TRUST-ASSURING ARGUMENTS TO ENHANCE CONSUMER TRUST IN INTERNET STORES: AN EXPERIMENTAL INVESTIGATION

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ABSTRACT

A trust-assuring argument refers to "a claim and its supporting statements used in an Internet store to address trust related issues." Whether it is statements placed on a website about a store's privacy policy or a symbol representing third-party assurances, we cannot assume *a priori* that such presence will necessarily increase consumer trust. To analyse and test the effectiveness of trust-assuring arguments in promoting consumer trust in Internet stores, and also to delineate guidelines for effective implementation of these arguments, a series of three interrelated studies have been conducted.

Drawing from a model of trust and the customer resource life cycle, the first study identifies the important trust related issues (or concerns) about which Internet stores need to provide arguments in order to increase consumer trust. It categorizes the identified issues into four groups: issues related to personal information, customer service, product price/ quality, and store presence.

In the second study, Toulmin's model of argumentation is proposed as a useful method of constructing trust-assuring arguments to amplify the effects of the arguments on consumer trust in Internet stores. Three forms of arguments have been identified based on Toulmin's model of argumentation in our study and their effects on consumer trust in Internet stores have been investigated in a laboratory experiment. The results suggest that the application of Toulmin's model can bolster the effects of trust-assuring arguments on consumer trust in Internet stores.

The third study compares the relative influence of a store's trust-assuring arguments on consumer trust to that of third party certifications, by analyzing three factors: the content of the arguments, the sources of the arguments, and the relevance of the argument topics to consumers' personal interests. The main focus of the study involves identifying the conditions in which one feature (either a store's trust-assuring arguments or third party certifications) is more effective than the other. The results of a laboratory experiment suggest that when the relevance of the argument topics to a consumer's personal interests is high, a store's trust-assuring arguments are as effective in increasing consumer trust in the store as third party certifications with equivalent content.

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CHAPTER 1. INTRODUCTION

1. RESEARCH QUESTIONS AND DISSERTATION ORGANIZATION

1.1 Problem Phenomena

Lack of consumer trust in Internet stores has been, and continues to be, a critical issue impeding the proliferation of Internet shopping (Salam et al. 2005). A survey by Forrester Research has found that 30 percent of potential buyers who have never bought online have abandoned their shopping cart during checkout processes due to concerns about disclosing their personal information, and 24 percent have done so because of concerns about using credit cards online (Kelley et al. 2001). Another survey has found that 70 percent of US consumers are either worried or extremely worried about losing control of their personal information while shopping online (Walsh et al. 2003). Furthermore, consumer concerns about trust issues extend beyond the shoppers who have withheld themselves from e-commerce. A recent survey (Penn et al. 2005) has found that consumer perceptions of the security of credit card information during online shopping dropped from 2001 to 2004. Simultaneously, several extant studies have suggested that increasing trust has a positive influence on purchase intentions (Einwiller 2003; Gefen 1997; Gefen and Straub 2004; Jarvenpaa et al. 2000; Kimery and McCord 2002; Lee and Turban 2001; Lim et al. 2001; Liu et al. 2004; McKnight et al. 2002; Nöteberg et al. 2003; Pennington et al. 2003; Stewart 1999; Stewart 2003; Wetsch and Cunningham 2000) and actual buying decisions (Lim et al. 2001; Pavlou 2003).

1.2 Motivation of Dissertation

Improving consumer trust is beneficial to both Internet stores and consumers. On the one hand, Internet stores can increase their sales by reducing consumers' abandonment of online shopping carts. On the other hand, consumers should be able to enjoy the convenience of online shopping with higher confidence. Given the importance and the benefits of consumers' trust in a business to consumer electronic commerce, it is worthwhile to examine the features that have the potential to increase consumer trust.

Notably, Jarvenpaa et al. (2000) have reported that the reputation and the size of a company relates positively to consumers' trust in the company's Internet store. Their findings, though useful, offer little advice to small and intermediate-sized Internet stores, which generally need to earn consumers' trust first to increase their size and reputation.

One of the ways for such Internet stores to increase consumer trust is to convey their trustworthiness by providing arguments about their trustworthiness on their websites. We refer to such arguments as *trust-assuring arguments*, which are "a *claim* and its supporting statements used in an Internet store to address trust-related issues." In fact, Internet stores often use trust-assuring arguments, for example:

> *"100% Safe Shopping We absolutely guarantee that your order will be transmitted securely and that you will pay nothing if unauthorized charges ever appear on your credit card as a result of shopping here."*

(excerpted from www.buydigitaldirect.com: see Figure 1-1).

Although trust-assuring arguments appear frequently in Internet stores, little research effort has been devoted to understanding this feature and its potential to increase consumer trust in Internet stores. This dissertation is intended to fill this gap.
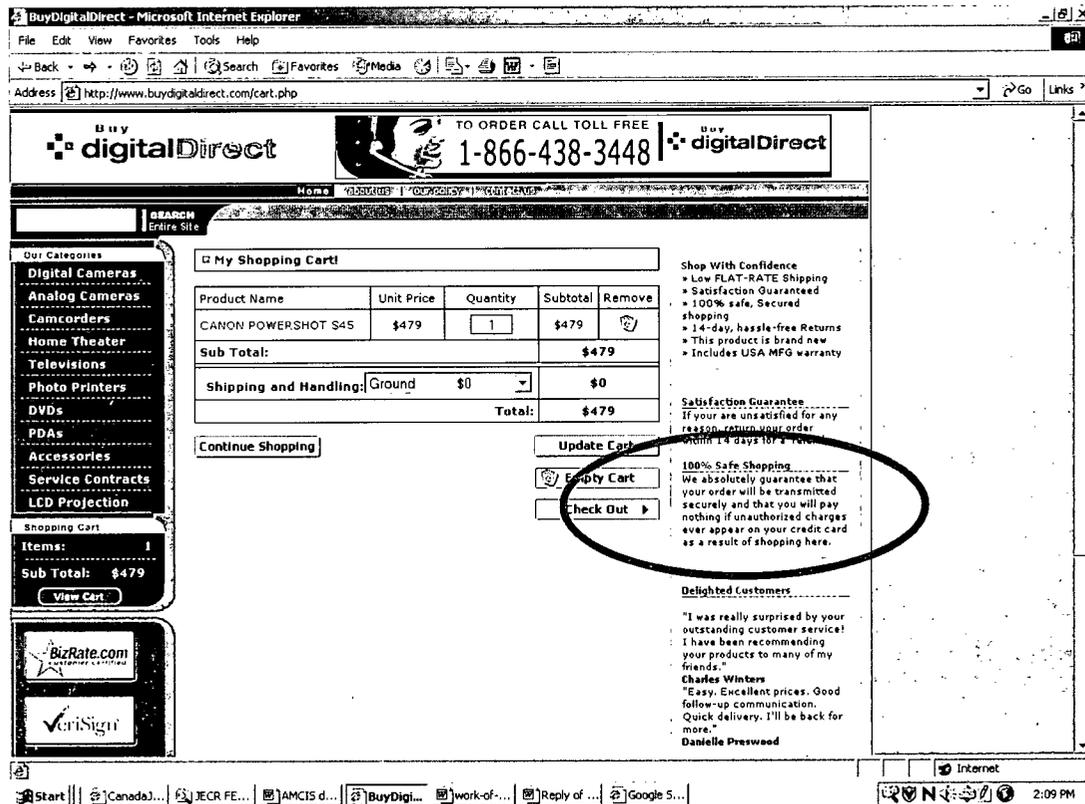
Figure 1-1. An Example of a Trust-assuring Argument

(Source: http://www.buydigitaldirect.com/cart.php)

1.3 Research Questions and Organization of Dissertation

This dissertation consists of a series of three inter-related studies. Key questions addressed in the dissertation include the following:

- Study 1: What are the most important trust-related issues (i.e., customers' concerns) that need to be addressed by arguments in Internet stores?

- Study 2: Does the provision of trust-assuring arguments increase consumer trust in Internet stores? More importantly, what forms of trust-assuring arguments are effective for increasing consumer trust?

- Study 3: What are the conditions in which a store's trust-assuring arguments are more or less effective than third party certifications for increasing consumer trust?

Providing answers to these questions has a significant importance to both researchers and practitioners. For researchers, these studies increase the understanding of the effects of trust-assuring arguments, an under-researched feature, on consumer trust. For practitioners, this research suggests guidelines for the effective implementation of trust-assuring arguments to increase consumer trust.

Study 1 has been conducted by reviewing a model of trust in electronic commerce, a model of customer resource life, two customer surveys, and extant literature about trust building features and strategies. For Study 2, a laboratory experiment has been conducted with 112 participants. Another laboratory experiment with 128 participants has been conducted for Study 3.

The three studies are inter-related. The results of Study 1 are utilized to develop trust-assuring arguments used in Studies two and three. The results of Study 2, which tests the efficacy of Toulmin's model of argumentation, is used to vary the content of trust-assuring arguments in Study 3.

The organization of this dissertation is as follows. Before presenting a series of three studies, literature on the central concept of trust is first reviewed in Chapter 2. Studies 1,

2, and 3 are presented in Chapters 3, 4, and 5 respectively. The concluding comments are discussed in Chapter 6.

CHAPTER 2. REVIEW OF TRUST IN B2C (BUSINESS TO CONSUMER) ELECTRONIC COMMERCE

1. TRUST IN INTERNET STORES: DEFINITIONS

According to Gefen et al. (2003a), trust has been conceptualized in a variety of ways, for example: (1) trust can be viewed as a set of beliefs regarding the positive characteristics of the trustee (Doney and Cannon 1997; Gefen et al. 2003a; Jarvenpaa et al. 2000); (2) trust can be viewed as *trusting intentions* (Mayer et al. 1995); (3) trust can be viewed as attitudes (Song and Zahedi 2003), or as a feeling of confidence and security in eCommerce context (Komiak and Benbasat 2004) or in interpersonal relationships, such as friendship and love (Rempel et al. 1985); and (4) trust may be a combination of these (Komiak and Benbasat 2004; McKnight et al. 2002). For the purposes of the present dissertation, we have focused on *trusting beliefs* and *intentions* in our research model, following previous studies that have developed models of trust in electronic commerce contexts (Lee and Turban 2001; McKnight et al. 2002).

1.1 Trusting Intentions

The most frequently cited definition of trust in various contexts (according to Rousseau et al. 1998) is "willingness to be vulnerable," proposed by Mayer et al. (1995). Building on this definition, Lim et al. (2001) define consumer trust in Internet shopping as "the willingness of a consumer to expose himself/herself to the possibility of loss during an Internet shopping transaction, based on the expectation that the merchant will engage in generally acceptable practices, and will be able to deliver the promised products or services." As this definition indicates, consumer trust is a kind of behavioural intention (Gefen et al. 2003c), referred to as "trusting intentions" by McKnight et al. (1998).

Trusting intentions can be elaborated upon by exploring activities that expose consumers to the possibility of loss when shopping on the Internet. In Internet shopping, consumers are likely to expose themselves to the possibility of loss (or be vulnerable): (1) if they provide their e-mail address (exposing themselves to the possibility of receiving Spam email and other annoyances); (2) if they provide shipping information such as their name, address, or phone number (raising the possibility of privacy invasion including unsolicited visits and mails); (3) if they provide their credit card numbers (leading to the possibility of credit card fraud); or (4) if they complete online purchase transactions (with the possibilities of late or no delivery of a product, poor product quality, and inadequate service afterwards) (Kim and Benbasat 2003). In the current dissertation, trusting intentions in online shopping are taken to include the intentions to perform these activities, which are required in most online transactions. These trusting intentions are important to an Internet store because it is likely that lack of them leads customers to abandon their shopping carts prior to completion of the checkout in the Internet store. In some contexts, other activities are also identified as trusting intentions. For example, an intention to accept advice from an online law firm can be another example of a trusting intention that exposes consumers to the possibility of loss (McKnight et al. 2002).

1.2 Consumers' Trusting Beliefs

In Internet shopping environments, consumers' *trusting beliefs* refer to an aggregation of consumer beliefs regarding a store's positive characteristics when it handles consumer transactions (Bhattacherjee 2002).

A group of scholars (Bhattacherjee 2002; Gefen 1997; Mayer et al. 1995; McKnight et al. 2002) include ability, integrity, and benevolence as representative characteristics

describing one's trusting beliefs. Ability refers to a "group of skills, competencies, and characteristics that enable a [trustee] to have influence within some specific domain" (Mayer et al. 1995), such as the expertise to conduct business via electronic commerce. Integrity refers to a "trustor's perception that the trustee adheres to a set of principles that the trustor finds acceptable" (Mayer et al. 1995), such as keeping promises. Benevolence refers to the showing of empathy and responsiveness toward consumers' concerns and needs and the making of proactive efforts to resolve their concerns (Bhattacherjee 2002).

Another group of scholars (Doney and Cannon 1997; Ganesan 1994; Jarvenpaa et al. 2000; Kumar et al. 1995) focused on credibility and benevolence as representative characteristics describing one's trusting beliefs. Credibility, also more specifically called "objective credibility", refers to the "expectancy that the partner's word or written statement can be relied on" (Doney and Cannon 1997). In our view, the two groups of characteristics are compatible in broad terms because consumers are likely to consider both the ability and integrity aspects of a particular store when they think about the overall credibility of the store.

These positive characteristics have been collectively referred to as "trustworthiness" by Jarvenpaa et al. (2000) and Mayer et al. (1995). Although trustworthiness or trusting beliefs can be separated conceptually into several sub constructs, such as ability, integrity, benevolence, and so on, some, or all, of these characteristics merge together into one construct in the initial stage of trust building (Bhattacherjee 2002; McKnight and Chervany 2001). In the initial stage of trust building, when people know little about the trustee, they use whatever information they have (e.g. a third party's opinions or observation: Mayer et al. (1995)) to make trust inferences (McKnight et al. 2002). As

people interact with the trustee over the time, they will be able to differentiate specific trusting beliefs more discretely (McKnight and Chervany 2001).

2. MODELS OF TRUST IN ELECTRONIC COMMERCE

McKnight and Chervany (2001) have proposed an interdisciplinary conceptual typology, with five constructs affecting initial trust (i.e. trust of first visiting customers on an Internet store) in e-commerce: (1) the disposition to trust, (2) institution-based trust, (3) trusting beliefs, (4) trusting intentions, and (5) web vendor interventions (Figure 2-1).
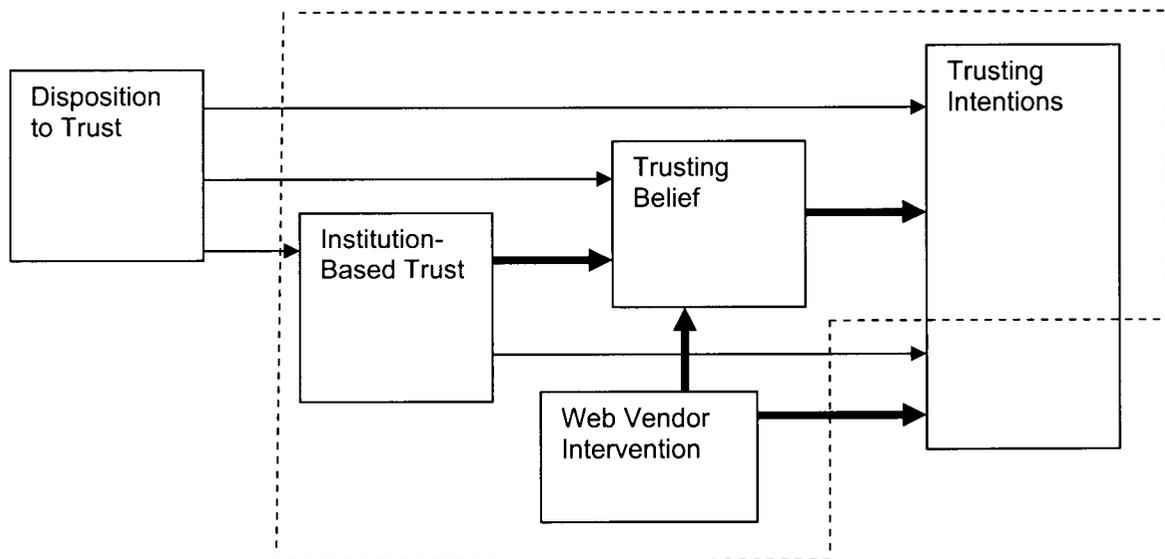
Figure 2-1. A Model of Trust in Electronic Commerce
(Source: Adapted from McKnight and Chervany 2001, and McKnight et al. 2002)
Note: Thinner arrows are weaker links and the dotted area is what this dissertation will focus on.

The trusting beliefs and trusting intentions are discussed in the previous section (Section 1.2 of the current chapter). Disposition to trust is "the extent to which a person displays a tendency to be willing to depend on others across a broad spectrum of situations and persons" based on either the person's faith in humanity or the person's strategy to deal with others (McKnight and Chervany 2001).

Institution-based trust is "the belief that needed structural conditions are present" (McKnight et al. 2002). This is about an individual's perception of "the Internet environment" rather than an Internet store itself (McKnight and Chervany 2001). For example, some credit card companies offer their customers zero liability guarantees. Customers who have a credit card with zero liability may believe that some protective structure is in place for safe Internet shopping.

In B2C e-commerce, web vendor interventions are "actions a vendor may take to provide assurances about the vendor's sites" (McKnight et al. 2002). Examples of web interventions include posting a privacy policy (Fogg et al. 2001; Hoffman et al. 1999; McKnight and Chervany 2001; Pennington et al. 2003; Wetsch and Cunningham 1999), displaying third party seals (Cook and Luo 2003; Kaplan and Nieschwietz 2003; Kimery and McCord 2002; Kovar et al. 2000a; Kovar et al. 2000b; McKnight and Chervany 2001; Nöteberg et al. 2003; Wang et al. 2004), providing efficient interactions with customers (Fogg et al. 1999; Gefen 1997; McKnight et al. 2002), having links to / from other reputable sites (Stewart 1999; Stewart 2003), showing customer feedbacks (Ba and Pavlou 2002; Hennig-Thurau and Walsh 2004; Lim et al. 2001; Pavlou and Gefen 2004) and so on. *Trust-assuring arguments* are viewed as one type of web intervention, which explicitly presents evidence of a store's trustworthiness in an argument form to influence one's *trusting belief.*

According to this model, trusting beliefs and intentions are influenced by disposition to trust, institution-based trust, and web vendor interventions; and trusting beliefs may further affect trusting intentions. Trust assuring arguments examined in Study 2 are viewed as a web intervention, which influence consumers' trusting beliefs. Therefore, the

path between web vendor intervention and trusting beliefs, and between trusting beliefs and trusting intentions are examined in Study 2. Third party certification is investigated as one of the institution based trust mechanisms in Study 3.

Consumers' trust in Internet shopping has been modeled by Lee and Turban (2001), in addition to McKnight and Chervany (2001), using four groups of factors as antecedents: (1) trustworthiness of an Internet merchant, which includes perceptions of the merchant's ability, integrity, and benevolence; (2) trustworthiness of the Internet shopping medium, based on consumers' perceptions of the capability, performance level (e.g., reliability, speed, and availability), and their understanding of the Internet shopping medium; (3) contextual factors such as perceptions of the effectiveness of third party certification bodies and public key security infrastructure systems; and (4) other factors, such as size and demographic variables. Individual propensity to trust was proposed as a moderator.

Table 2-1. Comparison of McKnight and Chervany (2001) and Lee and Turban (2001)

Lee and Turban (2001)		McKnight and Chervany (2001)
Individual propensity to trust		Disposition to trust
Perceived trustworthiness of a merchant	Ability	Trusting Belief
	Integrity	
	Benevolence	
Perceived trustworthiness of Internet shopping medium	Perceived technical competence	Institution Based Trust
	Performance	
	Understanding of Medium	
Contextual factors	Perceived effectiveness of third party certification	
	Perceived effectiveness of security infrastructure	

In broad terms, the two models are considered to be compatible (Table 2-1). Individual propensity to trust, trustworthiness of an Internet merchant, and trust in Internet shopping in Lee and Turban (2001) are equivalent or very close to disposition to trust, trusting

beliefs, and trusting intentions in McKnight et al. (2002) respectively. The trustworthiness of the Internet shopping medium and perceived effectiveness of third party certification and public key infrastructure in Lee and Turban (2001) can be considered as a component of institution-based trust in McKnight and Chervany (2001).

There is a key difference between McKnight et al. (2002), who posit that the effects of disposition to trust, institution-based trust, and web vendor interventions on trusting intention are mediated partially by trusting beliefs, and Lee and Turban (2001), who have asserted that trustworthiness in the Internet shopping medium and the perceived effectiveness of third party seals and public key infrastructure systems can affect trusting intentions directly, without the mediation of trusting beliefs.

Komiak and Benbasat (2004) proposed a model of trust in the context of recommendation agent adoption and compared it to trust in traditional commerce and web-mediated electronic commerce. The model added the emotional aspect of trust, which refers to "[trustor's] feeling of security and comfort relying on [trustee]," in addition to the cognitive aspect of trust, which is similar to one's trusting beliefs in McKnight et al. (2002) and Lee and Turban (2001) and refers to "[trustor's] rational expectation that trustee will have the necessary competence, benevolence, and integrity to be relied on."

Gefen et al. (2003a) proposed a model of trust of repeating customers. They add knowledge based trust (e.g., familiarity), which is the trusting belief based on consumers' direct interaction and experiences (Gefen et al. 2003a), as another main antecedent of trusting intentions.

There are many empirical studies that investigated influence of trusting beliefs. The variables affected by trusting beliefs directly and indirectly are listed with the studies that investigated the corresponding variables (Table 2-2). Considering that trust leads to the many desirable consequences listed in Table 2-2, it seems to be important to investigate how to increase trust.

