers' initial trust enhances our understanding of e-commerce trust. It will also provide useful implications on how the management should foster customer trust through the web design.

Second, we simultaneously study two sets of web features – appearance and functionality, and their influences on initial trust. These two sets of features are focused because of two major roles of a website – the representative of the web vendor, and the enabler of online business transactions. The empirical findings will provide more insights about the relative importance of these two sets of features in initial trust. Implications to management will be discussed in the conference.

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