Trust in B2C E-Commerce Interface

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THE NATURE OF TRUST

Electronic commerce (e-commerce) is changing the way people make business transactions, especially in the business-to-consumer (B2C) area, and it is becoming a significant global economic force. Since Internet technologies and infrastructures to support e-commerce are now in place, attention is turning to psychological factors that affect e-commerce acceptance by online users and their perceptions of online transactions. One such factor is trust, seen to be key to the proliferation of e-commerce.

Trust has existed as long as the history of humans and human social interactions, and it has been studied long before the emergence of the Internet or e-commerce. With respect to consumer behavior, studies have mainly focused on trust and trust relationships in the off-line world and have emerged from numerous disciplinary fields since the 1950s (Corritore, Kracher, & Wiedenbeck, 2001). These disciplines, including philosophy, sociology, psychology, management, marketing, ergonomics, human-computer interaction (HCI), and industrial psychology (Corritore, Kracher, & Wiedenbeck, 2003), have together contributed an extensive body of literature on trust in general, and therefore, they are important grounding points for the examination of trust in the online world. However, "trust is an extraordinarily rich concept, covering a variety of relationships, conjoining a variety of objects," as Nissenbaum (2001, p. 104) has pointed out. Due to the complex and abstract nature of trust, each discipline has its own understanding of the concept and different ways to conceptualize it according to the features of a particular context.

Even with the diverse trust research, researchers from every discipline do acknowledge the value of trust and generally observe and accept four characteristics of trust. First, there must exist two specific parties in any trusting relationship: a trusting party (trustor) and a party to be trusted (trustee). The two parties, comprised of persons, organizations, and/or products, constantly evaluate each other's behaviors. Second, trust involves vulnerability. Trust is only needed, and actually flourishes, in an environment that is uncertain and risky. Third, trust decreases complexity in a complex world and leads people to take actions, mostly risk-taking behaviors. "Without trust people would be confronted with the incomprehensible complexity of considering every possible eventuality before deciding what to do" (Grabner-Krauter & Kaluscha, 2003, p. 787). And fourth, trust is a subjective matter. It is directly related to and affected by individual differences and situational factors.

The previously mentioned characteristics of trust make it especially needed in e-commerce because people perceive economic transactions in a virtual environment as posing a higher degree of uncertainty than in traditional settings. Most e-commerce transactions are not only separated in time and space, but are also conducted via limited communication channels and impersonal interfaces, making trust a crucial facilitator for people to overcome fear, risks, and complexity. Therefore, online consumers need trust as a mental shortcut to reduce the complexity of conducting business transactions with online vendors (Luhmann, 1989). Such trust occurring in cyberspace is commonly termed "online trust," and we limit the scope to the online trust that is pertinent to B2C e-commerce, namely, the trust that occurs for an individual Internet user toward a specific e-commerce Web site or the online vendor that the Web site represents. Derived from the general definition for trust (Rousseau, Sitkin, Burt, & Camerer, 1998), online trust can be defined as follows: *an Internet user's psychological state of risk acceptance based upon the positive expectations of the intentions or behaviors of an online vendor*.

There are almost certainly many potential sources of influence that promote or hinder online trust. However, the current article focuses on the HCI or interface design perspective in inducing online trust, that is, to use what consumers can see on an e-commerce interface to affect their feelings of trust toward the online merchant that the e-commerce interface represents.

ONLINE TRUST IN THE HCI LITERATURE

Online trust is a relatively new research topic and has recently drawn great interest from researchers in HCI and human factors. There are several main themes that the majority of the existing studies can be divided into. First, some studies attempt to understand the online consumer's mind by investigating the underlying elements, antecedents, or determinants that are pertinent to the formation of online trust. For example, Gefen (2002) examined trust from

a multi-dimensional perspective. According to the researcher, the specific beliefs of integrity, ability, and benevolence were seen as antecedents to overall trust. Other researchers, such as Corritore et al. (2003), also proposed that the consumer could perceive trust before, during, or after the online transaction, and they further concluded that online trust was characterized by its stage of development.