Table 2-2. Consequences of Trusting Beliefs

Direct and Indirect Consequences of Trusting Beliefs	Studies
Reduced risk perception	Jarvenpaa et al. 2000; Kimery and McCord 2002; Lim et al. 2001; Pavlou 2003
Attitudes toward a store	Jarvenpaa et al. 2000; Kimery and McCord 2002; Lim et al. 2001; Pennington et al. 2003
Attitude toward using the Internet banking website	Suh and Han 2003
Perceived usefulness	Gefen et al. 2003a
Customer loyalty	Gefen 2002a
Willingness to provide personal information	Malhotra et al. 2004; McKnight et al. 2002; Wang et al. 2004
Willingness to bookmark	Wang et al. 2004
Willingness to inquire about product	Gefen 2000
Willingness to buy from an Internet store	Einwiller 2003; Gefen 1997; Gefen and Straub 2004; Jarvenpaa et al. 2000; Kimery and McCord 2002; Lee and Turban 2001; Lim et al. 2001; Liu et al. 2004; McKnight et al. 2002; Nöteberg et al. 2003; Pennington et al. 2003; Stewart 1999; Stewart 2003; Wetsch and Cunningham 2000
Intended use of the website	Gefen et al. 2003a; Suh and Han 2003
Intention to revisit a site	Liu et al. 2005
Intention to recommend the site to others	Liu et al. 2005; Suh and Han 2003
Intention to make positive comments about the site	Liu et al. 2005
Future intention to interact with suppliers	Doney and Cannon 1997
Intention to use informediary	Song and Zahedi 2003
Intention to adopt a recommendation agent	Xiao 2003
Adoption of Internet banking	Kim and Prabhakar 2000
Actual buying decisions	Lim et al. 2001; Pavlou 2003
Actual use of the website	Suh and Han 2003

3. REVIEW OF TRUST-BUILDING STRATEGIES AND FEATURES IN INFORMATION SYSTEMS LITERATURE

Three groups of strategies or features to improve trusting beliefs have been identified in the Information Systems (IS) literature: (1) increasing institution based trust by providing structural assurance; (2) increasing knowledge based trust by enhancing direct interaction experiences; and (3) increasing cognition based trust by providing cues, which imply the presence of structural assurance or work as a proxy indicator of future direct experiences. The first approach focuses on increasing consumers' institution based trusting belief (e.g., trust in situations or environments), which refers to "the belief that needed structural conditions are present (e.g., Internet) to enhance the probability of achieving a successful outcome" (McKnight et al. 2002), while the second approach focuses on increasing knowledge based trust, which is the trusting beliefs based on consumers' direct interaction and experiences (Gefen et al. 2003a). The third approach is to provide cues that increase cognition based trust, which is the trust formed based on the first impression without having long interaction experiences. This dissertation investigates structural assurance (e.g., third party certifications) and cues (e.g., a store's trust-assuring arguments), which are expected to eventually increase knowledge based trust for those new customers that do not have transaction experiences with an Internet store.

3. 1 Increasing Institution Based Trust by Providing Structural Assurance

Consumers often trust Internet stores because there is a structural assurance, which refers to "an assessment of success due to a safety net such as legal recourse, guarantees, and regulations" (Gefen el al. 2003a). Third party certificates and escrow services are examples of structural assurances (Gefen et al. 2003a; Pavlou and Gefen 2004).

3.1.1 Third Party Certificates

Third party assurance seals have been discussed as one of the potential features that increase consumers' trust in several studies (Cheskin Research 1999; Cook and Luo 2003; Gefen et al. 2003a; Kimery and McCord 2002; Kovar et al. 2000a; Kovar et al. 2000b; Luo 2002; McKnight and Chervany 2001; McKnight et al. 2002; Nöteberg et al. 2003; Wang et al. 2004). Luo (2002) argues that Internet stores "can purchase the trust from privacy seal programs such as TRUSTe and BBBOnline." According to Cook and Luo's (2003) review, there are at least thirteen third party assurance seals operated in the B2C electronic commerce area in North America and they are WebTrust, TRUSTe, BBBOnline, VIPPS, Gomez, BizRate, ePubliceye/ WebWatchDog, Web Assurance Bureau/ Web Assured, NetCheck, PrivacyBot, BetterWeb, and Entertainment Software, Rating Board. Among them, BBBOnline, WebTrust, and TRUSTe are the seals that consumers are most confident in (Cook and Luo 2003). According to Miyazaki and Krishnamurthy (2002), 19.3% of the top 500 Internet sites displayed the TRUSTe seal, 4.1% displayed the BBBOnline seal, and 1.85% displayed the WebTrust seal. Gefen et al (2003a), McKnight and Chervany (2001), and McKnight et al. (2002) have asserted that third party seals, for example TRUSTe, BBBOnline, and WebTrust, can increase trusting beliefs, although the influence on specific trusting beliefs depends on the nature of the seal.

Kaplan and Nieschwietz (2003) reported that assurance perception is positively related to trust in online firms. Wang et al.'s (2004) experimental study reported that displaying seals of approval (e.g., TRUSTe, BBBOnline, and VeriSign) increased one's willingness to provide personal information. Kovar et al. (2000a) and Kovar et al. (2000b) have

tested conditions under which the WebTrust assurance seal is effective in influencing online transaction expectations and consumers' intentions to complete purchases online. In the course of this study, consumers who attended to the seal (e.g., who saw or clicked on the seal to access more information), consumers who were exposed to the advertisement about the seal, and consumers who were knowledgeable about the CPA designation (Certified Public Accountants) tended to show higher online transaction expectations (Kovar et al. 2000a). Cheskin Research and Studio Archetype/Sapient (1999) also reported that third party certification symbols like TRUSTe, BBBOnline, and VeriSign increase trust, but the effects are large only for respondents who are familiar with the meaning of the symbols. Nöteberg et al. (2003) examined the effects of generic seal types (e.g., different seal issuers: accountant, bank, computer association, consumer union, and self-report) on the likelihood of purchase and reported that all the generic seal types were effective in increasing the likelihood of purchase when compared to the no assurance condition. Kimery and McCord (2002) have performed a study regarding the effects of trust assuring seals (notably VeriSign, TRUSTe, and BBB) on trust in an e-retailer and McKnight et al. (2004) tested the effects of privacy assurance and industry endorsement seals on consumer trust. Although both studies failed to show significant effects of third party assurance seals on consumers' trusting belief, Kimery and McCord's (2002) post-hoc analysis results indicated that the TRUSTe privacy seal has positive effects on consumers' trusting belief in an e-retailer. Cook and Luo (2003) proposed three factors influencing the effects of third party certification on consumers' trusting beliefs. They are: (1) trust in a third party seal provider, (2) degree of endorsement, and (3) transparency of the relationship between the seal provider and the

seal bearer (Cook and Luo 2003). In summary, third party certifications can influence trusting beliefs and intentions, but the effects vary depending on several factors identified by Kovar et al. (2000a) and Cook and Luo (2003).

3. 2 Increasing Knowledge Based Trust by Enhancing Direct Interaction Experiences

According to Fogg and Tseng (1999), people judge the credibility of other people and businesses based on their first-hand experience (e.g., personal interactions). Direct interaction experiences increase one's understanding about Internet stores (Tan and Thoen 2001) and one trusts the store because one can predict its behavior based on the understanding (Doney and Cannon 1997).

3.2.1 Customers' Interaction with Web Stores

According to McKnight et al. (2002), consumers' interactions with Internet stores affect trusting beliefs, inasmuch as interactions provide evidence of a store's positive attributes. Similarly, Cheskin Research and Studio Archetype/Sapient (1999) have proposed that e-commerce trust is communicated by six primary components, three of which are related to smooth interactions: navigation (e.g., "the ease of finding what the visitor seeks"), fulfillment (e.g., the process works from the time a purchase process is initiated until the product is received), and technology (e.g., "functionality and speed"). In fact, an empirical study by Gefen (1997) has demonstrated that customers gain increased faith in the integrity and benevolence of a vendor after they receive an "e-mail responding favourably to [the customers' previous] comments and suggestions." Furthermore, a

survey by Fogg et al. (2001) has demonstrated that quick responses to customer service questions and e-mail confirmation of transactions increase the credibility[1] of a website.

3.2.2 Explicit Privacy Policy Statements

McKnight and Chervany (2001) and Hoffman et al. (1999) state that a company can improve consumers' trusting beliefs by posting its privacy policy. Their predictions are supported by several empirical studies. Suh and Han (2003) reported, based on their survey of Internet banking users, that perceptions of privacy protection have a positive impact on consumer trust in the e-commerce environment. Similarly, Malhotra et al. (2004) reported, based on a field survey, that Internet users' information privacy concerns have negative effects on consumer trust in an online company. It is likely that posting a privacy policy increases consumer trust by increasing perceptions of privacy protection and by decreasing Internet user's information privacy concerns. Wetsch and Cunningham (1999) have reported that strong security and privacy policies are related to consumer trusting beliefs, and Pennington et al. (2003) showed that vendors' guarantees about privacy, security, and customer satisfaction increased the belief that the proper impersonal structures have been put into place for successful transactions, and eventually increased trust in the e-vendor. Similarly Fogg et al.'s (2001) survey indicates that the display of a store's' policies increases the credibility of its website.

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[1] Fogg and Tseng (1999) differentiated their concept of credibility from the concept of trust. They asserted that credibility indicates the positive belief in "believability" of something while trust is close to the positive belief in the "dependability" of something. This article is reviewed in the current study because their discussion of credibility focuses on a website, and because many items in their survey are close to strategies and features that improve trusting beliefs in a store.

3.3 Increasing Cognition Based Trust by Providing Cues

Cognition based trust refers to the trusting belief built on first impressions rather than direct interaction experiences (Gefen et al. 2003a). By providing various cues, which can be interpreted as a kind of structural assurance or as a proxy of direct interactions and experiences, Internet stores can increase consumers' trust beliefs.

3.3.1 Trust Transfer

Stewart (1999 and 2003) have examined how evidence of a tie between parties affects trust. These studies test whether consumer trust in an unknown Internet store is positively influenced when consumers arrive at the store by selecting a hyper-link provided at a trusted site (e.g., a reputable magazine site). According to Stewart (2003), if the tie between two websites (i.e., consumers' "expectation on unity and consistency" of two sites) is high, then consumers form an initial impression from the first site they visit. This impression operates as a filter, causing consumers to interpret information from the second site consistently with the impressions they have already formed (Stewart 2003). Stewart's (2003) experimental survey results confirm these predictions: (1) participants who arrived at an unknown store by clicking a hyper-link from a trusted site (e.g., a famous PC magazine site) perceived a high level of interaction and similarity between the unknown site and the trusted site; and (2) both higher interaction and similarity positively influenced the participants' trusting beliefs in the unknown Internet store. Similarly, Kim and Prabhakar (2000) have predicted, "If one gets positive WOM [(word-of-mouth)] referrals on e-commerce from a person with strong personal ties, the consumer may establish higher levels of initial trust in e-commerce."

3.3.2 Other Consumers' Feedback

The effects of satisfied customer endorsements on consumers' trusting beliefs, such as ability and integrity, were examined by Lim et al. (2001). Four customer testimonials used in the experiment remarked upon: (1) cheap prices and timesaving processes, (2) excellent customer service and fast delivery, (3) store security, and (4) convenience. The authors report that the practice of displaying satisfied customer endorsements positively influences perceptions of the ability and integrity of the store (i.e., trusting beliefs) and the positive perceptions in turn affect trusting intentions in relation to the store. Lim et al. (2001) explain that displaying satisfied customer endorsements is effective because people's behaviors are influenced by the norms of the groups to which they belong. This is consistent with the Theory of Reasoned Action (Ajzen and Fishbein 1980), which posits that subjective norms (e.g., word of mouth recommendations from a peer group) influence one's attitude and intention. If a customer realizes that other customers evaluate an Internet store as a trustable store, then the customer's initial trust level regarding the store will increase. This is because the customer perceives other customers' evaluations as those of a peer group, who transact with the same store and hence share similar concerns with that customer (categorization by unit grouping; McKnight et al. 1998). This phenomenon can be explained using Heider's (1958) Balance Theory (O'Keefe 2002, p 77; Stewart 1999). According to this theory, when a trustable party evaluates an unknown party as trustworthy, one feels dissonance because there is inconsistency between one's evaluation regarding the unknown party and the trustable party's. In this case, one attempts to resolve the dissonance either by changing one's evaluation of the unknown party to be consistent with the trustable party's, or by revising one's evaluation

regarding the trustable party to a less trustable one. Therefore, one tends to change one's evaluation regarding the unknown store as trustworthy as much as one trusts the trustable party. In Internet shopping, satisfied customer endorsements are usually implemented by displaying testimonials from satisfied customers on the web page. As long as a customer perceives other customers as a trustable party, the customer is more likely to form a high level of trusting belief regarding an unknown store with satisfied customer endorsements as opposed to without it. Ba and Pavlou (2002) also reported the effects of consumer feedback on trusting beliefs in sellers in an auction setting. Pavlou and Gefen (2004) showed that perceived effectiveness of a feedback mechanism increased trust in the community of sellers, not just an individual one, in an online marketplace. Hennig-Thurau and Walsh (2004) examined people's motives for searching customer feedback from Web-based consumer opinion platforms such as epinion.com, finding that people use customer feedback to save decision-making time and to make better buying decisions.

3.3.3 Advertising Reputation

Reputation has been defined as "the extent to which buyers believe a selling organization is honest and concerned about its customer" (Jarvenpaa et al. 2000). Several studies have predicted positive relationships between reputation and trusting beliefs. For example, McKnight and Chervany (2001) have noted that advertising stores' good reputations increases trusting beliefs. Cheskin Research and Studio Archetype/Sapient (1999) have also proposed brand recognition as one of six primary components that can convey e-commerce trust. The perceptions of reputation have been tested empirically by Einwiller (2003), Jarvenpaa et al. (2000), Kim et al (2004), Koufaris and Hampton-Sosa (2004), McKnight et al. (2004), Pennington et al. (2003), and Wetsch and Cunningham (1999),

and these studies have reported that the perception of reputation relates positively to consumers' trusting beliefs in a store.

3.3.4 Surface Elements

People sometimes judge the credibility of a website based on a simple inspection of surface elements, for example the visual design of the site (Fogg and Tseng 1999). Presentation (Cheskin Research and Studio Archetype/Sapient 1999) and professional design (Fogg et al. 2001) are considered important elements in developing trust. An experimental study by Gefen (1997) indicated that displaying a "1-800 number in a large bold font for customer questions and suggestions" in an experimental website increased trusting beliefs in the associated Internet store. Similarly, a survey conducted by Fogg et al. (2001) reported that posting the store's physical address, phone number, e-mail address, and company photos increased the credibility of a website.

Table 2-3. Trust-Building Strategies and Features in IS Literature

Strategy Categories	Strategy / features
1. Increasing institution based trust by providing structural assurance	Third party certificates - TRUSTe - BBBonline - WebTrust - VeriSign
2. Increasing knowledge based trust by enhancing direct interaction experiences	Interacting with customers - Responsive communication - e-mail confirmation of order - Navigation - Fulfillment - Technical functionality and speed
	Display store policies - Strong privacy / security policies
3. Increasing cognition based trust by providing cues	Links from reputable sites
	Referrals from a person with strong personal ties
	Other Consumers' feedbacks - Satisfied customer endorsements - Positive / negative feedback on sellers in auctions
	Advertising reputation
	Surface elements

The key factors influencing Internet trusting beliefs identified in this literature review are summarized in Table 2-3. These features and strategies will be utilized later in Section 4.4 of the next chapter to support the content validity of the consolidated trust framework proposed in Study 1.

CHAPTER 3. STUDY 1: TRUST ISSUES NEEDED TO BE ADDRESSED BY ARGUMENTS[2]

1. INTRODUCTION

This study discusses the trust related issues and arguments (evidence) Internet stores need to provide in order to increase consumer trust. Based on a model of trust from the literature, in addition to a model of the customer service life cycle, the study develops a framework that identifies key trust-related issues and organizes them into four categories: personal information, product quality and price, customer service, and store presence. The framework is further validated by comparing the issues it raises to issues identified in a review of extant studies, and to issues of concern identified in two consumer surveys. The framework is also applied to ten well-known web sites to demonstrate its applicability. The proposed framework will benefit both practitioners and researchers by identifying important issues regarding trust, which need to be accounted for in Internet stores. For practitioners, it provides a guide to the issues Internet stores need to address in their use of arguments. For researchers, it can be used as a foundation for future empirical studies investigating the effects of trust-assuring arguments on consumers' trust in Internet stores.

In the next section of the study, the theoretical foundation of this study is described. Then in the third section, general methodology for identifying trust-related issues is explained. In the fourth section, important trust-related issues are identified using a trust model from the extant literature, in conjunction with the customer resource life cycle framework, and

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[2] An earlier version of this study has been published in the Journal of Electronic Commerce Research: Kim, D. and Benbasat, I. "Trust-Related Arguments in Internet Stores: A Framework for Evaluation," *Journal of Electronic Commerce Research* (4:2), 2003, pp. 49-64.

subsequently the issues are combined to develop a framework for examining trust-related arguments. In Section 5, ten web sites are evaluated to demonstrate the applicability of the framework; the results are then assessed. The last section includes concluding comments and future research directions.

2. THEORETICAL BACKGROUND

One of the assumptions in this study is that consumers are likely to have unfavorable thoughts about transacting with an *unknown* store, as observed by Komiak and Benbasat (2004), who have found that one's awareness of the unknown characteristics of an Internet store, or recommendation agents, leads to feelings of distrust. According to the Theory of Reasoned Action (Ajzen and Fishbein 1980), evaluation (e.g., favorable or unfavorable) of salient beliefs is one of the most important factors in determining attitude and intentions. Therefore, one way to influence *trusting intentions* is to weaken the unfavorable salient beliefs (or thoughts) during Internet shopping (O'Keefe 2002, p. 110).

If assuring-arguments about the potential issues are provided and the arguments are convincing, these arguments are likely to weaken the influence of the unfavourable thoughts and to generate more favourable thoughts. As a result, consumers' trust is likely to increase. In this regard, potential issues that consumers are likely to have in transacting with unknown Internet stores should be identified.

3. METHODOLOGY USED TO IDENTIFY KEY TRUST ISSUES

To identify a potential set of trust-related issues, two approaches have been used in the current study (please refer to Figure 3-1).

Step1: Issue generation based on models

Trust issues based on a
Trust Model: 28 issues
(Table 3-1)

Trust issues based on
Customer Resource
Cycle: 18 issues
(Table 3-2)

Consolidation

Consolidated Issues:
16 issues (Table 3-3)

Step2: Validation with literature

Comparison with two
surveys

Comparison with trust
building strategies and
features in literature

Validated Issues:
16 issues (Table 3-3)

Figure 3-1. Methodologies to Identify Trust-related Issues

First, issues were identified by using a trust model developed in the IS literature (Lee and

Turban 2001). This model was chosen because its context was specific to Internet

shopping and compatible with another model proposed by McKnight and Chervany (2001). Second, another model was utilized although it was not originally used to identify trust issues, but rather to identify the customer resource life cycle (Ives and Learmonth 1984). This model assisted in identifying the points in a customer's interaction with a web site where trust issues are expected to arise. Potential issues were identified by reasoning about what consumers would be vulnerable to in each of the antecedents of the trust model and at each stage of the customer resource life cycle. Subsequently, the two groups of issues were compared and consolidated. Lastly, the "content validity" of the list of issues identified was assessed by comparing it to the list of the most important trust-related issues identified in two customer surveys and in the literature review discussed in Section 3 of Chapter 2.

4. CONSUMER TRUST IN INTERNET SHOPPING: KEY ISSUES

4.1 Trust-Related Concerns Based on a Model of E-Commerce Trust

First, trust-related issues were identified based on Lee and Turban's model (2001). A total of 28 potential issues that influence consumers' trust were identified as shown in Table 3-1. As discussed in Section 2 of Chapter 2, Lee and Turban's model (2001) is compatible with McKnight and Chervany's (2001) model hence issues identified in Lee and Turban's model (2001) can be mapped to McKnight and Chervany (2001). As shown in Table 3-1, issues in the perceived trustworthiness of a merchant are mapped to issues in trusting belief while the perceived trustworthiness of an Internet shopping medium and the contextual factors are viewed as institution based trust in McKnight and Chervany (2001).

Table 3-1. Trust Related Issues Derived From Lee and Turban's Trust Model

Antecedents of Trusting Intentions	Sub-category	Potential issues	Type of Trust in McKnight and Chervany (2001)
Perceived trustworthiness of a merchant	Ability	Lack of knowledge and resources for a merchant to provide the following: a) Quality products b) Low price c) On-time delivery d) After sales support (cancel / return / maintenance) e) Secure handling of sales transactions f) Personal information protection g) Advice and information	Trusting Belief
	Integrity	a) Merchant may hide the purpose of gathering information b) Merchant may neglect establishing acceptable policies: 　　1) Product quality is low 　　2) Product price is high 　　3) The merchant does not keep delivery dates 　　4) Cancelling and returning is troublesome 　　5) The merchant is hard to contact 　　6) The customer finds it hard to get maintenance 　　7) The merchant may not protect credit card information 　　8) The merchant may not protect personal information	
	Benevolence	a) Focus on profit maximization rather than customer needs	
Perceived trustworthiness of Internet shopping medium	Perceived technical competence	a) Functions (e.g., search, product presentation, payments, tracking, etc.) in a website are inadequate to satisfy a consumer's request	Institution Based Trust
	Performance	a) Web response time is very slow b) Operation often fails and/or there are broken links c) Web site is often inaccessible	
	Understanding of Medium	a) Content structure is not clear b) Lost during navigation	
Contextual factors	Perceived effectiveness of third party certification	a) Merchant may not pay attention to privacy and security b) Am I interacting with the web site as I had intended? c) Store may not exist d) Store may not pay attention to the resolution of a consumer's concerns and complaints	
	Perceived effectiveness of security infrastructure	a) Someone might intercept information during transmission.	

The issue of "Perceived trustworthiness of the Internet shopping medium" (containing six issues) principally involves technical issues associated with websites, notably response times and the ease of navigation. Thus, it would be difficult to increase consumer trust solely by providing arguments, if the functions or performances of the website are evidently inadequate. In the case of benevolence (containing one issue), based on our survey of web sites we did not identify any examples of relevant arguments, and when consumers have little knowledge about an Internet store, integrity and benevolence beliefs are less likely to be differentiable (McKnight and Chervany 2001). The 21 issues that remain (seven issues in ability, nine in integrity, and five in contextual factors) will be compared with issues identified in the next section, based on the customer resource life cycle framework.

4.2 Trust-Related Issues Based on the Customer Resource Life Cycle Framework

The customer resource life cycle framework (Ives and Learmonth 1984) includes descriptions of thirteen stages customers undergo, from identification of needs to the eventual disposal of a product. The eighteen issues identified, mostly associated with "select source" and "order" phases, are grouped into three stages: pre-purchase, during the purchase, and post-purchase (see Table 3-2).

4.3 Consolidation of Trust-Related Issues

In broad terms, the issues identified by the two approaches discussed above are compatible. Those issues identified by the trust model can be subsumed into issues identified by utilizing the customer resource life cycle, and vice versa. In some cases, multiple issues in the approach based on the trust model were merged into a single issue

in the customer resource life cycle approach for simplicity. For example, concerns about high prices, which can be divided into two issues in the trust model approach, namely high prices resulting from either a merchant's lack of ability or from a merchant's lack of integrity, are combined into one issue in the other approach.

