Trustworthiness in electronic commerce: the role of privacy, security, and site attributes

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Abstract

While the growth of business-to-consumer electronic commerce seems phenomenal in recent years, several studies suggest that a large number of individuals using the Internet have serious privacy concerns, and that winning public trust is the primary hurdle to continued growth in e-commerce. This research investigated the relative importance, when purchasing goods and services over the Web, of four common trust indices (i.e. (1) third party privacy seals, (2) privacy statements, (3) third party security seals, and (4) security features). The results indicate consumers valued security features significantly more than the three other trust indices. We also investigated the relationship between these trust indices and the consumer's perceptions of a marketer's trustworthiness. The findings indicate that consumers' ratings of trustworthiness of Web merchants did not parallel experts' evaluation of sites' use of the trust indices. This study also examined the extent to which consumers are willing to provide private information to electronic and land merchants. The results revealed that when making the decision to provide private information, consumers rely on their perceptions of trustworthiness irrespective of whether the merchant is electronic only or land and electronic. Finally, we investigated the relative importance of three types of Web attributes: security, privacy and pleasure features (convenience, ease of use, cosmetics). Privacy and security features were of lesser importance than pleasure features when considering consumers' intention to purchase. A discussion of the implications of these results and an agenda for future research are provided.
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1. Introduction

Recently, scholars and practitioners in the field of e-commerce have generated a compelling list of Web attributes that engender trustworthiness (Cassell and Bickmore, 2000; Friedman et al., 2000; Urban et al., 2000). For example, one commonly cited study has identified six features of Web sites that enhance consumer perceptions of the marketer's trustworthiness (Cheskin and SA, 1999). These Web features include: (1) safeguard assurances, (2) the marketers' reputation, (3) ease of navigation, (4) robust order fulfillment, (5) the professionalism of the Website, and (6) the use of state-of-the-art Web page design technology. Beyond capturing these important Web features, Cheskin and SA argue that the 'first and most necessary step' in establishing consumer trust is providing assurances that the consumers' personal information will be safeguarded (p. 10). Many other scholars have reinforced this belief asserting that only after security concerns have been addressed will consumers consider other Web features (i.e. reputation, ease of navigation, transaction integrity) to determine the extent to which they can trust and/or feel comfortable transacting with the marketer (Dayal et al., 1999; Hoffman et al., 1999; Ovans, 1999). Yet, it is unknown which indicators of trustworthiness (third party seals, privacy and security statements) work best or are valued more by consumers.

It is important to understand the factors that might influence consumers' intentions to use this mode of interacting with businesses. As discussed, one factor that is recognized as key for the continued growth of e-commerce is trust (Ba, 2001; Houston, 2001; Jarvenpaa et al., 2000). Congruent with this, this study investigates trust in consumer-oriented e-commerce. If transaction-oriented e-commerce is to be successful, the parties involved must properly assess the level of trust they should have in each other. For example, many potential consumers are reluctant to provide personal information such as credit card numbers to electronic commerce outlets. Clearly, one partner's lack of trust in the other may lead to reluctance to engage in the transaction. According to one study of 9300 on-line consumers, three out of five consumers do not trust Web merchants (Jacobs, 1997). To combat this fear, consultants frequently advise e-commerce Web designers to include stated and authenticated policies of security (e.g. encryption and use of seals of approval) to communicate trustworthiness to the electronic consumer (Glass, 1998).

Most of the studies examining the impact of Web features on consumer trust and purchasing behavior rely on two primary kinds of evidence: consumers' retrospective reports (Jacobs, 1997; Muysken, 1998) and views of experts (Glass, 1998). Relying on consumer retrospective reports may introduce confounds such as purchasing histories and the nature of the established relationship with the marketer. Purchasing histories will introduce biases of product or brand preferences, while the use of current customers ignores the impact of the nature (impersonal or personalized) and stage (i.e. attraction, maintenance, etc.) of the trust building relationship (Cheskin and SA, 1999; Dayal et al., 1999). The present study uses an experimental design to investigate trust in business-to-consumer (B2C) e-commerce.

Three research questions guided this research:

1. What is the role of four commonly used Web privacy and security attributes in evoking consumer willingness to purchase online?