The second stream of studies focuses on conceptualizing trust into theoretical models or frameworks and dividing trust elements into various dimensions. For example, the Model of Trust for Electronic Commerce (MoTEC), is proposed by Egger (2001). The model consists of four components: the pre-interactional filters taking place before any online interaction, the interface properties of the Web site, the information content of the Web site, and relationship management. The Cheskin/Sapient Report (1999) focused on Web site interface cues and presented a model of six building blocks of online trust. These six building blocks were seals of approval, brand, navigation, fulfillment, presentation, and technology. The building blocks could be further divided into a total of 28 components to establish perceived trustworthiness. Such studies provide a theoretical account for exploring and enhancing trust in an online context and often take the effects of customer relationship management into consideration.

The third stream of studies aims to validate those conceptual frameworks or trust scales, often by analyzing data acquired directly from the consumers (e.g., Ba & Pavlov, 2002; Bhattacherjee, 2002). The main objective of these studies is to theoretically derive and empirically validate a scale that can be used to measure either individual online trust or the trustworthiness of an e-commerce Web site. In developing such an instrument, as for developing any other kind of scale, the researchers need to stress establishing its reliability, content validity, and construct validity. Factor analysis, structural equation modeling, and multiple linear regression analysis are some of the most commonly used statistical analysis methods in those efforts.

And finally, the rest of the studies suggest Web design guidelines that are intended to enhance consumer online experience and induce the feeling of trust from the consumers (Karvonen & Parkkinen, 2001; Kim & Moon, 1998; Neilsen, 2000). In other words, the main goal for the researchers of these studies is to explore Web interface design implications to maximize consumer trust or, more precisely, trust perception. A representative study of this kind is the Nielsen Norman Group Report (2000), in which explicit trust-inducing guidelines — including graphic design, surface cue, and Web usability features — are provided based on a large number of user testing observations carried out by experts.

These preceding studies provide important insights into trust in an online context. However, the research field of online trust is still far from maturity and expected to be significantly substantiated and enhanced. For example, the terms *element*, *antecedent*, *dimension*, *determinant*, and *principle* are sometimes used interchangeably due to the lack of agreement on a clear definition for each term among researchers in the field. Nevertheless, this is the current body of work from which any potential implementation is to be derived.

BUILD ONLINE TRUST BY WEB DESIGN

To initiate and build a consumer's online trust is inevitably a challenging task. Due to the nature of the Internet, people nowadays browse different e-commerce Web sites as fast as they switch TV channels. Consequently, to succeed in e-commerce, online vendors must be able to convey their trustworthiness to first-time visitors and effectively and efficiently build trust in the eyes of consumers. This requires online vendors to implement optimal electronic storefronts that can attract potential consumers and induce their trust. According to Ang & Lee (2000), "if the web site does not lead the consumer to believe that the merchant is trustworthy, no purchase decision will result" (p. 3). In other words, applying trust-inducing features to the Web sites of online vendors is the most effective method of enhancing online trust, given the current state of knowledge.

Efforts have been taken to establish a framework that classifies various trust-inducing Web design features into three broad dimensions: visual design, content design, and social-cue design (Wang & Emurian, in press). The framework is not exhaustive in the sense that it does not attempt to capture every possible trust-inducing feature that web designers can apply. It is focused on articulating the most prominent set of trust-inducing features and presenting them as an integrated entity that can be empirically evaluated and appropriately implemented in Web design. *Table 1* illustrates the framework in detail, including the explanations and design feature examples.

All the trust-inducing interface design factors that are identified in the framework have been illustrated on a synthetic e-commerce interface and evaluated by 181 survey respondents (Wang & Emurian, 2004). Along with identifying the three dimensions, the factors were found to significantly contribute to online trust ratings. This has confirmed what most HCI researchers believe — as Kim & Moon (1998) pointed out — that informative emotions such as trust can be triggered by the customer interfaces