Table 3-2. Trust Related Issues Based on The Customer Resource Life Cycle

Purchase stages	Customer resource life cycle	Potential Issues that undermine consumer trust
Pre purchase	1. Establish requirement	
	2. Specify requirement	a) Advice provided by a store or agent may not be correct
	3. Select source	a) A virtual store may not exist b) After sales support may not be good c) A store is not capable of delivering products on time d) Product quality may be low e) Prices may not be reasonable
During purchase	4. Order	a) Information transmission may not be secure b) A store may request unnecessary information about customers c) Personal information may not be protected d) A store may not keep its promised delivery date e) A customer may not get a proof of order f) A customer may not have ways to resolve issues once he or she places an order
	5. Authorize and pay	a) Credit card shopping may not be safe b) Customer payment may be effective as soon as he or she places an order
Post purchase	6. Acquire	a) A store may not deliver the product
	7. Test & accept	a) A store may not accept returns b) Returns may be difficult
	8. Integrate into and manage inventory	
	9. Monitor use and behaviour	
	10. Upgrade if needed	
	11. Maintain	a) A store may not provide maintenance or service
	12. Transfer or dispose	
	13 Account for	

Based on their content, the issues that have arisen can be classified into four areas, as shown in Table 3-3:

1. Issues related to personal information,

2. Issues related to product quality and price,

3. Issues related to customer service, and

4. Issues regarding store presence.

Table 3-3. Consolidated Trust Issues

Trust Area	Issues
Personal Information	Information transmission may not be secure
	A store may request unnecessary information about customers
	Personal information may not be protected
	Credit card shopping may not be safe
Product Quality/ Price	Product quality may be low
	Price may not be reasonable
Customer Service	A store may not keep promised delivery dates
	Customers may not get proof of their orders
	Cancel and return processes may be troublesome
	A store may be hard to contact
	It may be difficult to get maintenance for a product
	A store may not pay attention to the resolution of consumers' problems
	Advice provided by a store may not be correct
	Customers' payment may be effective as soon as they place an order
Store Presence	A virtual store may be "fake"
	Customers may not be interacting with the web sites that they intend to visit

Issues related to *personal information* are associated with the presence or absence of measures to protect customers' personal information. This includes credit card information and other personal information, including a customer's name, e-mail address, phone number, and mailing address. Among these, credit card information deserves different treatment than the others (Head and Yuan 2001), because it is related more directly to money loss (e.g., through credit card fraud), while other information is more

closely associated with privacy issues. *Product price and quality* refers to trust issues that are related to product attributes. *Customer service* refers to those issues that are important after the consumer places an order, and thus refers to specific transactions. It also includes service issues apparent to prospective customers. Issues related to *store presence* are concerns about whether the store is financially secure and is a *bona fide* establishment.

4.4 Content Validity of the Consolidated Trust Framework

In order to ascertain that the issues listed in Table 3-3 cover all key trust-related issues, they were first compared to the issues identified as important in two separate surveys of barriers to Internet shopping, and they were then compared to the factors identified in the literature review described in Section 3 of the previous chapter.

Two surveys of customers' trust-related concerns were utilized:

1. "Biggest Barriers to on-line purchasing," from an Angus Reid Group Presentation (Mossop 2000).

2. "Reasons for NOT buying online," from Head and Hassanein (2002)

Table 3-4 and Table 3-5 demonstrate how these customer concerns correspond to the issues listed in Table 3-3.

All of the top ten issues from the Angus Reid research are covered by the current model, as shown in Table 3-4, with the exception of two items that are not directly related to trust issues: (4) "prefer traditional ways," and (9) "no need for online shopping." In Head and Hassanein's survey (2002), one item in the list of the top seven issues is not mapped

in the current model, as shown in Table 3-5, because it might be less related to trust issues: (1) "appeal of shopping offline." Based on this analysis, we are satisfied that the issues identified in Table 3-3 are an adequate coverage of the key trust-related issues associated with Internet shopping.

Table 3-4. Angus Reid Group Survey Results (2000) and Equivalent Trust Issues

Issue Area	Biggest barriers to On-line Purchasing (Ranking)	Equivalent issues based on consolidated trust issue list in Table 3-3
1. Personal information	(1) Security of credit card information	Information transmission may not be secure. Credit card shopping may not be safe
	(2) Privacy concerns	Information transmission may not be secure A store may request unnecessary information about customers Personal information may not be protected
2. Product quality / price	(3) Can't see or touch	Product quality may be low
	(6) Shipping cost	Prices may not be reasonable
	(10) Taxes/ duties	Prices may not be reasonable
3. Customer service	(5) Follow-up concerns	A store may not keep its promised delivery date A customer may not get proof of an order Cancel/return processes may be troublesome The company may be hard to contact It may be hard for customers to get maintenance The store may not pay attention to the resolution of consumers' issues
4. Store presence	(7) Not comfortable	All of the trust issues
	(8) Don't know merchant	A virtual store may not exist Am I interacting with the web site that I intend to?
5. Unmapped	(4) Prefer traditional ways (9) No need	

Table 3-5. Head and Hassanein's Survey Results (2002) and Equivalent Trust Issues

Issue Area	Reasons for NOT buying online (Ranking)	Equivalent issues based on consolidated trust issue list in Table 3-4
1. Personal information	(3) Security concerns	Information transmission may not be secure. Credit card shopping may not be safe
	(4) Privacy concerns	Information transmission may not be secure. A store may request unnecessary information about customer Personal information may not be protected
2. Product quality / price	(2) Inability to sample a product	Product quality may be low
	(6) Shipping expense	Prices may not be reasonable
3. Customer service	(7) Delivery time	A store may not keep its promised delivery date
4. Store presence	(5) Lack of online vendor trust	All of the trust issues
5. Unmapped	(1) Appeal of shopping offline	

Table 3-6. Comparison of The Consolidated Issues to The Issues Identified from Existing Literature

Supporting Literature	Contents of trust building strategies / features	Extent to which the issues that the strategies / features indicate are included in the issues consolidated in Table 3-3. O: Fully included Δ : Partly included X: Not included	
1. Increasing Institution Based Trust by Providing Structural Assurance			
TRUSTe (Cheskin 1999; Cook and Luo 2003; Kimery and McCord 2002; McKnight and Chervany 2001; Wang et al. 2004)	- Privacy policy is displayed - Adhere to the established privacy policy - Agree to comply with oversight and consumer resolution process	Included in personal information related issues	O
BBBonline (Cheskin 1999; Cook and Luo 2003; McKnight and Chervany 2001; Wang et al. 2004)	- At least one year in business - Show satisfactory problem resolution history	Included in personal information and store presence issues	O
WebTrust (Cook and Luo 2003; Kovar et al. 2000a; Kovar et al. 2000b; McKnight and Chervany 2001)	- Data will be transmitted securely - Data will be stored on the company's computers securely - Keep stated policies about how transactions will be handled (including delivering the goods promised, in the time frame promised) - Keep stated policies about how personal information will be used	Included in personal information and customer service issues	O
VeriSign (Cheskin 1999; Cheskin 2000; McKnight and Chervany 2001; Wang et al. 2004)	- Encryption is working - The website belongs to the company	Included in personal information and store presence issues	O
2. Increasing Knowledge Based Trust by Enhancing Direct Interaction Experiences			
Responsive communication (Gefen 1997; McKnight et al. 2002)	- Receiving e-mail responding favourably to consumers' comments and suggestions	Not included since it is difficult to use arguments for responsive interaction	X
e-mail confirmation (Fogg et al. 1999)	- Receiving e-mail for a confirmation of an order	Included in customer service issues	O
Navigation (Cheskin 1999)	- The ease of finding what the visitor seeks	Not included since it is difficult to use arguments for ease of navigation	X

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Fulfillment (Cheskin 1999)	- Protection of personal information - Return policy - Simplicity of process - Tracking/Recourse	The issues of the first two are included in personal information and customer service related issues. The issues for the latter two are not included since it is difficult to use arguments for these design issues	Δ
Technical functionality and speed (Cheskin 1999)	- Functionality - Speed	Not included since it is difficult to use arguments in these design issues	X
Privacy/Security policy (Fogg et al. 2001; Hoffman et al. 1999; McKnight and Chervany 2001; Pennington et al. 2003; Wetsch and Cunningham 1999)	- Information to protect privacy / security	Included in personal information issues	O
3. Increasing Cognition Based Trust by Providing Cues			
Link from a reputable site (Stewart 1999; Stewart 2003)	- The positive attributes of a reputable site influence consumers' perceptions of unknown sites	Not included since it is difficult to use arguments for this experience	X
Referrals from a person with strong personal ties (Kim and Prabhakar 2000)	- Positive word of mouth referral from a person with strong personal ties	Not included since it is difficult to use arguments for this experience	X
Other Customers' Feedback (Lim et al. 2001)	- Cheap price and saving time - Excellent customer service and fast delivery - Secured store - Convenience	Included in product price/quality, customer service, and personal information issues. Convenience is a benefit, and hence is not included	Δ
Advertising reputation (Cheskin 1999; Einwiller 2003; Jarvenpaa et al. 2000; Kim et al. 2004; Koufaris and Hampton-Sosa 2004; McKnight e al. 2004; Pennington et al. 2003; Wetsch and Cunningham 1999)	- Describing history - Quoting policies (customer satisfaction, returns, and refund) - Consumer testimonials	Included in store presence and customer service related issues	O

Next, the issues in Table 3-3 are compared to the content of strategies and features designed to improve consumers' trust, as described in Section 3 of Chapter 2 and

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summarized in Table 3-6. The left column in Table 3-6 indicates the source or reference that has discussed that particular trust strategy or feature shown in the middle column. The right column in Table 3-6 indicates whether the issues, which the trust-building strategies and antecedents imply, are included in the consolidated list of trust issues.

As shown in Table 3-6, several issues identified in extant studies are not included in the consolidated list, because the use of arguments will do little to resolve the issues (e.g., issues regarding responsive interaction, ease of finding information, simplicity of processes, tracking, functionality, speed, clarity, craftsmanship, and similarity). For example, non-responsive interaction and difficulty in navigation may be issues undermining trust, but they are not included because the presence of arguments may not help to relieve these concerns if consumers actually experience slow response times and difficulty in navigation. In short, the consolidated list of trust issues adequately covers all trust issues that can be addressed through the use of arguments. Thus, we believe that the consolidated trust issue list provides a good basis for reviewing trust-assuring arguments in Internet stores.

5. DISCUSSION

The main goal stated at the outset of this study is: given the importance of trust, for what issues do Internet stores need to provide arguments to increase consumer trust?

In order to answer this question, a framework has been developed to identify the key trust-related issues, and they are organized into four categories: personal information, product quality and price, customer service, and store presence (Table 3-3). The framework is based on a model of trust from the extant literature (Table 3-1) and a model

of the customer resource life cycle (Table 3-2), and has been validated by comparing the

issues generated in the framework to issues identified in a review of the extant studies

(Table 3-6), and to issues of concern raised in two surveys (Table 3-4 and Table 3-5).

In order to demonstrate its applicability, the framework was applied to ten highly profiled

websites[3]. Using the list of consolidated trust issues identified in Table 3-3 as a guide, a

total of 42 trust-related arguments were identified in the ten sites (Table 3-7).

Table 3-7. Number of Arguments Used in Ten Selected Web Sites (As of January, 2002)

Trust issues	Number of Arguments
Credit card shopping may not be safe	9
My personal information may not be protected	8
Information transmission may not be secure	7
A store may request unnecessary information about customers	6
Price may not be reasonable	5
Product quality may be low	4
Return may be troublesome	2
Store may not keep a delivery date	1
Total	42

How do these sites fare in terms of covering the concerns listed in Table 3-3? As the data

in Table 3-7 indicates, arguments are most likely to be found for those issues associated

with personal information and credit card information requests, use and protection,

followed by price and product quality arguments that are provided in half of the stores,

and very few stores attend to trust concerns associated with customer service. However,

the posting of arguments regarding issues of customer service and store presence sould

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[3] The analysis was done in January, 2002. The ten sites were selected from two sources: eCommercetime.com, and Strikingitrich.com. According to eCommercetimes.com (Mahoney, 2001), there would be eight Dot-Com Survivors. They are: eBay, Yahoo!, Amazon, iQVC, JCPenney.com, Active.com, Barnesandnoble.com, and Travelocity. These eight sites were selected and two sites (Coastal Tool and Cassette House) were added based on the commendations in "Strikingitrich.com: profiles of 23 incredibly successful web sites you've probably never heard of" (Easton, 2000). Because they do not have their own retail shops, Yahoo! and Active.com were replaced by two reputable "click and mortar" retailers (Wal-Mart and Sears) based on colleagues' recommendations. Although these ten might not be the best models, all are likely to be recognized as successful retailing sites.

be important, too. For example, consumers likely want to know whether or not their purchase is reversible before they place an actual order. In such cases, arguments about return and cancellation policies may help consumers to make the ordering decision with higher confidence.

6. CONCLUSION OF STUDY 1

As numerous extant studies and surveys of current and potential customers suggest, lack of trust is the key impediment to the further proliferation of Internet shopping. This study has proposed a framework for evaluation of trust-assuring arguments, which is expected to be an important means for increasing consumer trust, by identifying the potential trust issues that need to be accounted for in Internet shopping. In addition, the framework has been applied to ten reputable websites.

The framework provided in this study (Table 3-3) will be of benefit to both practitioners and researchers, by identifying the important trust-related issues that need to be accounted for in Internet stores. Practitioners can utilize this framework to discover the potential issues for which they should provide arguments and the potential issues that are not addressed in their existing websites. For researchers, the study provides a base for future research to test the effects of trust-assuring arguments.

In Studies 2 and 3, the effects of trust-assuring arguments on consumers' trusting beliefs are investigated in a laboratory experimental setting. The trust-assuring arguments to be tested in Studies 2 and 3 are developed to cover the trust related issues identified in Study 1.

CHAPTER 4. STUDY 2: THE EFFECTS OF TRUST-ASSURING ARGUMENTS ON CONSUMER TRUST IN INTERNET STORES: APPLICATION OF TOULMIN'S MODEL OF ARGUMENTATION[4]

1. INTRODUCTION

While the importance of trust has been well accepted and the types of trust belief (e.g., competence, integrity and benevolence) that are of importance have been identified, there is a paucity of research about how to *convey* to customers evidence of a store's trustworthiness. We know from previous work (Toulmin 1958) that there is a hierarchy of argumentation that can be employed to bolster the perceived veracity of (trust) *claims*. While the information systems (IS) literature has discussed the application of Toulmin's work in the context of knowledge-based or expert systems, his prescriptions have not been applied to enhancing trust in Internet stores. We believe this to be a major omission, given that enhancing consumer trust is exceptionally important to B2C (business-to-consumer) e-commerce. Hence, this study examines the effects of the *trust-assuring arguments* on consumers' trusting belief in an Internet store, based on Toulmin's (1958) model of argumentation. The focus of this study is on how to *organize and structure the content of trust-assuring arguments* in order to increase consumers' trust in B2C e-commerce. As an introduction, the trust-assuring argument, which was introduced in the beginning of this dissertation, is analyzed based on Toulmin's (1958) model. The argument in Chapter 1 was:

> *"100% Safe Shopping. We absolutely guarantee that your order will be transmitted securely and that you will pay nothing if unauthorized charges ever*

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[4] A preliminary version of this paper was presented in the Research in Progress track of ICIS 2003: Kim, D. and Benbasat, I. "The Effect of Trust-Assuring Arguments on Consumer Trust in Internet Stores," *Proceedings of the International Conference on Information Systems*, Seattle, Washington, 2003.

appear on your credit card as a result of shopping here." (Excerpted from www.buydigitaldirect.com).

The *claim* of this argument is "100% safe shopping" and the reasons supporting the claim, hereafter called *data* (Toulmin 1958), are: (1) secure transmission of your order, and (2) no money loss due to credit card shopping. However, the reasons for why consumers should accept the *data* is missing in this argument. In spite of the relatively sound logical flow, some readers may not believe this *claim* if they are not convinced of the veracity of the *data*. For example, consumers may inquire as to why they will pay nothing in case of credit card fraud. The answers to these kinds of questions are called *backing* (Toulmin 1958; VerLinden 1998). One example of *backing* is "Most credit card providers limit your liability to $50 and cover all charges resulting from unauthorized use of your credit card. If those credit card companies ask you to pay your liability, we will reimburse you up to $50". With this *backing*, it is more likely that more people will accept the *data* part, thus increasing the acceptance of the trust-assuring argument.

Although some trust-assuring arguments are commonly found in Internet stores, little research effort has been devoted to examining whether these arguments actually increase consumer trust and, more importantly, on how to increase their impact on building consumer trust. To address this gap, the current study examines the effects of trust-assuring arguments on consumer trust in Internet stores and propose Toulmin's (1958) model of argumentation as a way to structure a convincing trust-assuring argument. In particular, the following questions are addressed in this study: (1) Does the provision of trust-assuring arguments increase consumer trust in Internet stores? (2) Does applying Toulmin's model of argumentation increase the effects of trust-assuring arguments on

consumer trust in Internet stores? (3) Are the effects of the trust-assuring arguments due to content or to the length of the arguments? These questions are investigated with data obtained from a laboratory experiment.

This study begins with a brief review of the changes in consumers' trusting belief and Toulmin's (1958) model of argumentation, and then presents the hypotheses to be tested. In Section 3 the research method is introduced; results are presented in Section 4; the findings, limitations, and implications are discussed in Section 5.

2. HYPOTHESES DEVELOPMENT

2.1 Argumentation and Changes in Consumers' *Trusting Belief*

The first study in Chapter 3 has identified the potential sources of unfavourable thoughts about the trustworthiness of Internet stores in Internet shopping (see Table 3-3).

Providing arguments regarding these trust related issues is likely to reduce unknown characteristics of a store and mitigate consumers' potentially unfavourable thoughts while generating favourable thoughts regarding the trustworthiness of a store. If the strength of the unfavourable thoughts decreases and more favourable thoughts are generated, then these changes will be manifested as an increase in the consumers' *trusting belief.* By addressing trust-related issues, stores assert that they are accountable and sincere in dealing with customers, that their business principles should be acceptable to customers, and that they have adequate competence to manage their business on the Internet. In effect, trust-assuring arguments regarding these issues can lead consumers to the conclusion that particular stores exhibit satisfactory levels of trustworthiness to handle online transactions securely, at least in as much as the arguments are perceived to

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be convincing. Therefore, we predict that displaying trust-assuring arguments will increase consumers' *trusting belief* in Internet stores.

In regards to identifying the structure of more convincing arguments, we rely on Toulmin's (1958) model of argumentation.

2.2 Toulmin's Model of Argumentation

A model of argumentation in daily communication, based on arguments made in a court of law setting, was proposed by Toulmin (1958). He has identified six argument elements that appear to be common and invariant across different field settings. However, some of the elements are "commonly left unexpressed when people actually do make arguments" (VerLinden 1998). Therefore, we focus on only three of them – *claim*, *data* and *backing* , which appear frequently in daily communications, and also review *warrant*, statements that are assumed in daily communication although they often remain unexpressed.

- *Claim*: "assertions or conclusions put forward for general acceptance" (Ye and Johnson 1995)
- *Data*: "evidence used to support a *claim*" (VerLinden 1998)
- *Warrant*: propositions that establish links between *data* and *claim* (Toulmin 1958)
- *Backing*: evidence explaining why *warrant* and *data* should be accepted (Toulmin 1958; VerLinden 1998)

An example of an argument and its relationship to these four elements is depicted in Figure 4-1.

A *claim* is what one is arguing for, and *data* is the ground on which the *claim* is based. A bare argument often consists of *claim* and the *data*. *Warrant* is a proposition that links the *data* and the *claim*.
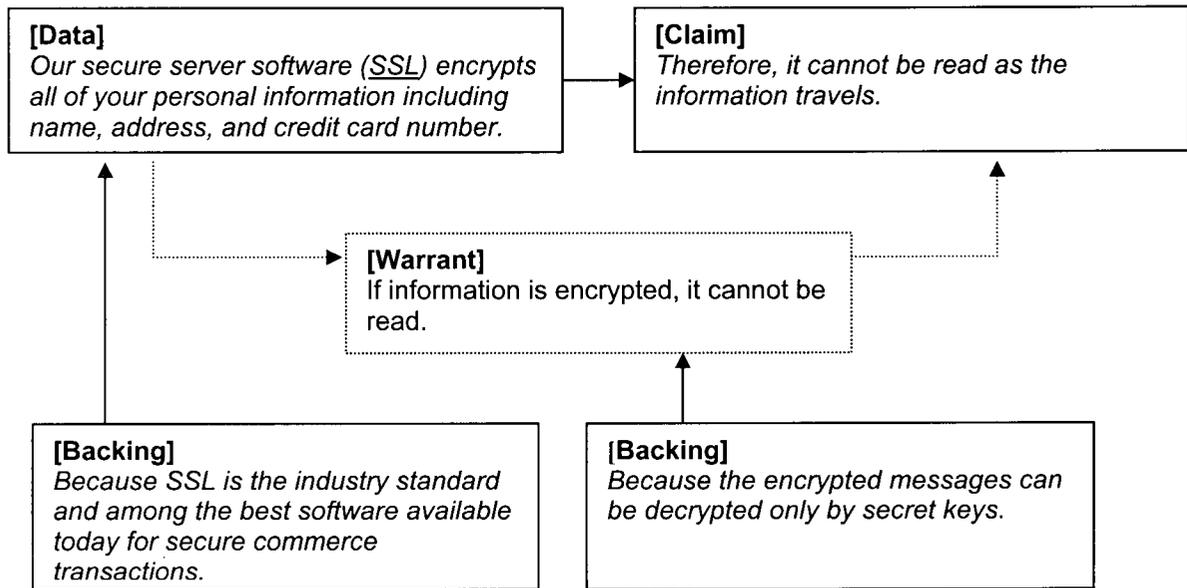
Figure 4-1. Claim, Data, Warrant, and Backing

In Figure 4-1, *warrant* is surrounded with a dotted box because it is often left unexpressed, although its implicit existence is generally assumed. *Data* and *warrant* support the claim directly. Backing supports claim indirectly by supporting the *data* and the *warrant*. In this example, those familiar with the meaning of encryption may accept the argument. Others may inquire as to why encryption means that information cannot be read. If *warrant* is challenged, other statements could be used as a backup. *Backing* for "why does encryption prevent information from being read?" could be: "Because the encrypted messages can be decrypted only by secret keys [*backing*]". While those familiar with SSL (Secure Socket Layer) may accept the *data* that SSL encrypts information, others may need *backing*, as shown in the Figure 4-1, to be convinced.

By combining the three argument elements in Toulmin's model, we define the following three forms of arguments: "*claim* only", "*claim plus data*", and "*claim plus data and backing*". Theoretically, *data* without *claim* and other combinations can also be tested. However, such forms are not included in this study because they hardly appear in daily

communication. Given these three forms of trust-assuring arguments, the prediction that providing them will increase consumers' trusting belief is expressed in the following three hypotheses.

H1a: Displaying *trust-assuring arguments* that include *"claim only"* increases a consumer's *trusting belief*.

H1b: Displaying *trust-assuring arguments* that include *"claim plus data"* increases a consumer's *trusting belief*.

