Revisiting the role of web assurance seals in business-to-consumer electronic commerce

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Abstract

There is conflicting evidence as to the current level of awareness and impact of Web Assurance Seal Services (WASSs). This study examines the effects of an educational intervention designed to increase consumer's knowledge, of security and privacy aspect of business-to-consumer (B2C) e-commerce websites and assurance seal services. The study further explores the relationships among consumers' perceptions about online security, including WASSs awareness, importance of WASS, privacy concerns, security concerns, and information quality, before and after the educational intervention. The study finds that educating consumers about the security and privacy dangers of the web, as well as the role of web assurance seals, does increase their awareness and perceived importance of the seals. However, despite this increased awareness, there is little association between these assurance seals and the two indicators of trustworthiness, concerns about privacy and perceived information quality, of an e-commerce site, even after the intervention. Only security concerns have a statistically significant relationship with WASSs awareness before and after the educational intervention. Implications for theory and practice are discussed.
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Keywords: Web assurance seal service; Awareness of assurance seal service; Online privacy; Online security; Information quality

1. Introduction

Over the past decade, a number of studies have found consistently high levels of concern regarding online privacy and security [1,2,11,14,26,35,45,62,65]. In the U.S., the National Fraud Information Center of the National Consumers League (NCL) showed that consumers re-ported losses of $895 per victim in Internet fraud in 2004, up from $527 in 2003 [46]. Moreover, despite growing concerns about the protection of consumer privacy in online commerce, there have been several highly publicized incidents where online vendors have sought to sell customer's private information despite having pledged against doing so in their privacy policies. Two very good examples are the cases of bankrupt Internet retailer (e-retailer) Toysmart [16] and Toys 'Я' Us [47].

Without protection mechanisms and/or practical regulations for online privacy and security, electronic commerce (e-commerce) will be impeded from developing into a true electronic marketplace of the future; where both

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consumers and businesses participate in exchanges and transactions as spontaneously as in the traditional marketplace. Thus, as one of the efforts to alleviate consumer concerns, a variety of assurance seal services on websites (e.g., WebTrust, Verisign, TRUSTe, BBBOnLine) have entered the online commerce arena to help consumers judge the trustworthiness of an online vendor. These firms offer a form of institution-based trust which is formed through societal institutions such as certification by account or governmental regulations [41,54,70].

There is conflicting evidence as to the current level of awareness and impact of assurance seal services. Some studies [21,32,69] find that the presence of an assurance seal results in an increased willingness to purchase by consumers, while others [11,27,29] show that the effect is limited due to the consumer's lack of awareness and understanding of assurance services. The lack of understanding and awareness of assurance services suggest that there may be a need for greater effort to educate consumers about the role of assurance seals on the web.

Thus, the purpose of this study is to examine consumer's awareness of assurance services and the extent to which they perceive assurance seals to be important in business-to-consumer (B2C) e-commerce. We explore whether an intervention to educate consumers about the security and privacy dangers of the web, as well as the role of assurance services, influences their perceptions about the relative security and privacy of e-commerce sites they visit.

> Research question: Does an intervention to educate consumers about website security features including privacy, security practices, information quality, and Web Assurance Seal Services affect consumer's perception of the website security features?

The remainder of the paper is organized as follows. In Section 2, we present some background literature regarding assurance services in e-commerce and the effect of educational interventions. Section 3 proposes a research model with a discussion of the research constructs in the model with hypotheses. Section 4 discusses research methodology and data collection. The results of the data analysis of study follow in the Section 5. Section 6 concludes the paper with a discussion of the findings, as well as the limitations and implications of this study.

2. Web Assurance Seal Services (WASSs) and educational interventions: literature review

Given the uncertainty of the e-commerce environment, along with escrow services, third-party certifica-tion services such as WASSs have been considered a major feature of institutional trust [70]. The institutional view of trust has been widely studied by e-commerce researchers [27,39,53,55,63]. In this study, assurance seal services refer to WASSs for online retailer's (e-retailer) web site offered by third-party certifying bodies (e.g. banks, accountants, consumer unions, and computer companies) which are designed to assure that the e-retailer's behavior will be consistent with accepted standards in online commerce.

Recently, as an institutional trust building mechanism, a wide variety of third-party seal services were introduced to help engender trust in electronic commerce. Fig. 1 shows some of the assurance seals. The certifying bodies (i.e., the third-party seal program operators) design and advocate a set of standards that help online consumers to alleviate their fears related to e-commerce transactions with e-retailers. E-retailers who are interested in participating in the seal programs can apply and follow the standards promoted by the certifying bodies. After verification, the e-retailers place the seal on their websites, indicating that the site conforms to the certifying body's standards [10]. Under the assurance service programs, the site is periodically examined by the assurance service providers. The premise behind displaying such third-party seals is that when Internet customers see the seal on a given site, they should perceive less privacy and security risks associated with online transactions with that e-retailer. Essentially, WASSs provide assurance to consumers that a website discloses and follows its operating practices, handles payments in a secure and reliable way, has certain return policies, and/or complies with a privacy policy, that states what it can and cannot do with the collected personal data [8,31,60].

An example of an assurance seal service provider is WebTrust, which was launched in 1997 by AICPA (American Institute of Certified Public Accountants). WebTrust provides an assurance seal service related to a broad set of principles: online privacy, security, business practice integrity, transaction integrity, and availability. The WebTrust seal on websites informs consumers that the online venders have openly agreed to disclose their information gathering and dissemination practices. Their disclosure is backed by credible third-party assurance [5]. Kim, Sivasliam and Rao [27,61] categorize assurance seal services into three types: security (e.g., Verisign, WebTrust), privacy (e.g., WebTrust, TRUSTe, BBBOnline Privacy), and business integrity (e.g., BBBOnline Reliability, BizRate.com certified). They find that despite the importance of assurance services, many companies seem lukewarm about the need to use