



Beyond concern: a privacy–trust–behavioral intention model of electronic commerce

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Abstract

Despite the recent economic downturn in the Internet and telecommunication sectors, electronic commerce (EC) will continue to grow and corporate Web sites will remain an important communication channel. However, legitimate concerns regarding privacy and trust remain potential obstacles to growth and important issues to both individuals and organizations. This study proposed and tested a theoretical model that considers an individual's perceptions of privacy and how it relates to his or her behavioral intention to make an online transaction. An experiment that included over 200 subjects was conducted using two EC sites that differed only by the privacy dimensions of their notice, access, choice, and security. The results of this study suggested strong support for the model.

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1. Introduction

Over the past few years, electronic commerce (EC) has allowed organizations to enhance their economic growth, reduce barriers of market entry, improve efficiency and effectiveness, keep inventories lean, and reduce costs [29,40]. In fact, many consumers have found power in using the Internet: convenience, more choice for products and services, vast amounts of information, and time savings. They are not going to let a poor economy stop them from taking advantages of it. It is forecasted that business to consumer (B2C)

spending will exceed US\$ 95 billion in the US in 2003 and possibly US\$ 250 billion by 2005. Moreover, business to business (B2B) online transactions now stand at more than US\$ 2.6 trillion in the US, which is double the original estimate [50].

In order to achieve further growth, businesses need to understand their customers and build strong relationship with them. Today, many organizations collect customer information through registration, order, and/or survey forms, and by using “cookies” and tracking software to follow a customer's online activities in order to gather information about their personal interests and preferences. This information has become extremely valuable because it allows a company to sell products and services tailored to specific customer needs. In addition, organizations can boost their revenues by

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selling advertising space on their Web sites because customers' personal information can be used by advertisers to better target customers [35,42].

While many customers benefit from the online information gathered about them, concerns about privacy have become an important issue and potential obstacle (e.g., [25,56,61,66]). For example, a study of Hoffman and Novak [30] concluded that almost 95% of the Web users they surveyed have declined to provide personal information to Web sites at one time or another. It follows that many customers may not really trust a vendor when making purchases online. Moreover, many anticipated B2B transactions and information sharing may be less effective if business partners lack trust in the Internet [52]. While opportunities to collect and use customer information to create and sustain important relationships exist, privacy concerns may limit the potential of EC transactions.

We proposed and tested a model that takes into account an individual's perception of online privacy and how it related to their level of trust in a company's electronic commerce Web site. In turn, the model suggested that trust was an important intermediary variable that influences behavioral intention for online transactions. The results of the study should be of interest to both academics and practitioners.

2. Influences of e-commerce on privacy concerns

Privacy has been defined as the right of an individual to be left alone and able to control the release of his or her personal information [64]. Concerns about privacy are not new. Businesses have collected customer information for thousands of years. However, privacy concerns often arise when new IT with enhanced capabilities for collection, storage, use, and communication of personal information come into play [10,11,13,28,44,48,59,65]. Therefore, a closer examination of the influences of EC on privacy concerns is needed to address the contemporary technological environment, as well as customer concern about the personal information collected and used by business organizations.

From a business perspective, EC applications can be classified into: business-to-consumer (B2C), intra-organizational, and business-to-business (B2B) [1].

These applications include the broad context of information exchange referred to as e-business. Privacy concerns for B2C e-commerce became an important issue because of the direct involvement of customers and the organization's potential ability to access, store, and share this personal information.

Intra-organizational applications focus on using Web technology to disseminate information internally throughout the organization. Since an intranet is an effective platform for implementing Web-based workflow and groupware, it is becoming a standard for corporate information systems [62]. Hence, greater access to data and more internal secondary data uses are needed to improve coordination within the company. However, there remains a need for managerial and technical measures to protect against loss, misuse, alteration, unauthorized access, and integrity of the data [8]. The measures may include cross-referencing data against multiple sources [53], authorization, authentication to confirm identity, non-repudiation to provide proof of origin/delivery, audit mechanisms to provide records for independent review, confidentiality to protect unauthorized disclosure, and integrity to detect unauthorized modifications [26].

EC has helped in the emergence of various virtual business relationships, including business-supplier, strategic alliance, business-client, and business-to-end-consumer [60]. Until recently, the issue of privacy was a major worry of the B2C area and privacy implications of B2B transfers had been neglected [24]. However, this is changing radically.

B2B applications now engender strong concerns about information disclosure to third parties and external secondary uses of customer personal information without the customers' consent: many state that they have a right to know what information organizations disclose to others. Moreover, many customers believe they should have the right to control their information and opt-in/opt-out to decline external secondary data use. In order to protect privacy, it is therefore necessary to address the responsibilities of both the organizations that collect personal information and the organizations that receive it secondarily [39]. Certainly organizational practice or policy will have to address these concerns in intra-organizational, B2B, and B2C contexts as new laws come into play.

In order to ease customers' concerns, organizations world-wide have begun to issue privacy policies or

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