H1c: Displaying *trust-assuring arguments* that include *"claim plus data and backing"* increases a consumer's *trusting belief*.

In general, people accept the *claim* of an argument if they accept the *data* (e.g., evidence) and the *warrant* (e.g., logic of argument). If customers express skepticism about particular *data* and *warrant*, then *backing* provides the reasons for why they should be accepted. People are more likely to accept the *data* and *warrant* of an argument that includes *backing* than one without it. In fact, Ye and Johnson (1995) have reported that explanations that conform to Toulmin's model are more persuasive in the context of expert systems use. In addition, studies on knowledge-based system explanations (Gregor and Benbasat 1999) have posited that arguments which conform to Toulmin's model of argumentation are more effective in influencing consumers' beliefs. Therefore, we hypothesize the following:

H2a: *"Claim plus data and backing"* is more effective in increasing a consumer's *trusting belief* than *"claim only"* is.

H2b: *"Claim plus data and backing"* is more effective in increasing a consumer's *trusting belief* than *"claim plus data"* is.

2.3 Are the Effects of Arguments Due to Content or Length?

Even if hypotheses 2a and 2b are supported, we cannot conclude that the observed differences in consumers' *trusting belief* among the three forms of argument (i.e., *"claim only"*, *"claim plus data"*, and *"claim plus data and backing"*) are solely due to argument *content*. One could argue that the same results might have occurred due to *longer length* of the arguments that include *"claim plus data and backing."* Obviously, for the same *claim* and *data*, arguments that include *"claim plus data and backing"* are naturally longer than those that include *"claim only"* or *"claim plus data."* ELM (Elaboration Likelihood Model: Petty and Cacioppo 1986, p. 5) suggests that both *content* and *heuristic cues,* such as *length of arguments*, can influence people' attitude and intentions. Therefore, we cannot rule out the influence of *length*. However, ELM also suggests that *heuristic cues* become "relatively more important determinants of persuasion" as people's motivation to process arguments is *decreased,* while they become "relatively less important determinants of persuasion" as argument scrutiny is *increased* (Petty and Cacioppo 1986, p. 20).

As a surrogate for motivation to process arguments, a subject's involvement in the arguments provided was measured in the current study. The involvement measure was adapted from Zaichkowsky's (1994) Personal Involvement Inventory[5].

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[5] The scale has been used to measure involvement with advertising in addition to involvement with products and purchase decisions. Zaichkowsky and Lynne (1994) demonstrated that the PII scale used in the current study showed satisfactory psychometric characteristics (e.g., Cronbach's Alphas of the involvement scale with advertising were reported to be over 0.90.

Based on ELM, we infer the following. If the effect of arguments on consumers' *trusting belief* is mostly due to *length*, then the differences in the hypothesis 2a (i.e., differences in *trusting belief* between *"claim only"* and *"claim plus data and backing"*) and the hypothesis 2b (i.e., differences in *trusting belief* between *"claim plus data"* and *"claim plus data and backing"*) would be significant when people's involvement in the arguments is low but not so when high. Conversely, if the effect of arguments on consumers' *trusting belief* were due mostly to argument *content*, then hypotheses 2a and 2b would be significant when people's involvement in the arguments is high but not so when low. Since Toulmin's (1958) model of argumentation specifies how to organize argumen*t content*, we predict that it is more likely that the effects of arguments are due to *content*.

H2c: *"Claim plus data and backing"* is more effective in increasing a consumer's *trusting belief* than *"claim only"* is when there is a high level of involvement in arguments but not so when there is a low level.

H2d: *"Claim plus data and backing"* is more effective in increasing a consumer's *trusting belief* than *"claim plus data"* is when there is a high level of involvement in arguments but not so when there is a low level.

3. METHOD

A laboratory experiment was conducted to investigate these hypotheses because it can control for potential confounding factors, such as downloading time. One hundred and twelve people including university students, staff, and faculty members were recruited.

3.1 Experimental Task

Participants were asked to explore *two* experimental Internet stores one at a time. They were told that the stores were real. Their tasks were: (1) to evaluate two stores by examining the front page, checkout processes, policies, and features; (2) to decide from which store they would prefer to buy a watch; and (3) to complete a questionnaire. All participants received $10 as a reward for their participation. In addition, to encourage their involvement, participants had the option to buy a $30 gift certificate for $10 from the researchers, if they agreed to use the gift certificate to buy their chosen (favourite) product from one of the two stores.

3.2 Independent and Dependent Variables

3.2.1 Independent Variables

1) Displaying trust-assuring arguments based on Toulmin's model

As discussed in section 2.2, three different forms of arguments (i.e., *"claim only"*, *"claim plus data"*, and *"claim plus data and backing"*) were identified according to Toulmin's model. In order to address the trust issues identified in Table 3-3, arguments that consist of a *claim*, *data*, and *backing* were developed by referring to and utilizing arguments used in actual Internet stores. The arguments were refined through a pre-test with eleven graduate students. Participants were asked to carefully read the arguments one by one and to indicate whether or not the arguments were vague or awkward in their meaning. Based on their feedback, the arguments were revised and improved.
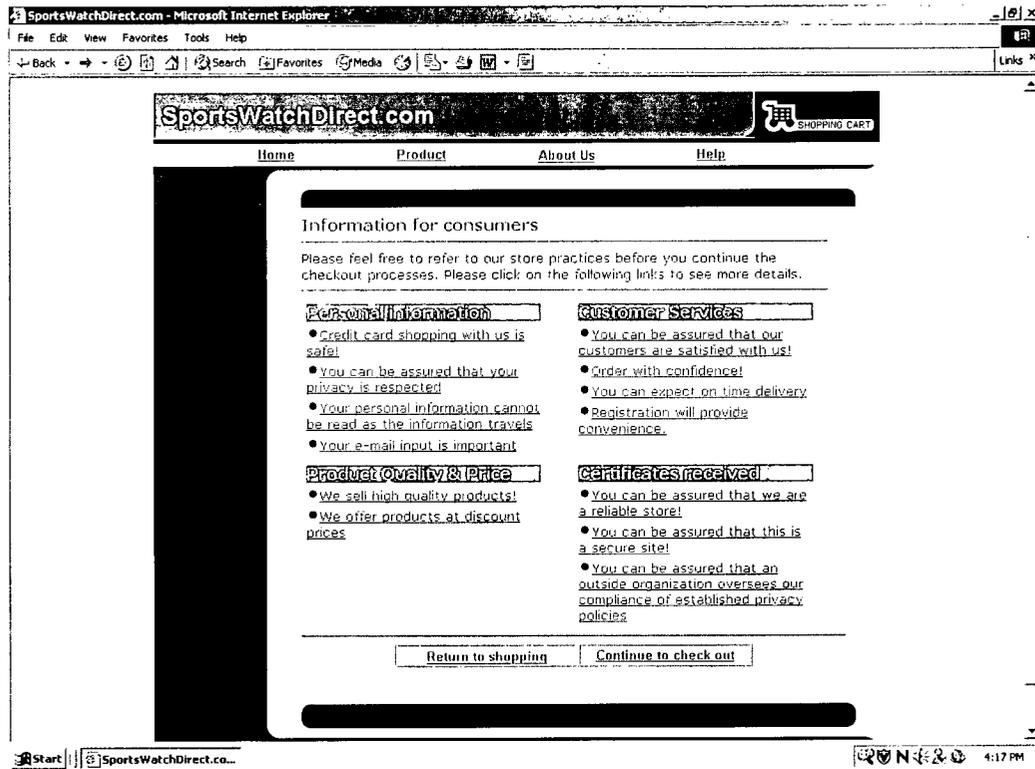
Figure 4-2. Information for Consumers (Inserted as a Page of Checkout)
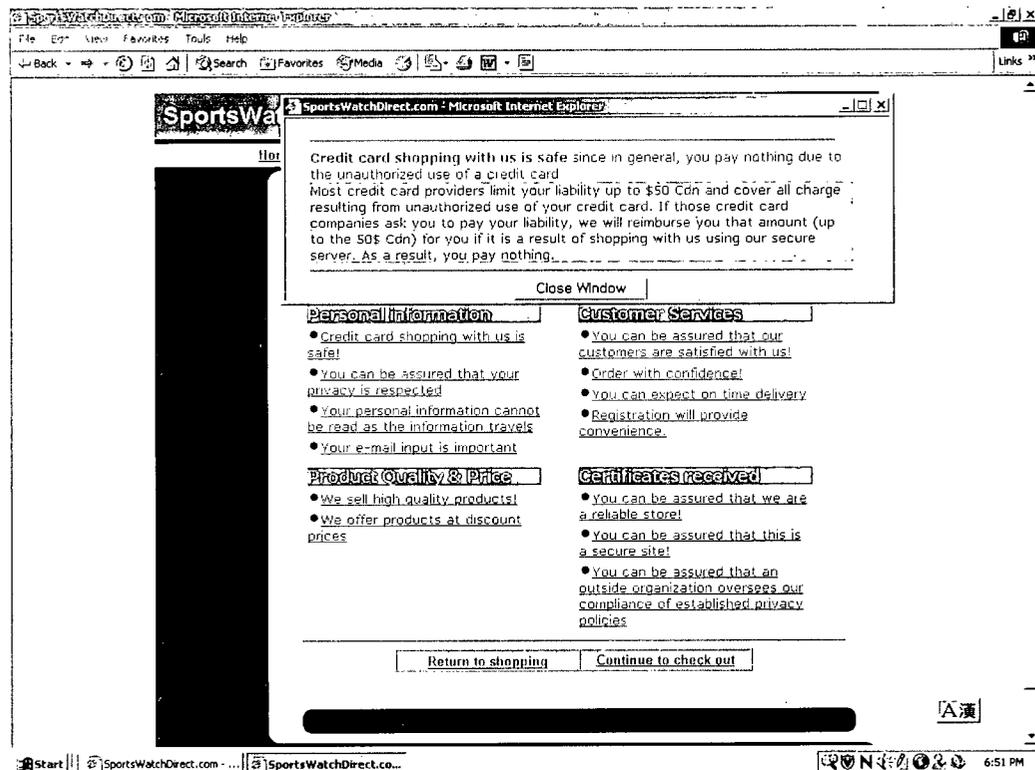
Figure 4-3. Hyperlinks to Access Full Argument Contents

Screens in the checkout process   **Arguments* provided**

| 1. Front Page | Argument 1: Credit card shopping with us is safe … |

| 2. Product List | Argument 6: Order with confidence! … |

| 3. Shopping cart status | Argument 3: Your personal information cannot be read … |

| 4. Information for consumers (only at the treatment conditions) | Argument 1 ~ 13: All arguments (claims and links to data and backing) |

| 5. e-mail address input | Argument 4: Your e-mail input is important … |

| 6. Shipping information input | Argument 2: You can be assured that your privacy is respected … |

| 7. A shipping option selection | Argument 7: You can expect on time delivery … |

| 8. Registration and a payment option selection | Argument 8: Registration will provide convenience … |

| 9. Order preview and confirmation | Argument 5: You can be assured that customers are satisfied with us … |

| A page for company information (About us) | Argument 9 ~ 13: Product quality, price, and third party certifications |

Figure 4-4. The Checkout Processes and Arguments Provided at Each Screen

(*: For full content of the numbered argument, please refer to Appendix 1.)

All the thirteen arguments (see Appendix 1), which cover most of the trust issues in Study 1 directly or indirectly, are listed in one of the *checkout* pages (Figure 4-2), where customers could see all the *claims* and links to *data* and *backing* by clicking the hyper links (Figure 4-3). In order to increase chances for participants to access the arguments, the same arguments were also each embedded in one of the front page, checkout pages, or company information pages, as described in Figure 4-4.

For this study, two Internet stores were developed in order for subjects to compare the two stores, as people often do in Internet shopping. They were named sportswatchdirect.com (hereafter store A) and sportstechwatch.com (hereafter store B).

For *each store* there were four versions of their particular website: (1) a website *without* arguments (hereafter *baseline*), (2) a web site displaying *"claim only"*, (3) a website displaying arguments that consisted of *"claim plus data"*, and (4) a website displaying arguments that included *"claim plus data and backing."* Each participant was randomly assigned to one of these four groups (28 participants per group) for both stores.

Table 4-1. Treatment Groups and Sequence of Visit

Order	Control		Claim Only		Claim Plus Data		Claim Plus Data and Backing	
1st Store	Store A without argument	Store B without argument	Store A without argument	Store B without argument	Store A without argument	Store B without argument	Store A without argument	Store B without argument.
2nd Store	Store B without argument	Store A without argument	Store B with claim	Store A with claim	Store B with claim + data	Store A with claim + data	Store B with claim + data + backing	Store A with claim + data + backing

Each participant first explored a web site that did not include any arguments (i.e., *baseline*), and then visited the second web site (i.e., *baseline*, *"claim only"*, *"claim plus data"*, or *"claim plus data and backing"*) according to his or her assigned group. To

counterbalance the differences between stores A and B, half of the participants within a group visited store A first followed by store B, and the other half visited store B first followed by store A (Table 4-1).

The experiment was designed in this manner partly because people often compare more than one Internet store for their purchase and partly because the influences from individual subjects' past experiences are controlled in this design. According to Helson's Adaptation-Level Theory (1964: also see Streitfeld and Wilson 1986, and Lim and Benbasat 2000), a subject's perceptual response to a stimulus in a judgmental task depends on three factors: (1) the stimulus presently given (displaying *trust-assuring arguments* in this study), (2) the context or background (for making comparative evaluations), and (3) the sum of the subject's past experiences. Without receiving a specific context or background, subjects will make judgments of the stimulus provided to them primarily using their past experiences about what they perceive to be characteristic of a trustworthy store. Individual subjects are likely to have different past experiences, hence there is no *common frame of reference* to make a judgment if a close context is not provided.

In order to control the variations of consumers' trusting beliefs due to individual subjects' past experiences, we provided the first store that contained no argument as a baseline or a frame of reference. The second store, with experimental treatments, was then presented for subjects to assess the trustworthiness of the second store as compared to that of the first store. To measure the potential learning effect, we used a control group, in which subjects visited two stores that did not include any arguments.

Table 4-2. Measures of Variables

Variables	# of Ite-ms	Items	Source
Involvement in Arguments	10	*How would you rate the second store's information for consumers that you actually have noticed in terms of the following adjectives?* Important 1 2 3 4 5 6 7 Unimportant Irrelevant 1 2 3 4 5 6 7 Relevant Mean a lot to me 1 2 3 4 5 6 7 Mean nothing to me Valuable 1 2 3 4 5 6 7 Worthless Not needed 1 2 3 4 5 6 7 Needed Uninterested 1 2 3 4 5 6 7 Interested Unexciting 1 2 3 4 5 6 7 Exciting Appealing 1 2 3 4 5 6 7 Unappealing Mundane 1 2 3 4 5 6 7 Fascinating Involving 1 2 3 4 5 6 7 Not involving	Adapted from Zaichkowsky's (1994) Personal Involvement Inventory
Trusting Belief[6]	4	*To which of the two stores does the following statement apply more?* 1. This store is trustworthy. 2. I believe that this store keeps its promises and commitments. 3. I trust that this store keeps customers' best interests in mind. 4. This store does not have sufficient expertise and resources to do business on the Internet [Reversed]	Store trustworthiness: Jarvenpaa et al. (2000) Store trustworthiness: Jarvenpaa et al. (2000) Store trustworthiness: Jarvenpaa et al. (2000) Adapted from Ability: Lim et al. (2001)

2) Involvement in arguments provided

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[6] Trusting belief is measured with 15-point scale (7: the statement applies to the first store far more, 0: the statement applies to both store equally, 7: the statement applies to the second store far more)

The involvement measure was adapted from Zaichkowsky's (1994) Personal Involvement Inventory. It is a 10 items summative scale, measured on a 7 point semantic differential scale including: important, relevant, valuable, means a lot to me, needed, interesting, appealing, fascinating, exciting, and involving (Table 4-2).

3.2.2 Dependent Variable

Table 4-2 lists the items to measure consumers' *trusting belief* as a dependent variable. It is a four items summative scale with all items adapted from previous studies. The measure is based on a 15-point scale (i.e., −7 to +7) and based on perceptions of the second store (i.e., treatments) as compared to the first store (i.e., no arguments).

Because we were testing the initial stage of trust building, we measured consumers' *trusting beliefs* as a single construct, which included indicators of ability, integrity, and benevolence. A single scale approach is used in many trust studies (Crosby et al. 1990; Bhattacherjee 2002; Doney and Cannon 1997; Gefen 2000; Gefen 2002a; Gefen 2002b; Gefen and Straub 2003; Gefen et al. 2003a; Gefen and Silver 1999; Jarvenpaa and Tractinsky 1999; Jarvenpaa et al 2000; Koufaris and Hampton-Sosa 2004; Larzelere and Huston 1980; Malhotra et al. 2004; Pavlou 2003; Pavlou and Gefen 2002; Pennington et al. 2003; Ramaswami et al. 1997; Suh and Han 2003; Zaheer et al. 1998).

3.3 Experimental Procedures

3.3.1 Pilot Tests

Three pilot tests with four, eight, and nineteen subjects, respectively, were conducted to refine the experimental procedures and websites. Results of the last pilot test indicated

that there were no significant differences ($F_{(1,17)} = 0.179$, $p > 0.10$)[7] between the two experimental websites (i.e., store A and B), and that there were statistically significant differences in consumers' *trusting belief* among the treatment groups ($F_{(3,15)} = 8.611$, $p < 0.01$).

3.3.2 Initial Briefing

The study was conducted with one participant at a time. Participants spent about an hour to complete the task. Upon arrival, participants were randomly assigned to one of the four treatment groups and received an instruction binder that described the procedures for the study. They were told that the aim of the study was to understand consumers' Internet shopping experiences. After completing a consent form, subjects received $10 for their participation, and then completed a pre-questionnaire regarding their Internet experiences and their pre-existing trust in Internet stores.

3.3.3 Practice and Selection of a Favourite Watch

A research assistant demonstrated to the participants the key steps of the checkout process that they had to go through in order to place an order in the baseline store, using a printed copy of screen images, until subjects were familiar with the meaning of buttons (e.g., "add to cart", "continue shopping", and "check out") in the ordering process. Then, pictures and descriptions of four watches were given to the participants in printed form. They were asked to review the four watches and to choose the one they liked best, which they would buy in the next step. This step imitated participants' product-searching experiences.

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[7] Notation of F: $F_{(df1, df2)}$ - df1 is degrees of freedom associated with each effect and df2 is degrees of freedom associated with the error term

3.3.4 Comparative Evaluation of Control and Treatment Stores

Participants were requested to explore two Internet stores, first a store without arguments and then one with arguments based on treatment conditions, one at a time, to shop for the watch they had selected in the previous step, and to observe the front pages, checkout processes, policies, and information for customers that included the trust-assuring arguments (Figure 4-2). Since our objective was to have the participants fully explore all the information provided on the web pages, with the intent on capturing the participants' perceptions of the trustworthiness of the Internet stores subsequently, we did not ask the participants to enter their personal information in order to avoid them skipping certain pages. After exploring the two stores, the participants filled in questionnaires concerning the dependent variables, namely, consumers' *trusting belief* (Table 4-2), and the reasons for their answers. Those who chose to buy a watch paid $10, filled out a gift certificate, and returned it to the researchers. (When the incentive was explained, they were told that researchers would mail the orders after all the participants made their decisions.) When the data collection was completed, those who paid $10 to buy a watch were debriefed via e-mail and had the option to receive $30 (the nominal value of the gift certificate) in cash, or the watch they had ordered, according to their preference.

4. RESULTS

4.1 Subject Demographics

About 57% of the participants were females, 98% of the participants had more than two years of Internet use experience, 68% used the Internet more than 20 hours per week, and 63% had previously made purchases at least once in the past 12 months.

4.2 Manipulation Checks and Measurement Characteristics

No significant differences were found between the subjects randomly assigned to each of the conditions, with respect to Internet experience, online shopping experience, their comfort level with shopping online, their pre-existing levels of trust in Internet stores, gender, and age (MANOVA test, Wilks Lambda F = 1.310, p>0.10).

Based on the participants' answers about argument use in the post-experiment questionnaire, we measured the extent to which participants accessed the 13 trust-assuring arguments (Appendix 1) that the *second* store displayed. Those exposed to *claims*, *data*, and *backings* respectively reported that on average they accessed 9.2 *claims* (70%), 6.5 *data* (50%), and 4.7 *backing* statements (36%).

Reliability, convergent validity, and discriminant validity for consumers' *trusting belief* (and *trusting intentions*) were examined using PLS-GRAPH (version 3.0) based on the guidelines suggested by Gefen et al. (2000). The results indicated that consumers' *trusting belief* shows satisfactory construct reliability (0.93) and sufficient convergent and discriminant validity[8].

4.3 Comparisons of Treatment Groups

Table 4-3 shows descriptive statistics regarding consumers' *trusting belief*. As we predicted, the increase of the *trusting belief* with arguments that include *"claim plus data and backing"* was the largest.

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[8] The square roots of AVE values were higher than the correlation between the consumers' trusting belief and trusting intentions, and each item loaded more highly on its own corresponding construct than on the rest of the constructs.

To test whether there was any significant difference among the treatment groups for consumers' *trusting belief,* an ANOVA was run with the treatment groups (i.e., *control,* *"claim only", "claim plus data",* and *"claim plus data and backing")* as one factor and the order of visit (store A first or store B first) as the other[9]. The ANOVA indicated that consumers' *trusting belief* is significantly different among treatment groups ($F_{(3,104)}$ = 5.996, p < 0.01) but not significantly different due to the order of visiting the two stores ($F_{(1,104)}$ = 1.174, p > 0.1), as expected.

Table 4-3. Descriptive Statistics (Trusting Belief)

GROUP	N	Mean	Std. Dev.
Control	28	0.277	1.593
Claim Only	28	0.813	1.591
Claim Plus Data	28	1.143	1.231
Claim Plus Data and Backing	28	2.170	2.269

To test hypotheses 1a, 1b, 1c, 2a, and 2b, five non-orthogonal contrast tests (see Table 4-4) were conducted based on Holm's Sequentially Rejective Bonfferoni Test with Welch's degrees of freedom (Kirk 1995, p. 143). Holm's procedure was chosen because it is recommended as the most powerful procedure for non-orthogonal group comparisons (Kirk 1995, p. 143). Welch's modified degree of freedom was used to control the type I error in the contrast tests under unequal variance[10] among treatment groups (Kirk 1995, p.

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[9] ANCOVA was also performed. Trust propensity in Internet stores (i.e., preexisting levels of trust in Internet stores in general), years of Internet experience, hours per week of Internet use, frequency of shopping online, amount of online purchase, comfort level with shopping online, gender, and age were entered as covariates. None of these covariates were significant at α = 0.05, indicating that individual's characteristics and past experiences are successfully controlled by randomly assigning subjects and having a baseline store. In this dissertation, an ANVOA results are reported because all covariates in ANCOVA are non-significant.

[10] Kirk (1995, p. 435) recommended using Welch's degree of freedom in case of unequal variances to control the type I error in t statistics. ANOVA is not sensitive to unequal variance if cell sizes are equal, as is the case (28 per cell) in this study (Shavelson 1996, p.424)

143). A *one-tailed test* was applied because the hypothesis tested directionality (Cooper and Emory 1995, p. 435).

Table 4-4 shows the results of the five contrast tests. For *"claim plus data and backing"* as well as *"claim plus data"* groups consumers' *trusting belief* was significantly higher than that of the *control* group. However consumers' *trusting belief* of the *"claim only"* group was not different from that of the *control* group. Therefore, hypotheses 1b and 1c were supported but hypothesis 1a was not, indicating that displaying trust-assuring arguments can increase consumers' *trusting belief* only when they include *data* or *data* plus *backing*. Consumers' *trusting belief* of *"claim plus data and backing"* group was significantly higher than that of both the *"claim only"* group and the *"claim plus data"* group. Therefore, hypotheses 2a and 2b were supported, suggesting that arguments that include *claim*, *data*, and *backing* are most effective in increasing consumers' trust among the three forms.

Table 4-4. Non-orthogonal Contrast Tests for Trusting Belief

Contrast (Mean Difference)	Contrast Value	t	Welch's df	Critical t Value (α=0.05, one tail)
"Claim Plus Data and Backing" – Control	1.893	3.613	48.419	2.406* a
"Claim Plus Data and Backing" – Claim Only	1.357	2.591	48.378	2.312* b
"Claim Plus Data" – Control	0.867	2.276	50.770	2.189* c
"Claim Plus Data and Backing" – "Claim Plus Data"	1.026	2.105	41.631	2.009* d
Claim Only - Control	0.536	1.259	54.000	1.684

Notes:
1. Holm's Sequentially Rejective Bonfferoni Test with Welch's degree of freedom (Kirk 1995) was used.
2. *: Contrasts are significant at 0.5 level (one tailed).
3. a: Critical value based on Dunn-Sidak procedure (df = 40, 5 comparisons).
4. b: Critical value based on Dunn-Sidak procedure (df = 40, 4 comparisons).
5. c: Critical value based on Dunn-Sidak procedure (df = 40, 3 comparisons).
6. d: Critical value based on Dunn-Sidak procedure (df = 40, 2 comparisons).

To test hypotheses 2c and 2d, the three treatment groups[11] ("*claim only*", "*claim plus data*", and "*claim plus data and backing*") were divided into two sub-groups, based on the levels of involvement in the arguments within each condition. Participants were placed into the high involvement group if their involvement scores were higher than or equal to the median of involvement within their treatment group; otherwise they were placed into the low involvement group.

ANOVA was run respectively for 1) high involvement sub group, and 2) low involvement sub group, to examine whether treatment differences are significant in regard to consumers' *trusting belief* in the two involvement sub group respectively. As we expected, the differences in consumers' *trusting belief* among the three treatment groups ("*claim only*", "*claim plus data*", and "*claim plus data and backing*") were significant in the high involvement subgroup in the ANOVA test ($F_{(2,41)}$ = 4.832, $p <$ 0.05) but not so in the low involvement subgroup in the ANOVA test ($F_{(2,37)}$ = 1.915, $p >$ 0.10). The Games-Howell post hoc test within the high involvement subgroups showed that consumers' *trusting belief* in the "*claim plus data and backing*" group was significantly higher than that of the "*claim only*" group ($p <$ 0.05) and that of the "*claim plus data*" group ($p <$ 0.05). The Games-Howell post hoc test within the low involvement subgroups indicated that consumers' *trusting belief* in the "*claim plus data and backing*" group was not different from that of the "*claim only*" group ($p >$ 0.10) or that of the "*claim plus data*" group ($p >$ 0.10). Based on these results, we concluded that there is no significant difference in regard to consumers' trusting beliefs among the treatment groups within the low involvement subgroup. Thus hypotheses 2c and 2d were supported,

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[11] The control group is excluded in this test because personal involvement in trust-assuring arguments is not applicable to this group given that no trust-assuring argument was provided to this group.

indicating that the contents of the arguments (rather than the lengths) are the main factor in increasing consumers' trusting belief.

5. DISCUSSION

In this study, we endeavoured to examine three questions: (1) Does the provision of trust-assuring arguments increase consumer trust in Internet stores? (2) Does applying Toulmin's model of argumentation increase the effects of trust-assuring arguments on consumer trust in Internet stores? (3) Are the effects of the trust-assuring arguments due to content or to the length of the arguments? To address these questions, we applied Toulmin's model of argumentation to develop three different forms of arguments and tested them in a laboratory setting.

The results suggest that trust-assuring arguments increase consumer trust if they include *"claim plus data"* or *"claim plus data and backing."* Providing *"claim plus data and backing"* increased consumers' *trusting belief* by 1.90 points while *"claim plus data"* augmented it by 0.87 points over and above the *control* group. *"Claim only"* arguments did not increase consumer trust. Although, as indicated in Table 4-2, we used a 15 point scale to measure the trusting belief (-7: the statement applies to the first store far more, 0: the statement applies to both stores equally, +7: the statement applies to the second store far more) to allow for the possibility that one might trust a store without trust-assuring arguments more than one with such arguments, it was extremely rare that this was the case. Two out of the 28 subjects in the *"claim plus data"* and one out of 28 in the *"claim plus data and backing"* groups did so. Hence, the difference between *"claim plus data and backing"* and control groups can be interpreted as a 2 point difference on a 7 point scale to measure trusting belief (27% increase).

Regarding the second question, the results support that arguments utilizing *"claim plus data and backing"* are the most effective among the three forms of arguments in increasing consumer trust. For the third question, the results suggest that the effects were mainly due to content rather than to the length of the arguments. Therefore, we conclude that Toulmin's model is appropriate as a guide to the construction of effective trust-assuring arguments for Internet stores.

This study shows that trust-assuring arguments have a significant effect in increasing consumer trust as long as the content of them is well formed based on Toulmin's model.

Study 3 investigates the conditions under which a store's trust-assuring arguments are more or less effective in increasing consumers' trusting beliefs when compared to third party certifications. In Study 3, Toulmin's model is applied to create different level of convincing content based on the results of Study 2.

CHAPTER 5. STUDY 3: AN EXPERIMENTAL INVESTIGATION OF TRUST ENHANCING FEATURES: COMPARISON OF A STORE'S TRUST-ASSURING ARGUMENTS AND A THIRD PARTY CERTIFICATION

1. INTRODUCTION

The second study described in Chapter 4 demonstrated that *a store's well structured trust-assuring arguments based on Toulmin's (1958) model increase consumer trust*. The study, however, did not investigate the relative influence of such arguments on consumers' trust when compared to other trust enhancing mechanisms, such as third party certifications (e.g., WebTrust, BBBOnline, TRUSTe, etc), which we regard as a type of trust-assuring argument made *by an independent third party*. We believe that this is an important question for business managers because implementing different trust enhancing mechanisms require different levels of investment. For example, obtaining third party certifications is likely to be more costly than implementing the trust-assuring arguments made by an Internet store itself. In the case of WebTrust certification (a third party certification issued by accounting firms) a company has to pass an audit conducted by a WebTrust licensed accounting firm every 6 months to maintain the certification (Cook and Luo 2003). The fee for obtaining WebTrust certification is comparable to other consulting services performed by an accounting firm (see client FAQ at http://www.webtrust.net). Thus, the investment for WebTrust certification is likely to be much higher than that for a store's trust-assuring arguments implementation. Furthermore, newly established Internet stores are not eligible for some third party certifications, such as BBBOnline reliability certification, which requires that an applying company be in business a minimum of one year. In contrast, the implementation of a store's trust-assuring arguments is at the business managers' own discretion. Hence, it is important to

examine the relative influence of trust-assuring arguments made by Internet stores on consumer trust when compared to that of third party certification. If claims by the store can be bolstered by using well-structured arguments, then there will be no need to adhere to costly third party certification.

Business managers might believe that it is apparent that third party certifications will have stronger effects in increasing consumer trust than trust-assuring arguments made by a store itself. In fact, the results of Nöteberg et al.'s (2003) study showed that third party assurances were more effective than self-proclaimed ones. However, it is possible that the former might not be as effective as the latter in a certain condition where the former consists of a simple *claim*, the latter includes *"claim, data, and backing"* and one feels high personal relevance to the trustworthiness of a store. This study investigates the conditions in which one feature (either a third party certifications or a store's trust-assuring argument) is more or less effective than the other in increasing consumer trust in the context of B2C electronic commerce. Drawing from the Elaboration Likelihood Model (ELM: Petty and Cacioppo 1986, p. 5) and Toulmin's (1958) model of argumentation, we examine three factors, which are known to influence persuasion outcomes, in a laboratory experimental setting. They are: *content* of arguments, *sources* of arguments, and *receiver*'s personal relevance of argument topics (O'Keefe 2002 p. 215, p181, p. 241).

This study begins with a brief review of the literature on sources of arguments and the Elaboration Likelihood Model. The research model and hypotheses to be tested are presented in Section 3. In Section 4, the research method is introduced, and the results are presented in Section 5. The findings are discussed in Section 6.

2. LITERATURE REVIEW

2.1 Sources of Arguments

In an electronic commerce setting, the same content of trust-assuring arguments that are displayed or provided on a store's website may come from different sources, such as the store itself, customers (e.g., satisfied customer endorsements: Lim et al. 2001), or an independent third party (e.g., third party assurance: Nöteberg et al. 2003). According to O'Keefe's (2002 p. 181) review, the characteristics of the source, such as source credibility, influence the persuasion outcomes, such as changes in trusting beliefs. Source credibility, which refers to the believability of communicators, is related to two types of communication bias: knowledge bias and reporting bias (O'Keefe 2002 p. 183). "Knowledge bias refers to a recipient's belief that a communicator's knowledge about external reality is nonveridical, and reporting bias refers to the belief that a communicator's willingness to convey an accurate version of external reality is compromised" (Eagly et al. 1978).

According to Dholakia and Sternthal's (1997) review, highly unbiased and expert sources (i.e., a source from which message receivers perceive less reporting and knowledge bias) induced more attitude changes than less unbiased or less expert ones (Hovland and Weiss 1951; Kelman and Hovland 1953; Miller and Baseheart 1969). Similarly, Petty et al. (1981) found that subjects in an experimental study reported more favourable attitudes towards a proposal for a comprehensive exam when arguments for the proposal were presented by an expert rather than an inexpert source.

Although highly credible sources are effective in persuasion in general, less credible sources are sometimes more effective under a low personal relevance condition if the arguments "advocate a position toward which the receiver initially feels at least somewhat favourable" (O'Keefe 1990, p. 194).

In information systems research, sources of argument have shown similar effects. For example, credible sources increased respondents' perceived usefulness of advice received through e-mail in an international consulting organization (Sussman and Siegal 2003), knowledge adoption in online communities of practice (Zhang and Watts 2003), and users' decision to accept a knowledge-based system's recommendation to revise their original judgement made using a knowledge-based system (Mak et al. 1997). Similarly, the reputation of source is suggested as one of the main criteria for people's judgement of information quality on the Internet (Rieh and Belkin 1998), and Huerta and Ryan (2003) reported that a high reputation of the web site owner increased the credibility of a web message in their experimental study.

Nöteberg et al. (2003) compared the effects of third party assurance (e.g., ecommerce assurance by independent third parties, such as accountant, bank, computer industry, consumer unions) on the likelihood to purchase to those of self-proclaimed assurances, which can be considered a kind of trust-assuring argument made by an Internet store itself. The results showed that both third party assurances (mean = 4.96 on a 7 point Likert scale: from extremely unlikely to extremely likely) and self-proclaimed assurance (mean = 4.53) were both effective in increasing the likelihood to purchase when compared to a no assurance condition (mean = 3.45), and that third party assurances were more effective than self-proclaimed ones.

Although Nöteberg et al. (2003) compared the effects of the *source* factor (i.e., a third party or the Internet store itself), the argument *content* and *receiver* factor were not systematically examined together. It is not certain that arguments made by third party assurance organizations are more effective in increasing consumers' trusting belief than those done by a store itself when these three factors vary together.

2.2 Elaboration Likelihood Model

Elaboration Likelihood Model (ELM: Petty and Cacioppo 1986, p. 5) attempts to place existing persuasion theories and research under one conceptual umbrella. Here, *elaboration* refers to "the extent to which a person scrutinizes the issue-relevant arguments that are contained in the persuasive communication" (Petty and Cacioppo 1986, p. 7). ELM assumes that "the more important it is to hold a correct attitude, the more effort people will be willing to expend in order to evaluate an advocacy [of arguments entailed in information]" (Petty and Cacioppo 1986, p. 7). Everyday, people receive and process a lot of information, such as arguments displayed on an Internet store, product descriptions in advertising, e-mail messages, and so on. When information is provided, sometimes people put significant efforts into processing it (i.e. they read it very carefully, compare the arguments that the information contains to other arguments that people recall or devise, and so on: O'Keefe 2002, p. 138). People, however, do not always put such effort. They sometimes process information by reading it briefly without thinking about arguments that it entails. ELM explains these different modes of information processing behaviours by positing two qualitatively different routes to persuasion: the central route and the peripheral route (Petty and Cacioppo 1986, p. 5).

With the central route, people put significant effort into processing information and the *argument content* assumes an important role in persuasion outcomes. Arguments may generate positive or negative thoughts when they are presented. If an argument leads to predominantly favourable (or unfavourable) thoughts, then the argument is relatively successful (or unsuccessful) in eliciting changes in beliefs and attitudes (O'Keefe 1990, p. 103). With the peripheral route of persuasion, in contrast, people put minimal effort to process information and judge information according to simple heuristic cues, such as the *source factor* (e.g., perceived reporting bias, liking, and attractiveness), without careful consideration of the *argument content* (O'Keefe 2002, p. 150).

The central route of persuasion occurs when people are highly *motivated* to process the arguments and when they have a high level of *ability* to do so. When either of these two factors are at a low level, the peripheral route of persuasion occurs (O'Keefe 1990, p. 103).

Assuming that a consumer has the ability to process the arguments provided by Internet stores, the consumer's motivation to process those arguments would be the primary factor determining the two routes. *Personal relevance*[12], which refers to the "intrinsic importance" of the topics of the information to a consumer, is generally viewed as the most important variable affecting the motivation of the consumer (Petty and Cacioppo 1986, p.81.). Thus, if the degree to which argument topics are of personal relevance to argument receivers is high, the central route of persuasion is likely to occur; hence the

---

[12] *Involvement* and *personal relevance* are used interchangeably in many studies. According to Petty and Cacioppo's (1986, p. 81) review, personal relevance (and its variations) have been labeled "issue involvement", "personal involvement", and so on. In fact, Zaichkowsky (1985), whose measure of personal involvement is used in Study 2, defines involvement as "a person's perceived relevance of the object based inherent needs, values, and interests."

content of arguments takes an important role in persuasion. By the same token, if the degree of personal relevance is low, the peripheral route of persuasion is likely to occur; hence the *source of arguments* has the predominant effects in persuasion.

Although ELM adequately explains the conditions in which persuasion occurs, it does not attempt to provide any methods on how to construct an argument with persuasive *content*. Instead, argument *content* was developed in an empirical manner. Petty and Cacioppo (1986 pp. 30-32) mentioned that several arguments were developed intuitively at first and then the developed arguments were read carefully by subjects. Strong and weak arguments were selected based on the subjects' responses to the arguments. In ELM, a *strong* message refers to "one containing arguments such that when subjects are instructed to think about the message, the thoughts that they generate are predominantly favourable" and a *weak* message is defined as one containing arguments "such that when subjects are instructed to think about them, the thoughts that they generate are predominantly unfavourable" (Petty and Cacioppo 1986 p. 32). Petty and Cacioppo (1986 p. 30) commented that ELM did not address what makes an argument convincing though it was an important question. In this study, we suggest the use of Toulmin's model of argumentation as a systematic way to construct more convincing *content* of arguments to test ELM, and we use ELM to understand circumstances where a store's trust-assuring arguments is more or less effective than third party certifications in increasing consumers trusting belief in Internet stores.

3. HYPOTHESES

As shown in Figure 5-1, the research model predicts that trust-assuring arguments that consist of *"claim plus data and backing"* and those made by independent third parties are

effective in increasing consumers' trusting belief. The model also posits that the effects
of the source and the content factors on consumers' trusting belief are moderated by
one's personal relevance of the argument topics. Lastly, the model postulates that the
effect of the four types of trust-assuring arguments (classified by combining the content
and the source factors) on consumers' trusting belief is moderated by one's personal
relevance of the argument topics.
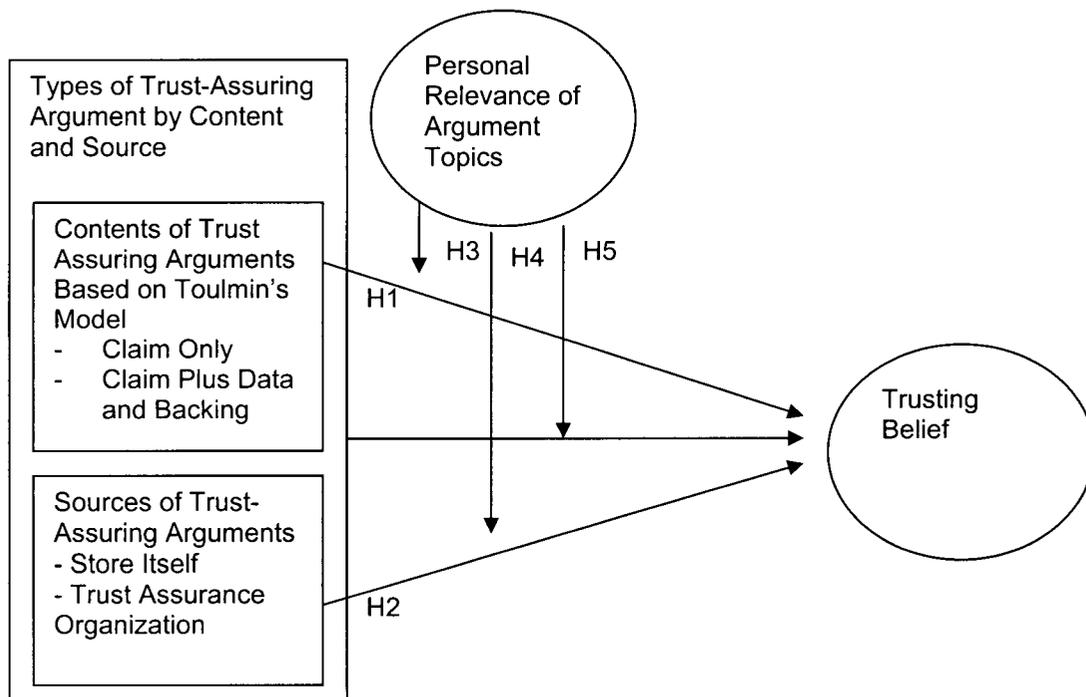
Figure 5-1. Research Model

3.1 Contents of Arguments Based on Toulmin's (1958) Model of Argumentation

Gregor and Benbasat (1999) posited that explanations that conform to Toulmin's model
of argumentation should be more effective in increasing users' trust, agreement, and
acceptance of explanations and of the knowledge base systems as a whole. In electronic

commerce settings, Study 2 empirically demonstrated that arguments that consist of *"claim plus data and backing"* (hereafter *"claim plus data and backing"* conditions) were most effective in increasing consumers' trusting belief when compared to those that include *"claim only"* (hereafter *"claim only"* conditions) or *"claim plus data"*. Therefore:

H1: Trust-assuring arguments that consists of *"claim plus data and backing"* are more effective in increasing consumers' trusting belief than those that include *"claim only"*.

3.2 Sources of Arguments

People are less likely to believe arguments made by a source if they perceive the possibility that the source might hide or distort information in reporting it, (i.e., reporting bias; Eagly et al. 1978). For example, people are less likely to believe arguments made by a car sales person regarding used cars for sale than independent evaluations (e.g., Consumer Reports) if they perceive the possibility that the sales person might not report all the weaknesses of the used cars. Similarly people are more likely to perceive "reporting bias" from the unknown Internet store itself in communicating trust assurances about the store than from a third party assurance organization, such as a public accounting firm. This is because third party assurance organizations are external to the store hence people may perceive them to be more objective or unbiased than the store itself (i.e., less possibility of reporting bias: here after *unbiasedness*). Therefore, people may think that arguments made by a trust assurance organization (hereafter *"trust assurance organization"* conditions) are more convincing than those made by an Internet store itself (hereafter *"store itself"* conditions). Furthermore Nöteberg et al. (2003) reported in their experimental study that third party assurances were more effective than self-proclaimed ones. Therefore:

H2: Displaying trust-assuring arguments made by a third party trust assurance organization is more effective in increasing consumers' trusting belief than displaying those made by an Internet store.

3.3 Personal Relevance, Content, and Source Factors

The personal relevance of the argument topics to receivers is discussed as a variable moderating the persuasion effects of content factors and source factors in ELM (ELM; Petty and Cacioppo 1986 p. 81). ELM posits: 1) *argument content* influences the persuasion outcomes more under high personal relevance conditions than low personal relevance conditions, and 2) *peripheral cues* influence the persuasion outcomes more under low personal relevance conditions than under high personal relevance conditions. Sussman and Siegal's (2003) survey results supports the first prediction and many studies including Hovland and Weiss (1951), Kelman and Hovland, (1953), Miller and Baseheart (1969) Petty et al. (1981) supports the second one.

In the current study context, the argument developed by applying Toulmin's (1958) model is considered to be the *argument content* factor and the source of arguments is the *peripheral cue*. Therefore, based on ELM, we predict that the effect of application of Toulmin's model (i.e. content factor) on consumers' trusting belief is larger in high levels of personal relevance than in low levels. Similarly, based on ELM, we predict that the effect of having an independent third party assurance organization as a source (i.e. source factor) on consumers' trusting belief is larger in low levels of personal relevance than in high levels. Therefore, the following are hypothesized.

H3: The differences in consumers' trusting belief between the *"claim plus data and backing"* conditions and the *"claim only"* conditions will be larger in *high* levels of personal relevance of argument topics than in *low* levels.

H4: The differences in consumers' trusting belief between the *"store itself"* conditions and the *"trust assurance organization"* conditions will be larger in *low* levels of personal relevance of argument topic than in *high* levels.

Among the three factors under consideration, changing the content and the source of an argument is under an Internet store's direct control, while changing customers' personal relevance levels are not so. In other words, it is an Internet store's business decision to select more or less convincing content and more or less neutral sources for arguments. Internet stores have the options of displaying the following four types of trust-assuring arguments (hereafter "types of argument by content and source"), generated by combining the source and the content factors:

- *"claim only"* by *"store itself"* (hereafter a store's *"claim only"*)

- *"claim plus data and backing"* by *"store itself"*(hereafter a store's *"claim plus data and backing"*)

- *"claim only"* by *"trust assurance organization"* (hereafter a third party's *"claim only"*)

- *"claim plus data and backing"* by *"trust assurance organization"* (hereafter a third party's *"claim plus data and backing"*)

It is expected that personal relevance levels moderate the effect of these "four types of arguments by content and source" on consumers' trusting belief. Especially, the

following two types are expected to vary in opposite directions to each other depending on personal relevance conditions. They are: a store's "*claim plus data and backing*" and a third party's "*claim only.*" The effect on consumers' trusting belief due to a store's "*claim plus data and backing*" will be higher under high personal relevance conditions than under low ones because the effect is mainly due to the content factor (i.e., "*claim plus data and backing*") and since the content factor is more effective under high personal relevance conditions than under low ones while the reverse is true for the source factor. In contrast, the effect on consumers' trusting belief due to a third party's "*claim only*" will be higher under low personal relevance conditions than under high ones because the effect is mostly due to the source factor ("*trust assurance organization*") and since the source factor is more effective under low personal relevance conditions than under high ones while the reverse is true for content. Therefore, we predict the following.

H5: There is an interaction effect in regard to consumers' trusting belief between the levels of personal relevance and the four types of trust-assuring arguments classified by combining the content factor and the source factor.

4. METHOD

The research model was tested using a laboratory experiment in order to control possible confounding factors such as downloading time and distractions, which could vary when participants performed experimental tasks in their home or at the working place. One hundred and twenty eight participants were recruited from a university student sample by posting advertisements around a university campus.

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4.1 Experimental Task

Participants were asked to explore two experimental websites, which sold sports watches, one at a time to evaluate the two stores' front pages, checkout processes, features, and policies. Then they were requested to decide which of the two stores they would prefer to purchase a selected watch from. They were told that they would have a one in three chance to receive a free gift certificate to buy a watch from either one of the two stores under evaluation. Before they visited the websites, they were given a chance to choose their favourite watches from the watch descriptions. Participants received $10 for their participation in the study. They were told that the two stores were actual Internet stores, which we randomly chose to study consumers' online shopping experiences. They were reminded that transactions with the stores were at their own risk because the researchers had no business relationship with the stores and hence no control over the stores' behaviour.

4.2 Design

A two (content of arguments: *"claim plus data and backing"* and *"claim only"*) by two (sources of arguments: *"store itself"* and *"trust assurance organization"*) by two (personal relevance: high and low) between-subjects design was used to test the research model.

4.2.1 Independent Variables

1) Content of arguments based on Toulmin's model: Two contents of arguments based on Toulmin's Model were tested. They are arguments that include *"claims only"* and those

that consist of *"claim plus data and backing"* [13] (see Appendix 2). The arguments were adapted from those used in the second study, which were developed to address trust issues in online shopping. The arguments for a third party assurance organization were modified based on those for a store itself. These arguments were included in the second store that subjects visited. The second score included an additional page entitled "Information for customers" (Figure 5-2 and Figure 5-3), which listed hyperlinks to access claims (in case of *"claim only"* conditions) or claims plus corresponding data and backing (in case of *"claim plus data and backing"* conditions). Participants accessed the trust-assuring arguments provided during the checkout processes by clicking on the hyperlinks. To increase argument access, participants were told to check out all the hyperlinks during navigation in order to compare two stores' policies.

2) Sources of arguments: two sources of arguments are examined: an Internet *"store itself"* and a third party *"trust assurance organization"* (an accounting firm that has a licence to provide WebTrust seals). On the upper part of the additional page that contains hyper links, the following description is displayed to show the sources of the arguments.

"Store itself" conditions: "To review our store's policies, please click on the highlighted links (topics) below before you continue with the checkout process." (Figure 5-2)

"Trust assurance organization" conditions: "To review the comments about our store's policies by the accountants who conducted WebTrust services for us, please click on the highlighted links (topics) below before you continue with the checkout process." (The WebTrust Seal was accompanied with this statement: Figure 5-3).

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[13] In this study, we investigate only two forms of content: *"claim plus data and backing"* and *"claim only."* We do not investigate *"claim plus data"* because our main focus of this study is on the moderation effects of the personal relevance factor on the content factor rather than the main effect of the content, and since the comparisons with *"claim plus data"* are already done in the second study.
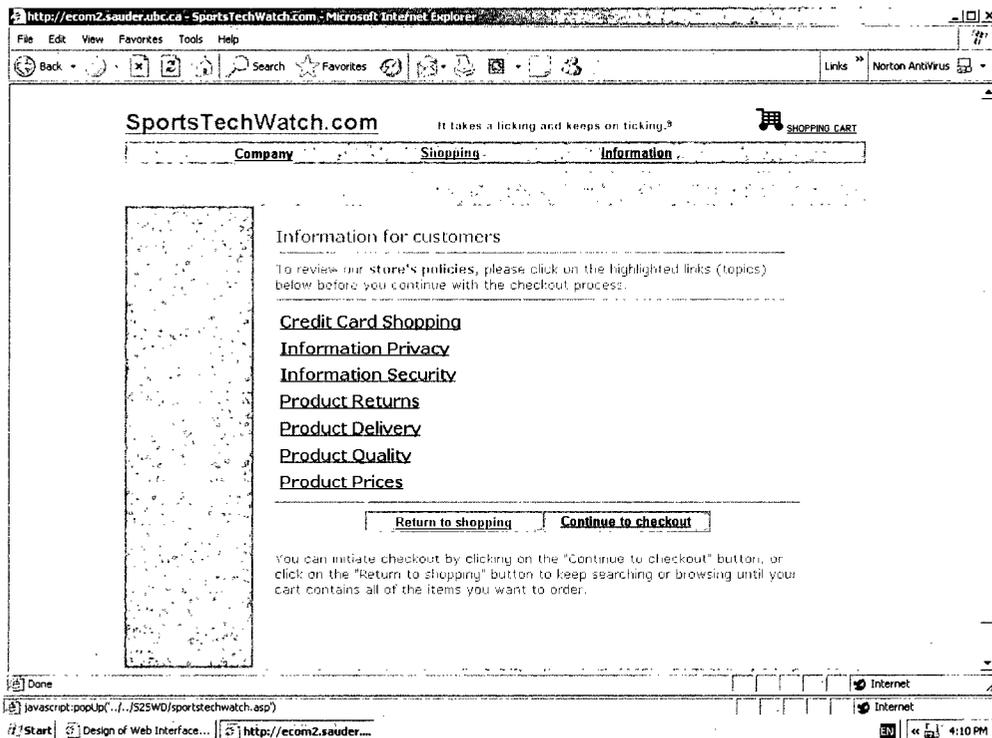
Figure 5-2. Information for Customers ("*Store Itself*" Conditions)
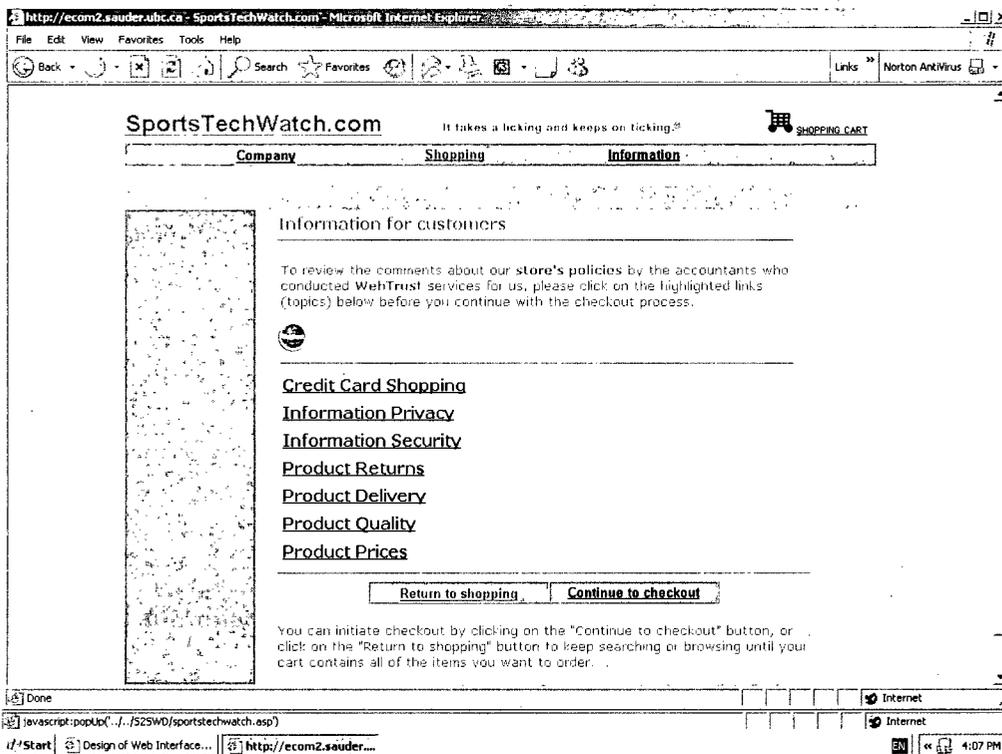
Figure 5-3. Information for Customers ("*Trust Assurance Organization*" Conditions)
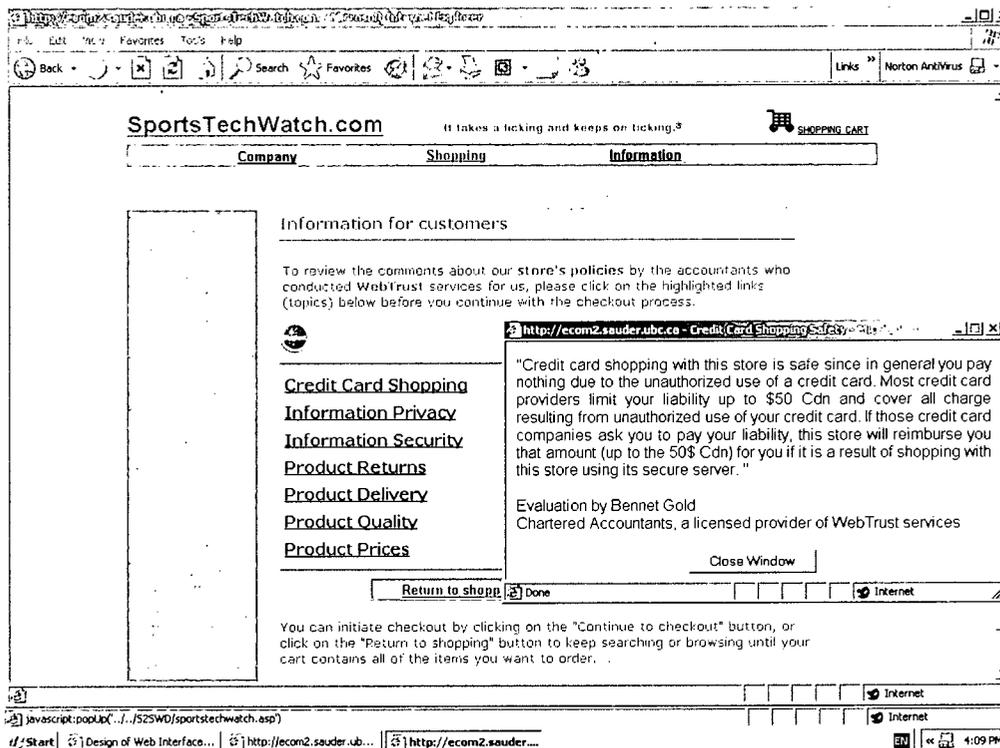
Figure 5-4. Trust-assuring Arguments in Pop-up ("*Trust Assurance Organization*" Conditions)
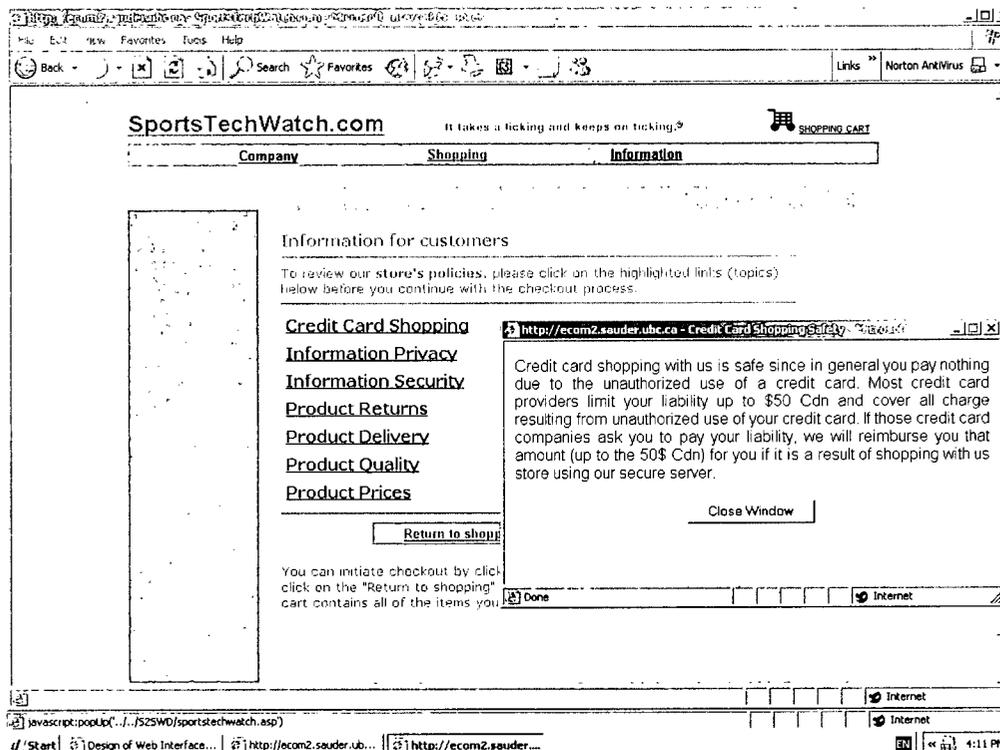
Figure 5-5. Trust-assuring Arguments in Pop-up ("*Store Itself*" Conditions)

In addition, each argument for "*trust assurance organization*" conditions was enclosed with quotation marks and the source of the arguments were explicitly described below, such as, "Evaluation by Bennet Gold Chartered Accountants, a licensed provider of WebTrust services." (Figure 5-4). The arguments provided in the "*store itself*" conditions did not have quotation marks and the source was not explicitly described (Figure 5-5).

In order to increase the participants' familiarity with the meaning of WebTrust services, the participants assigned to "*trust assurance organization*" conditions were requested to read an introduction to WebTrust (shown as below) in the beginning of the experiment before they visited the two stores.

> *One of the two stores being evaluated might display WebTrust's evaluations. Let us introduce WebTrust. The research assistant may give you short questions about WebTrust at the end of this step. Thus, please be familiar with the meanings of WebTrust*
>
> > *"Any site displaying a WebTrust seal has:*
> >
> > > *Been certified by a specially trained and licensed public accounting firm,*
> > > *Disclosed its business practices,*
> > > *Been audited to prove the site actually follows those practices,*
> > > *Met International WebTrust Standards for e-Commerce.*
> >
> > *Worldwide, the public accounting profession is highly regarded as trustworthy. The public, government, and businesses trust us.*
>
> *By virtue of our training and experience, Certified Public Accountants, Chartered Accountants, and their equivalents (call them "accountants") worldwide are uniquely qualified to provide independent verification that a business is meeting good business standards."*
>
> *(From hppt://www.cpawebtrust.org/consumer.htm)*

To reinforce their understanding about WebTrust services, participants assigned to "*trust assurance organization*" conditions were asked to answer a set of questions (Appendix 3). They repeated the questions until they had found the correct answers.

In order to equalize the efforts of the participants between *"trust assurance organization"* and *"store itself"* conditions, those assigned to the *"store itself"* conditions were asked to read a page of filler description[14] instead of the introduction to WebTrust and also had a set of questions about the description.

3) Personal relevance of argument topics

An individual's personal relevance levels can be manipulated by changing the number of personal consequences, the magnitude of the consequences, and so on (Petty and Cacioppo 1986, p.81.) In this study, personal relevance was manipulated by varying the price of the watches that the participants could receive (i.e., by varying the magnitude of the consequence). Under the high personal relevance conditions, an incentive of a one in three chance of getting a $90 gift certificate to buy a watch for free from one of the two stores under evaluation was presented at the beginning of the experiment. Under the low personal relevance conditions, the same incentive was presented but the price of the gift certificate was lowered to $10 (i.e., a one in three chance of getting a $10 gift certificate) to lower an individual's personal relevance. This incentive was expected to lead participants to be serious in the evaluation task and trust issues because participants had the possibility to transact with one of the two stores that they evaluated. Participants in the high personal relevance conditions may feel higher personal relevance to the topics about the trustworthiness of the store than those in the low personal relevance conditions because the value at stake was nine times higher in the high personal relevance conditions than in the low personal relevance conditions.

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[14] The filler description included was an introduction to the Athens 2004 Olympic Games, which was unrelated to the experiment task. The number of words of this description was set to be the same as that of the introduction to WebTrust in order for those assigned to *"store itself"* conditions to put similar amount of effort as those assigned to *"trust assurance organization"* did.

4.2.2 Control Variables

According to Grabner-Kräuter and Kaluscha's (2003) review, consumers' pre-existing levels of trust in Internet stores in general is known to influence consumers' trusting beliefs while it differs by individuals; hence it is measured for statistical control.

4.2.3 Dependent Variable

Consumers' trusting belief in an Internet store is a dependent variable. The scale for the consumers' trusting beliefs is adapted from Bhattacherjee (2002), which measured the construct with a 7 item summative scale (2 items for ability, 2 for benevolence, 2 for integrity, and 1 for overall trustworthiness: see Appendix 4). The measure is based on an 11-point scale (i.e., –5 to +5) and based on the perceptions of the second store (i.e., treatments) as compared to the first store (i.e., no arguments).

4.3 Experimental Procedures

The experiment was executed one participant at a time in a laboratory.

4.3.1 Initial Briefing

Upon arrival, participants were asked to read an instruction binder, which describes the whole study processes step by step. After completing a consent form, the participants received $10 for their participation and then completed a pre-questionnaire regarding their Internet experiences and pre-existing levels of trust in Internet stores in general. They then read different scenarios based on their assigned sources of argument conditions. Those assigned to "*trust assurance organization*" conditions read a one page introduction to WebTrust, which explains that any site displaying a WebTrust seal has

been certified by a specially trained and licensed public accounting firm and so on. This step intended to increase the participants' understanding about the meaning of the WebTrust. After reading the introduction, the participants answered a set of questions about the WebTrust. They repeated the questions until they found the correct answers. Those assigned to the "*store itself*" conditions read a filler description and questions for the description instead.

4.3.2 Practice and Selection of a Favourite Watch

A research assistant demonstrated to the participants the key steps, to go through in order to place an order with the Internet stores, using a printed copy of screen images until the participants were familiar with the meaning of each button (e.g., "add to cart", "continue shopping", and "check out") in the ordering process. This was done to avoid negative reactions due to pushing the wrong buttons during the checkout process. Then, participants were reminded to check out all the hyperlinks during their navigation in order to understand and compare the two stores' policies. Next, pictures and descriptions of four watches were given to the participants in printed form. They were asked to review the four watches and to choose the one they liked the best. This step imitated participants' product-searching experiences.

4.3.3 Incentives

The personal relevance condition was manipulated by the written instructions shown below. Participants were told that they had a one in three chance of ordering a watch from their preferred of the two evaluated stores ($10 including tax for low personal

relevance conditions and $90 for high personal relevance conditions), which they had selected in the previous step, at no charge.

Introduction to Incentive

Since we want you evaluate the two stores as seriously as you do in your actual shopping, we offer the following incentive.

You will have a one in three (i.e., 33%) chance of winning a $90 (or $10 in case of low personal relevance conditions) gift certificate to buy the sports-watch from the store you choose in this study.

(The winners will be selected about two months later by a draw and will be informed via e-mail).

4.3.4 Comparative Evaluation of Control and Treatment Stores

Participants were requested to explore two Internet stores, the first store as a baseline (i.e., no trust-assuring arguments are provided in the store) and then the second store as a treatment (i.e., trust-assuring arguments are provided in the store), one at a time, for the watch they had selected, to observe the front pages, checkout processes, policies, and information for customers that included the trust-assuring arguments. Since participants visited two stores, it would be awkward if the two stores were the same. Thus, two different stores were developed. To counter balance the store differences, half of the participants in a group visited one of the stores first and the other half in the group visited the other store first. Since our objective was to have the participants fully explore all the information provided on the web pages, with the intent on capturing the participants' perceptions of the trustworthiness of the Internet stores subsequently, we did not ask the participants to enter their personal information in order to avoid them skipping certain screens. After exploring the two stores, the participants filled in questionnaires

concerning the dependent variable, namely, consumers' trusting belief and the reasons for their answers.

4.3.5 Debriefing

Approximately two months later participants received an e-mail, which explained the specific purpose of the study. Those who won the gift certificate had the option to collect $90 in cash or the watch they chose.

5. RESULTS

5.1 Subject Demographics

About 87% of the participants were undergraduate students and their average age was 22 years. About 60% of the participants were females. All of the participants had more than two years of Internet use experience, 72% used the Internet more than 10 hours per week, and 74% had previously made purchases at least once in the past 12 months.

5.2 Control and Manipulation Checks

No missing data were found in the data sets, with the exception of one subject whose responses for argument use, perceived unbiasedness of source, and demographic information were lost. Therefore, the sample size was 127 for argument use, perceived unbiasedness of source, and demographic information analyses, and 128 for all other analyses.

No significant differences were found between the subjects randomly assigned to each of the treatments, with respect to Internet experience, online shopping experience, their comfort level with shopping online, their pre-existing levels of trust in Internet stores,

age, programs of study, and gender, indicating that control over individual differences (e.g., individual experiences, general trust tendencies, and other characteristics) appeared to be successful through random assignment.

Several manipulation checks were performed. 100% of the participants assigned to the high personal relevance conditions knew the price of the gift certificate on a post experimental questionnaire; 97% of those in the low relevance conditions did so. Personal relevance levels, measured with average scores of four items[15] in a 7 point semantic scale (Appendix 5), were significantly different between high and low personal relevance conditions (Table 5-1: $F_{(1,126)} = 7.6$, $p < 0.01$)

Table 5-1. Mean for Personal Relevance

Conditions	Mean	Std. Dev.	N
High Personal Relevance	6.24	0.731	64
Low Personal Relevance	5.70	1.396	64

124 participants among 128[16] clicked on at least one hyper link to access the trust-assuring arguments and on average participants clicked 6.3 out of 7 available hyper links [17]. In the post-experimental questionnaire for argument use (Appendix 6), participants replied that they accessed (saw, read, or read and thought about) on average 6.2 out of 7 claims, and those exposed to "claim plus data and backing" replied that they accessed (saw, read, or read and thought about) on average 5.6 out of 7 "data and backing".

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[15] The measure of personal relevance was adapted from user involvement in Barki and Hartwick (1994).
[16] All the analyses in this paper included the 4 subjects who did not click any hyper link. The same analyses were conducted after deleting the four subjects and the significance patterns did not change though the interaction between source and personal relevance became close to the marginally significant level (F = 2.628, p = 0.108).
[17] The frequency distributions for the number of clicks on the hyper links are listed by treatments in Appendix 8.

Table 5-2. Mean Score for Perceived Unbiasedness

Source of Arguments	Mean	Std. Dev.	N
Trust Assurance Organization	2.55	1.47	64
Store Itself	2.17	1.38	64

In the post-experimental questionnaire, 80% of participants assigned to the *"trust assurance organization"* conditions correctly replied that the comments on the website were provided by specially trained and licensed accountants conducting WebTrust assurances. However, in the *"store itself"* conditions, only 50% of the participants replied that the source of the arguments was the Internet store itself, and 39% of those replied that they did not know the sources. Presumably, those assigned to the *"store itself"* conditions might not pay attention to the source of the arguments because the arguments did not show any explicit information about the source of arguments. Perceived unbiasedness (i.e., the extent to which one perceives that a source does not have reporting bias) of sources of arguments, measured with average scores of three items in a 7 point Likert scale (Appendix 7), was significantly different between the store itself and the third party assurance organization (Table 5-2: $F_{(1,125)} = 9.2$, $p < 0.01$).

5.3 Principal Component Analysis and Reliability Statistics

Discriminant validity of the trusting belief, personal relevance, and perceived unbiasedness were assessed through an exploratory, principal components factor analysis (PCA) with direct oblimin rotation. In the analysis, three factors with pre-rotation eigen values of 5.75, 2.59, and 1.77 were obtained. As shown in Table 5-3, all items for the trusting belief loaded on factor 1, all those for the personal relevance loaded on factor 2, and all those for the perceived unbiasedness loaded on factor 3. All items had loadings above the traditional minimum of 0.4 on the intended construct and no items had cross

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loadings above 0.4 on the unintended constructs, indicating that three constructs are empirically distinct (McKnight et al. 2002).

Table 5-3. Factor Analysis and Reliabilities of Constructs

Construct	Item	Factors 1	Factors 2	Factors 3	Cronbach's Alpha
Consumers' Trusting Belief	TB1	0.90			0.91
	TB2	0.83			
	TB3	0.78			
	TB4	0.90			
	TB5	0.71			
	TB6	0.72			
	TB7	0.72			
Personal Relevance	PR1		0.76		0.91
	PR2		0.93		
	PR3		0.95		
	PR4		0.94		
Perceived Unbiasedness	IMP1			0.64	0.80
	IMP2			0.95	
	IMP3			0.88	

(Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization. Loading below 0.4 were suppressed.)

Reliability indicators measured by Cronbach's α (Table 5-3) were all above the cited minimum of 0.7, indicating that each set of variables is consistent in what it is intended to measure (Gefen et al. 2000).

5.4 Comparisons of Treatment Conditions

The trusting belief measure (Appendix 4) is based on a 11-point scale (i.e., −5 to +5) and based on perceptions of the second store (i.e., treatments) as compared to the first store (i.e., no trust-assuring arguments are provided).

Average scores of increased consumers' trusting belief by content, sources, and personal relevance conditions are listed in Tables 5-4, 5-5, 5-6, 5-7, and 5-8. The average scores of consumers' trusting belief are higher in *"claim plus data and backing"* conditions than in *"claim only"* ones (Table 5-4) and so is in *"trust assurance organization"* conditions than

in "*store itself*" ones (Table 5-5). The average scores of consumers' trusting belief are similar between high personal relevance conditions and low personal relevance ones as we expected (Table 5-6). The average scores of consumers' trusting belief due to the content factor (i.e., the differences between "*claim plus data and backing*" conditions and "*claim only*" ones) are larger in high personal relevance conditions than in low ones while those due to the source factor (i.e., the differences between "*trust assurance organization*" conditions and ""*store itself*" conditions) are larger in low personal relevance conditions than in high ones (Table 5-7 and 5-8).

Table 5-4. Mean Score for Increased Trusting Belief by Content of Arguments

Content of Arguments	Mean	Std. Dev.	N
Claim Plus Data and Backing	1.81	1.33	64
Claim Only	0.79	1.59	64

Table 5-5. Mean Score for Increased Trusting Belief by Sources of Arguments

Sources of Arguments	Mean	Std. Dev.	N
Trust Assurance Organization	1.68	1.58	64
Store Itself	0.92	1.43	64

Table 5-6. Mean Score for Trusting Belief by Personal Relevance

Personal Relevance	Mean	Std. Dev.	N
High	1.32	1.63	64
Low	1.27	1.48	64

Table 5-7. Mean Score for Trusting Belief (Std. Dev.) in High Personal Relevance

		Sources of Arguments	
		Trust Assurance Organization	Store Itself
Content of Arguments	Claim Plus Data and Backing	2.27 (1.32)	2.02 (1.28)
	Claim Only	0.79 (1.74)	0.21 (1.27)

Table 5-8. Mean Score for Trusting Belief (Std. Dev.) in Low Personal Relevance

		Sources of Arguments	
		Trust Assurance Organization	Store Itself
Content of Arguments	Claim Plus Data and Backing	1.94 (1.04)	1.00 (1.41)
	Claim Only	1.71 (1.83)	0.44 (1.12)

To test whether there was any significant difference among the three treatment conditions for consumers' trusting belief, ANOVA was run with three treatment conditions (i.e., personal relevance, content of arguments, and sources of arguments) as three factors. ANOVA results (Table 5-9) on the main effects indicated that consumers' trusting belief is significantly different in two treatments (content of arguments, $F_{(1,120)} = 17.0$, $p < 0.01$; sources of arguments, $F_{(1,120)} = 9.5$, $p < 0.01$) but not significantly different due to the personal relevance treatment ($F_{(1,120)} = 0.0$, $p > 0.10$) as expected. The results indicate that the application of Toulmin's model and citing a third party assurance organization as a source of arguments significantly increases consumers' trusting belief (i.e., hypotheses 1 and 2 are supported).

Table 5-9. Results of the ANOVA for Increased Consumers' Trusting Belief

Factor	DF	MS	F	p-value
Personal Relevance	1	0.1	0.0	0.836
Content	1	33.3	17.0	0.000
Source	1	18.5	9.5	0.003
Personal Relevance * Content	1	12.4	6.3	0.013
Personal Relevance * Source	1	3.7	1.9	0.170
Content * Source	1	0.9	0.5	0.500
Personal Relevance * Content * Source	1	0.0	0.0	0.993
Error	120	2.0		

There was an interaction effect between personal relevance and content of arguments (Figure 5-6: $F_{(1,120)} = 6.3$, $p < 0.05$) as expected, suggesting that differences between "*claim only*" conditions and "*claim plus data and backing*" conditions in regard to consumers' trusting belief is larger in high personal relevance conditions than in low relevance conditions (i.e., hypothesis 3 is supported).

The interaction between personal relevance and sources of arguments was not significant (Figure 5-7: $F_{(1,120)} = 1.9$, $p > 0.10$; hypothesis 4 is not supported) though mean scores

indicated the expected pattern (i.e., the differences between different sources were bigger

in low relevance conditions than in high relevance conditions).

## Interaction between Content and Personal Relevance
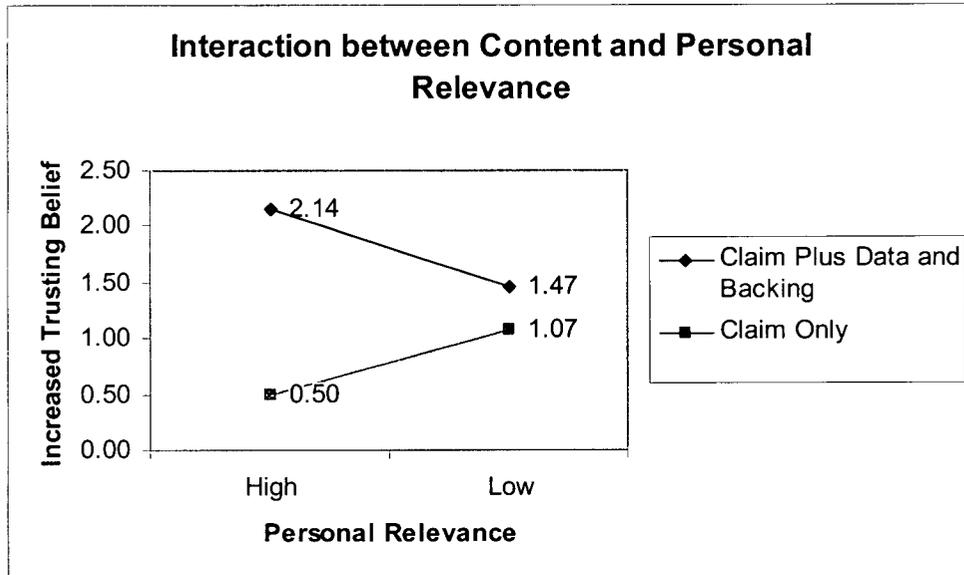
Figure 5-6. Interaction between Content of Arguments and Personal Relevance

Interaction between Source and Personal Relevance
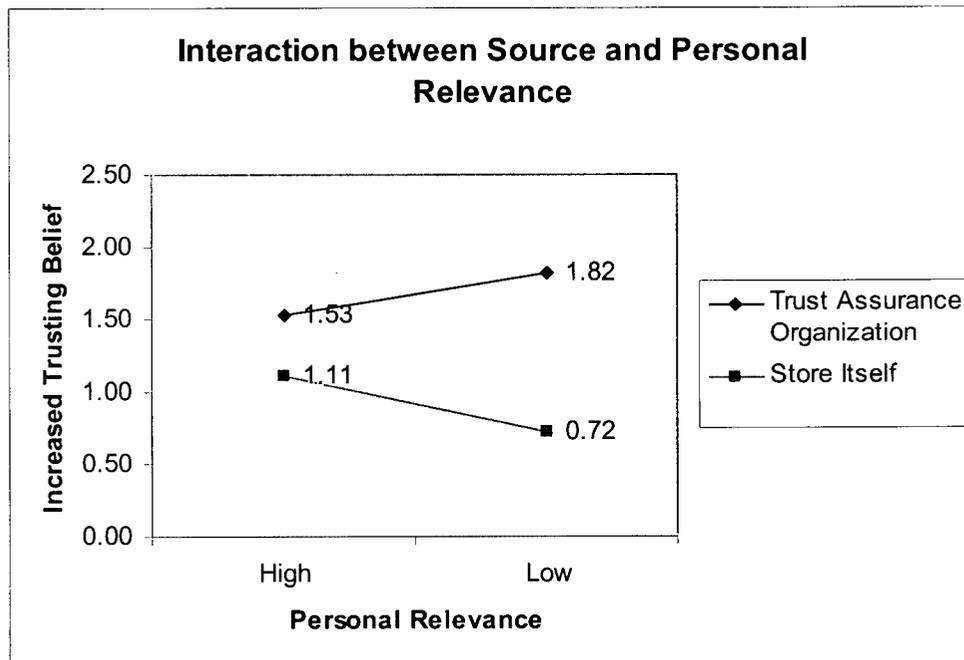
Figure 5-7. Interaction between Sources of Arguments and Personal Relevance

Three way interactions were not significant (Table 5-9: $F_{(1,120)}$ = 0.0, p > 0.1). This indicates that the patterns of two way interactions (Figure 5-6) between the personal relevance and the content factor are not different regardless of the source factor, and that the interactions (Figure 5-7) between the personal relevance and the source factor are not different regardless of the content factor.

To analyze interactions between the personal relevance and the four types of trust-assuring arguments, which combine the source and the content factor together, an ANOVA was run in regard to increased consumers' trusting belief with "types of arguments by source and content" as one factor and personal relevance as the other. The results suggest that there is a main effect ($F_{(3,120)}$ = 9.0, p < 0.01) of "types of arguments by source and content", and that there is an interaction effect between "types of argument by source and content" and personal relevance ($F_{(3,120)}$ = 2.7, p < 0.05: Table 5-10; hypothesis 5 is supported).

Table 5-10. Results of the ANOVA for Consumers' Trusting Belief

Factor	DF	MS	F	p-value
Personal Relevance	1	0.1	0.0	0.836
Types of Argument (By Source and Content)	3	17.6	9.0	0.000
Personal Relevance * Types of Argument	3	5.4	2.7	0.046
Error	120	2.0		

To compare the effects of the four types of trust-assuring arguments on consumers' trusting belief in different levels of personal relevance conditions, the sample data were divided into two groups according to their assigned personal relevance conditions. ANOVA was run for each of the two groups (high and low personal relevance groups) separately and so were post-hoc comparisons with Tukey's HSD (Honestly Significant

Difference) test (Shavelson 1996, p. 443). Figure 5-8, Table 5-11, and Table 5-12 shows

mean comparisons among four types of trust-assuring argument by source and content.

Table 5-11. Group Comparison: Trusting Belief (Under High Personal Relevance)

Type of Argument By Source and Content	Sample	Mean	Std. Dev.
Store's Claim Only	16	0.21 a	1.27
Store's Claim Plus Data and Backing	16	2.02 b	1.28
Third Party's Claim Only	16	0.79 a	1.74
Third Party's Claim Plus Data and Backing	16	2.27 b	1.32

1. $F_{(3,60)} = 7.72$, $p < 0.00$
2. **Means with a common subscript are not significantly different at p < 0.10**

Table 5-12. Group Comparison: Trusting Belief (Under Low Personal Relevance)

Type of Argument By Source and Content	Sample	Mean	Std. Dev.
Store's Claim Only	16	0.44 a	1.12
Store's Claim Plus Data and Backing	16	1.00 a, b	1.41
Third Party's Claim Only	16	1.71 b	1.83
Third Party's Claim Plus Data and Backing	16	1.94 b	1.04

1. $F_{(3,60)} = 3.90$, $p < 0.05$
2. **Means with a common subscript are not significantly different at p < 0.10**
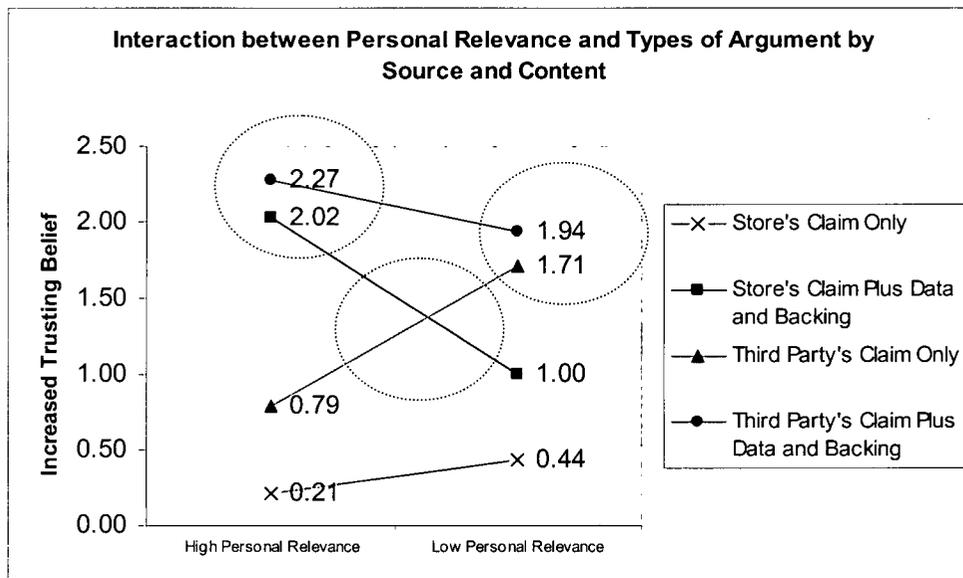
Figure 5-8. Interaction between Personal Relevance and Types of Arguments by Source and Content

Under high personal relevance conditions, content ("*claim plus data and backing*") was

the main factor in increasing consumers' trusting belief (circle on the left hand side of

Figure 5-8). Trust-assuring arguments were effective regardless of the source under high

personal relevance conditions when the arguments consisted of *"claim plus data and backing"* (Table 5-11).

Under low personal relevance conditions, the source was the main factor in increasing consumers' trusting belief (circle on the right hand side of Figure 5-8). Trust-assuring arguments were effective regardless of the content under low personal relevance conditions if the source was *"trust assurance organization"*, with the exception of the store's arguments that consisted of *"claim plus data and backing"*, which was also not statistically different (however note the much lower mean value) from trust assuring organization's ones in their effect on consumers' trusting belief (Table 5-12). A store's *"claim plus data and backing"* had a stronger effect on consumers' trusting belief than a trust assurance organization's *"claim only"* did under high personal relevance conditions and the pattern was reversed under low personal relevance conditions (circle in the middle of Figure 5-8) though the differences was not significant under low personal relevance conditions (Table 5-12)

6. DISCUSSION

This study investigated the relative influence of trust-assuring arguments made by Internet stores on consumer trust when compared to that of a third party certification. To compare these two features, we examined the three factors that are known to influence persuasion outcomes. They are: *content* of arguments, *sources* of arguments, and *receiver*'s *personal relevance* of argument topics.

The results indicate that both the source factor and the content factor are effective in increasing consumers' trusting belief. These results are consistent to those of Study 2 and

Nöteberg et al. (2003). The effect size[18] of the content factor and the source factor were at medium level (0.70 and 0.51) in this study.

As ELM (Petty and Cacioppo 1986, p. 5) predicts, personal relevance of argument topics moderated the effect of *content* on consumers' trusting belief. The effect of adding data and backing to a claim was larger in the high personal relevance conditions than in the low personal relevance conditions.

We failed to show the moderation effect of personal relevance of argument topics on consumers' trusting belief in the case of the source factor, though the pattern of means (Figure 5-7) was close to our expectation. One of the plausible explanations is that the treatments for the source factor might lead some of the participants to generate additional arguments, processing the source factor like a content factor, weakening the moderation effect. For example, participants were requested to read the introduction to WebTrust certification before they visited the Internet stores. It was possible that some of the participants recalled several arguments regarding WebTrust certification, such as, the web site has met international WebTrust Standards for e-Commerce. We provided the introduction to WebTrust as one of the treatments for the source factor because most participants in our pilot study were not familiar with the meanings of WebTrust certification and since Cheskin Research and Studio Archetype/Sapient (1999) suggested that familiarity with the meaning of symbol a precondition for the effect of third party certifications.

As shown in Figure 5-8 in high personal relevance conditions, a store's "*claim plus data and backing*" is more effective in increasing consumers' trusting belief than an

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[18] The effect size = Means difference between groups within a treatment / Pooled standard deviation

independent third party's *"claim only"* is and also is as effective as a third party's *"claim plus data and backing."* Furthermore, it is interesting that a third party (claim only) is much more effective in low relevance conditions than in high ones. This paradoxically may imply that for customers who have a higher stake in the purchase, third party claims are less effective. However, under high personal relevance conditions, customers seem to form beliefs by scrutinizing argument content rather than by depending on heuristics, such that an independent party's opinion is credible, as ELM predicts.

Table 5-13. Reasons for Trust in The Participants' Written Comments

Topics mentioned as reasons for trust	Credit Card Safety	Privacy	Security	Return	Delivery	Product Price	Product Quality	General	Total
Number of time mentioned	13	17	14	10	9	3	3	46	115
Percent	11%	15%	12%	9%	8%	3%	3%	40%	100%

1. **Total includes reasons related to the topics of trust-assuring arguments only (e.g., reasons such as colourful front page and informative names of the hyper links are not included)**
2. **General indicates that participant mentioned assuring information (i.e. trust-assuring arguments) as reasons for trust but did not mention the specific topics.**

In the post-experiment questionnaire, participants were asked to write down their reasons for trusting one store over the other. The topics most frequently mentioned as reasons for trust were: topics related to personal information (privacy: 17 times mentioned, security: 14, and credit card shopping safety: 13) and topics related to customer service (return: 10 and delivery: 9). Product quality and price were not often mentioned (price: 3, quality: 3) (see Table 5-13).

It seems that consumers are generally concerned about personal information and customer service; hence it is likely that providing trust-assuring arguments about

personal information and customer service are more important than arguments related to

product price and quality.

CHAPTER 6. CONCLUSION OF THE DISSERTATION

1. SUMMARY OF FINDINGS

This dissertation examined trust-assuring arguments as a trust enhancing mechanism that is under researched. Through a series of three studies, this dissertation addressed the following four key research questions as follows.

- What are the trust-related issues that need to be addressed by arguments on Internet stores? (Study 1)

  The four groups of trust-related issues have been identified: 1) issues related to personal information, 2) issues related to customer service, 3) issues related to product quality and price, and 4) issues related to store presence.

- Does the provision of trust-assuring arguments increase consumer trust in Internet stores? (Study 2)

  Trust-assuring arguments that address the issues identified in Study 1 were effective in increasing consumer trust in an Internet store only when they consisted of *"claim plus data"* or *"claim plus data and backing."* Trust-assuring arguments that include *"claims only"* were not effective.

- What is an effective form of trust-assuring argument to increase consumer trust? (Study 2)

  Toulmin's model of argumentation was proposed a way to construct a convincing argument. Among the three forms of trust-assuring arguments that have been investigated in this dissertation, those that consist of *"claim plus data and backing"* were most effective in increasing consumer trust. The results demonstrate that the

application of Toulmin's model is an effective method of constructing convincing trust-assuring arguments to increase consumer trust.

- What are the conditions in which a store's trust-assuring arguments are more effective or less effective than third party certifications in increasing consumer trust? (Study 3)

Drawing from ELM, three factors (i.e., content, sources of an argument, and the personal relevance of argument topics) have been taken into consideration. The results indicate that the effects of the content and factor on consumer trust vary, depending on the personal relevance of the argument topics to consumers, although both factors appear to be effective in increasing consumer trust in general. When consumers feel that trust-related issues are very important to them (e.g., when consumers have a higher stake in their purchase), the content of the arguments matters, regardless of the source. In effect, a store's trust-assuring arguments that consisted of *"claim plus data and backing"* appear to be as as effective as a third party certification under high levels of personal relevance. Conversely, when consumers feel that trust-related issues are not very important (e.g., when consumers have a lower stake in their purchase), the sources of the arguments are the most predominant factor in increasing consumer trust. Thus, third party certifications appear to be effective in increasing consumer trust, regardless of their content, under low levels of personal relevance.

2. DISCUSSIONS ABOUT THE EFFECTS OF THIRD PARTY CERTIFICATIONS

There are many third party certifications that are currently used on different websites. They include: AOL Certified Merchant, BBB online Reliability Program, BizRate,

Certified Merchant Guarantee, eBay power seller, Hacker Safe, PayPal Verified, Thawte Secure Sites, Thawte Authorized Site, VeriSign Secure Site, VeriSign Secured, and TRUSTe. Most of these certifications display a claim only, without detailed explanations (e.g., data and backing). Consumers can view the detailed arguments only when they click on the seal. Thus those who do not click on the seal do not have a chance to read detailed explanations (e.g., data and backing). According to Kovar et al. (2000a), only 27 percent of participants actually clicked on a seal while exploring the Internet. Furthermore, in Kimery and McCord's pilot study (2002), over 71 percent of the study participants had never seen the third party seals (e.g., VeriSign, TRUSTe, and BBB Online); this suggests that most people are not likely to be familiar with the meaning of third party certifications on the Internet. Therefore, the effect of third party certifications is likely to be closer to that of the third party's arguments that include claims only because most people are not familiar with the meaning of third party certifications in the Internet, and because most people do not click the seal hence they have little chance to read the detailed explanations about the third party certifications.

3. LIMITATIONS

There are several limitations that readers need to consider when they interpret these results. First, the participants were recruited from the same university, and most were undergraduate students. Therefore, it should be noted that the results were extracted from a relatively homogenous group. To generalize the findings of this dissertation, further empirical studies with various groups of samples in a field setting may be necessary.

Another limitation of this thesis is that only one type of product (e.g., sports watches) was used. Different types of product would elicit different levels of risk perception and

different aspects of trust concerns. For example, "high touch" products, such as clothing, often require customers' direct inspections before buying, while "low touch" products, such as books, rarely require such tactile engagement (Levin et al. 2003). Hence it is likely that consumers in Internet shopping environments perceive greater risks inherent in product quality when they buy clothing than books, because direct inspection is not possible in Internet shopping. To alleviate such concerns, Jiang and Benbasat (2004) have suggested applying virtual reality technology to provide virtual experiences that are similar to direct inspection.

A similar issue arising in online commerce is that people are more concerned about after-sales services when they buy electronic appliances, such as digital cameras, which can get out of order, than when they purchase relatively maintenance-free products, such as books. Hence, trust-assuring arguments about customer service might receive more attention from customers who visit a store to buy a digital camera than to buy a book.

This dissertation has focused on first-time customers to an Internet store. Such customers have no actual transaction experiences with the store, hence it is probable that information such as trust-assuring arguments are the only available source that they can use to judge the trustworthiness of the store, and it is reasonable to expect them to pay attention to the arguments. However, for repeat customers, it is not certain that these arguments remain effective, because consumers can judge the trustworthiness of the store based on their own previous transaction experiences instead of on the information provided by the store. For example, Kim et al. (2004) have found that in cases of repeat customers, customer satisfaction (based on actual transaction experiences) can exert a stronger effect on trust-building than other antecedents. Similarly, Gefen et al. (2003b)

have reported that repeat customers' purchase intentions are influenced by both trust in the e-vendor and the usefulness of the website (in actual transaction experiences).

Lastly, it should be noted that the range of personal relevance levels manipulated in Study 3 were relatively narrow. Our manipulation was designed to ensure that participants would feel at least a minimum level of personal relevance, even under low personal relevance conditions. This is because we believed that examining the behavior of potential customers with no personal relevance would not provide useful information to business managers implementing the trust enhancing features under study.

4. AREAS OF FUTURE RESEARCH

In the current study, we have focused on the content of arguments, the sources of arguments, and the personal relevance of arguments to consumers. *Argument use* is yet another important factor that influences the effects of arguments. According to Gregor and Benbasat (1999), consumers tend to use more arguments if little effort is required to access them or if the perceived benefit of accessing them is high. The three factors in Study 3 (i.e. content, sources, and personal relevance factors) are all related to increasing the benefits of accessing arguments, but they are not related to decreasing the efforts necessary to access them. According to Todd and Benbasat (1992), effort is an important factor influencing people's strategy selections for decision-making. If the efforts to access trust-assuring arguments are high, people might avoid accessing arguments, decreasing the effects of trust-assuring arguments on consumers' trusting beliefs. Mao and Benbasat (2001) have reported that people use more explanations when explanations are accessible without changing the context of problem-solving in Knowledge Based Systems. They have introduced this delivery mode as "contextualized access." Internet

stores do not often provide contextualized access, although such access is applicable to the delivery of trust-assuring arguments in online shopping. Internet stores often place trust-assuring arguments under a hyperlink, such as through "help" features. In such cases, customers must leave their current task contexts (e.g. a checkout process or product browsing) to access trust-assuring arguments, increasing their cognitive efforts to return to the current task context and discouraging customers from using arguments. Thus, one area for future research could involve testing whether or not implementing the contextualized access in provision of trust-assuring arguments in Internet stores increases "argument use," and whether or not this eventually enhances the effects of trust-assuring arguments on consumers' trusting beliefs.

Study 3 reports that the personal relevance of the topics of an argument moderates the effects of the source factor and the content factor on consumers' trusting beliefs. It is also likely that the personal relevance of the trustworthiness of an Internet store to an individual consumer is higher when the consumer visits an Internet store to buy than simply to browse a product, because the former case involves higher possibilities of transacting with the store than the latter case, increasing the chances that the consumer will be vulnerable to the store's action. Therefore, it is predicted that the content factor matters more for those customers who have relatively high intentions to buy a product at an Internet store than those who have relatively low intentions. It would be interesting to test this prediction in order to understand how trust-assuring arguments influence trusting beliefs of potentially important customers who have relatively strong intentions to purchase from the store.

5. THEORETICAL CONTRIBUTIONS AND PRACTICAL IMPLICATIONS

It is expected that these series of studies contribute to the deeper understanding of trust assuring arguments as a trust enhancing mechanism, as well as to the development of the guidelines for the effective implementation of this mechanism.

To our knowledge, this is the first study that has systematically investigated the effects of trust-assuring arguments according to Toulmin's (1958) model in the context of an electronic commerce setting. The findings of this dissertation are expected to expand upon McKnight and Chervany's (2001) model of trust by adding the provision of trust-assuring arguments as one of the web interventions that have the potential to increase consumer trust.

This is the first empirical study that varied the three factors systematically to compare a store's trust-assuring arguments and third party certifications. Prior literature has discussed the source factor in the context of comparisons between third party assurances and self-proclaimed assurances, without varying the *content* of the argument and the perspectives of consumers. Unlike the findings of previous studies that have reported that third party certifications are always more effective than a store's trust-assuring arguments in increasing consumer trust, testing of the three factors has revealed the conditions in which one feature is more effective than the other in increasing consumers' trusting beliefs. In this regard, the results of this dissertation provide a richer understanding of the two trust-enhancing features.

This study also confirms ELM, with a theory-based manipulation of argument quality. Although ELM has been tested in numerous studies, most of the studies have

manipulated convincing arguments in empirical manners, without paying attention to what makes an argument convincing. To our knowledge, this is the first study that has tested Toulmin's model of argumentation and ELM together.

For business managers, the results produce a useful guide for an effective implementation of this mechanism, by reporting a list of trust issues that need to be addressed by trust-assuring arguments, the best form of argument based on Toulmin's model, and the conditions in which a store's trust-assuring arguments and third party certifications are more effective in increasing consumer trust. First, Toulmin's model of argumentation is an effective tool to construct convincing trust-assuring arguments. Internet stores may analyze their existing arguments with Toulmin's model and improve them by adding missing argument elements. Web developers may also use Toulmin's model to develop new arguments for their websites. Second, third party assurances should be provided together with convincing arguments in order to be more effective in increasing consumers' trust. Third, a store's trust-assuring arguments that consist of *"claim plus data and backing"* can be highly effective particularly to those customers who have relatively a higher stake in the purchase. Thus, it is worthwhile to display a store's trust-assuring arguments more than it might initially appear because the feature is especially effective in increasing trust for a store's potentially important customer groups. Given that the investment or cost to implement a store's trust-assuring arguments is relatively less than that to implement third party certifications, a store's trust-assuring arguments are expected to be a viable option for business managers to increase customer trust.

Inasmuch as trust-assuring arguments increase consumer trust by providing information on how trust issues are addressed in an Internet store, consumers can make more

informed decisions and enjoy shopping with higher confidence at an Internet store with

trust-assuring arguments than without them.

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APPENDIX 1. TRUST-ASSURING ARGUMENTS USED IN PAPER TWO

No.	Argument Element	Argument Content
1	Claim	Credit card shopping with us is safe.
	Data	Since in general, you pay nothing due to the unauthorized use of a credit card.
	Backing	Most credit card providers limit your liability up to $50 Cdn and cover all charge resulting from unauthorized use of your credit card. If those credit card companies ask you to pay your liability, we will reimburse you that amount (up to the 50$ Cdn) for you if it is a result of shopping with us using secure server. As a result, you pay nothing.
2	Claim	You can be assured that your privacy is respected.
	Data	Since our privacy practices are held to high standard.
	Backing	1) We do not sell or rent our customer information 2) We do not share identifiable information with a partner unless it is required to fulfill your order 3) Without your consent, we will never send you an email about our product. 4) ePrivacy oversees our compliance of these privacy policies.
3	Claim	Your personal information cannot be read as the information travels.
	Data	Our secure server software (SSL) encrypts all of your personal information.
	Backing	Since the encrypted messages can be decrypted only by keys and because SSL is among the best software available today for secure commerce transaction.
4	Claim	Your e-mail input is important.
	Data	Since it is used to contact you regarding the status of your order.
	Backing	You will receive an automatic e-mail acknowledgement of your order. Follow-up e-mails verify shipping status and a final e-mail will confirm shipping.
5	Claim	You can be assured that our customers are satisfied with us.
	Data	Since customers' evaluation of our store is excellent.
	Backing	We received 9.0 (out of 10) in overall satisfaction from our customers in our quarterly customer satisfaction survey.

No.	Argument Element	Argument Content
6	Claim	Order with confidence!
	Data	We provide an easy return process.
	Backing	You may return any item that you buy from us within 30 days from receiving for a full refund. No questions asked! Sorry- shipping cost will not be refunded unless a return is a result of our fault.
7	Claim	You can expect on time delivery
	Data	Since we ship your orders using well-known shipping companies.
	Backing	We ship your order using Xpresspost, Canada Post, and SkyPack.
8	Claim	Registration will provide convenience.
	Data	Since we will save the address and billing information you just entered.
	Backing	Then, you don't need to type the same information again when you shop with us.
9	Claim	We sell high quality products!
	Data	All products we sell are named brand products.
	Backing	We sell Casio, Timex, Sportline, and FreeStyle.
10	Claim	We offer products at discount prices.
	Data	Since our cost is lower than that of physical stores.
	Backing	We save on average 20% of cost by reducing most fixed cost such as rent for store and other overhead.
11	Claim	You can be assured that we are a reliable store!
	Data	We are a certified member of AAA eStore.
	Backing	AAA eStore assures you that we have run this business for more than a year and have shown satisfactory consumer complaints management history. AAA eStore is a non-profit private organization dedicated to fostering fair and honest relationships between businesses and consumers.

No.	Argument Element	Argument Content
12	Claim	You can be assured that this is a secure site!
	Data	We are a certified member of SecureServer.
	Backing	SecureServer Inc. assures our site as a real site and verifies that we use SSL to encrypt your personal information. Over 5,000 Web sites worldwide use SecureServer's SSL encryption technology.
13	Claim	You can be assured that an outside organization oversees our compliance of established privacy policies.
	Data	We are a certified member of ePrivacy.
	Backing	The ePrivacy membership is awarded only to the sites that agree to comply with ongoing ePrivacy's monitoring. ePrivacy is an independent, non-profit privacy organization, dedicated to building users' trust and confidence on the Internet.

APPENDIX 2. TRUST-ASSURING ARGUMENTS USED IN PAPER THREE

TRUST-ASSURING ARGUMENTS ("STORE ITSELF" CONDITIONS)

No.	Argument
1	Credit card shopping with us is safe since in general you pay nothing due to the unauthorized use of a credit card. Most credit card providers limit your liability up to $50 Cdn and cover all charge resulting from unauthorized use of your credit card. If those credit card companies ask you to pay your liability, we will reimburse you that amount (up to the 50$ Cdn) for you if it is a result of shopping with us store using our secure server.
2	You can be assured that your privacy is respected since our privacy practices are held to a high industry standard. 1) We do not sell or rent our customer information 2) We do not share identifiable information with a partner unless it is required to fulfill your order 3) Without your consent, we will never send you an email about our products.
3	The secure server software (SSL) encrypts all of your personal information. So your personal information can not be read as the information travels since the encrypted messages can be decrypted only by keys and because SSL is among the best software available today for secure commerce transactions.
4	You can be assured of no-hassle returns because we provide an easy return process. You may return any item that you buy from us within 30 days from receiving for a full refund. No questions asked!
5	You can expect on time delivery since we ship your orders using well-known shipping companies. We ship your order using Xpresspost, FedEx, and UPS.
6	We sell high quality products! All products are named brand products. We sell Casio, Timex, Sportline, and FreeStyle.
7	We offer products at discount prices since our cost is lower than that of physical stores. We save on average 20% of cost by reducing most of the fixed costs such as rent for the store and other overhead.

(Note: Claims are underlined)

TRUST-ASSURING ARGUMENTS ("TRUST ASSURANCE ORGANIZATION" CONDITIONS)

No.	Arguments
1	"Credit card shopping with this store is safe since in general you pay nothing due to the unauthorized use of a credit card. Most credit card providers limit your liability up to $50 Cdn and cover all charge resulting from unauthorized use of your credit card. If those credit card companies ask you to pay your liability, this store will reimburse you that amount (up to the 50$ Cdn) for you if it is a result of shopping with this store using its secure server. " Evaluation by Bennet Gold Chartered Accountants, a licensed provider of WebTrust services
2	"You can be assured that your privacy is respected since the privacy practices of this store are held to a high industry standard. 1) This store does not sell or rent its customer information 2) This store does not share identifiable information with a partner unless it is required to fulfill your order 3) Without your consent, this store will never send you an email about its products. " Evaluation by Bennet Gold Chartered Accountants, a licensed provider of WebTrust services
3	"The secure server software (SSL) encrypts all of your personal information. So your personal information can not be read as the information travels since the encrypted messages can be decrypted only by keys and because SSL is among the best software available today for secure commerce transactions. " Evaluation by Bennet Gold Chartered Accountants, a licensed provider of WebTrust services
4	"You can be assured of no-hassle returns because this store provides an easy return process. You may return any item that you buy from this store within 30 days from receiving for a full refund. No questions asked! " Evaluation by Bennet Gold Chartered Accountants, a licensed provider of WebTrust services
5	"You can expect on time delivery since this store ships your orders using well-known shipping companies. This store ships your order using Xpresspost, FedEx, and UPS. " Evaluation by Bennet Gold Chartered Accountants, a licensed provider of WebTrust services
6	"This store sells high quality products! All products are named brand products. This store sells Casio, Timex, Sportline, and FreeStyle. " Evaluation by Bennet Gold Chartered Accountants, a licensed provider of WebTrust services
7	"This store offers products at discount prices since the cost of this store is lower than that of physical stores. It saves on average 20% of cost by reducing most of the fixed costs such as rent for the store and other overhead. " Evaluation by Bennet Gold Chartered Accountants, a licensed provider of WebTrust services

(Note: Claims are underlined)

APPENDIX 3. QUESTIONS ABOUT WEBTRUST SERVICES

Instructions: Please answer the following questions regarding WebTrust.

1. WebTrust services are trust assurance services for electronic commerce. Who conducts the WebTrust services?

○ 1) Customers

○ 2) Internet stores themselves

○ 3) Specially trained and licensed accountants

2. If a store displays WebTrust symbol, , it means that

○ 1) The store has been evaluated by specially trained and licensed accountants

○ 2) The store has been evaluated by customers

○ 3) The store has been evaluated by the store herself

APPENDIX 4. MEASURE OF CONSUMERS' TRUSTING BELIEF

The following questions ask you to compare the two stores that you have just seen and to indicate to what extent you prefer one over the other. Please answer them carefully and objectively. It is very important to answer all of the questions included in the questionnaire, without leaving out a single question. If you are not sure of the answer to a question, please give us your best opinion.

Examples

For example, three people *A*, *B*, and *C* have the following evaluation toward the stores they visited:

Person *A* found the first store *much more* attractive.
Person *B* found the two stores *equally* attractive.
Person *C* found the second store *a little more* attractive
Their responses are shown below:

Q: To which of the two stores does the following statement apply more?

The store is attractive.

The First Store   **The Second Store**

⊙ 5   ⊙ 4   ⊙ 3   ⊙ 2   ⊙ 1   ⊙ 0   ⊙ 1   ⊙ 2   ⊙ 3   ⊙ 4   ⊙ 5

    Person A   *Person B*   *Person C*
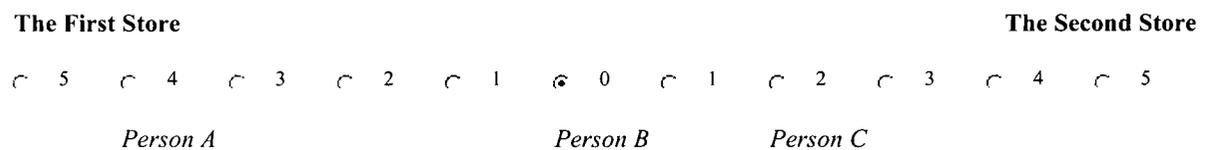
That is, person A would select 4 on the left; person B would select 0, while person C would select 2 on the right

1. To which of the two stores does the following statement apply more?
The Internet store has the skills and expertise to perform transactions in an expected manner.
The First Store   **The Second Store**

⊙ 5   ⊙ 4   ⊙ 3   ⊙ 2   ⊙ 1   ⊙ 0   ⊙ 1   ⊙ 2   ⊙ 3   ⊙ 4   ⊙ 5
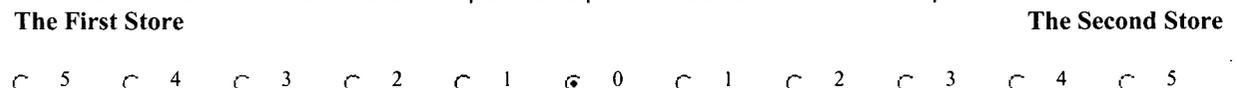
(Questions are asked in the same way with the following content)

2. The Internet store has access to the information needed to handle transactions appropriately.
3. The Internet store is fair in its conduct of customer transactions.
4. The Internet store is fair in its customer service policies following a transaction.
5. The Internet store is open and receptive to customer needs.
6. The Internet store makes good-faith efforts to address most customer concerns.
7. Overall, the Internet store is trustworthy.

APPENDIX 5. MEASURE OF PERSONAL RELEVANCE OF ARGUMENT TOPICS

When you visited the second store, you might have had a chance to click on the **topics** below to see the comments regarding these topics.

Topics are:
Credit Card Shopping
Information Privacy
Information Security
Product Returns
Product Delivery
Product Quality
Product Prices

The following questions are about these **topics** (as a whole).

Question: To what extent did these **topics** (as a whole) actually matter to you in choosing the store that you would buy the sports-watch from? Please rate your opinion in terms of the following;

		1	2	3	4	5	6	7	
1	**Was irrelevant to me**	○	○	○	○	○	◉	○	**Was relevant to me**
2	**Was of no concern to me**	○	○	○	○	○	◉	○	**Was of concern to me**
3	**Did not matter to me**	○	○	○	○	○	◉	○	**Mattered to me**
4	**Meant nothing to me**	○	○	○	○	○	◉	○	**Meant a lot to me**

(For example in case of Q3, if these **topics** actually mattered to you when you chose the store, then click on 7 and if they actually did not mattered to you when you chose the store, then click on 1)

APPENDIX 6. ARGUMENT USE QUESTIONNAIRE

Instructions: Please recall the second store. You might notice that the store displays some information for customers.

Please check one among four choices for each piece of information. It is very important to answer all of the questions included in the questionnaire, without leaving out a single question. If you are not sure of the answer to a question, please give us your best opinion.

Answer Example: If you did not notice the information described in the first column in the second store, then please check in the column titled as "(1) Not notice" as shown below.

Information (Argument Element)	Did Not Notice	Saw	Read	Read & Thought
This store is one of the largest online store s selling watches.				

The meanings of choices are:

(1) Did not notice: I did not notice the information at the second store.

(2) Saw: I noticed the presence of the information but I did not read it.

(3) Read: I read the information.

(4) Read and thought: I read the information and spent some time thinking about the merit of the information.

Questions to Measure Argument Use

Information (Argument Element)	Did Not Notice	Saw	Read	Read & Thought
Credit card shopping with us is safe.				
Since in general you pay nothing due to the unauthorized use of a credit card.				
Most credit card providers limit your liability up to $50 and cover all charge resulting from unauthorized use of your credit card. ...				
... (questions asked for all arguments in appendix 2)				

APPENDIX 7. MEASURE OF PERCEIVED UNBIASEDNESS IN SOURCES OF ARGUMENTS

Perceived unbiasedness was measured with 3 items (7 point Likert scale, 1: Strongly Disagree 7: Strongly Agree).

1. (The accountants conducting WebTrust services / The second store)[19] are willing to accurately convey information about the second store's policies

2. It is unlikely that (accountants conducting WebTrust services / the second store) withhold information about the second store's policies.

3. It is unlikely that (accountants conducting WebTrust services / the second store) distort information about the second store's policies.

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[19] For "*trust assurance organization*" groups, questions about the accountants conducting WebTrust services were provided and for "*store itself*" groups, questions about the second store were asked.

APPENDIX 8. FREQUENCY DISTRIBUTIONS BY TREATMENTS (NUMBER OF CLICKS ON HYPER LINKS)

Number of Clicks

Personal Relevance			Frequency	Percent	Valid Percent	Cumulative Percent
High	Valid	.00	2	3.1	3.1	3.1
		2.00	2	3.1	3.1	6.3
		3.00	2	3.1	3.1	9.4
		4.00	2	3.1	3.1	12.5
		5.00	6	9.4	9.4	21.9
		7.00	37	57.8	57.8	79.7
		8.00	9	14.1	14.1	93.8
		9.00	1	1.6	1.6	95.3
		10.00	1	1.6	1.6	96.9
		11.00	2	3.1	3.1	100.0
		Total	64	100.0	100.0	
Low	Valid	.00	2	3.1	3.1	3.1
		2.00	1	1.6	1.6	4.7
		3.00	1	1.6	1.6	6.3
		4.00	3	4.7	4.7	10.9
		5.00	1	1.6	1.6	12.5
		6.00	9	14.1	14.1	26.6
		7.00	40	62.5	62.5	89.1
		8.00	5	7.8	7.8	96.9
		13.00	1	1.6	1.6	98.4
		15.00	1	1.6	1.6	100.0
		Total	64	100.0	100.0	

Number of Clicks

Content of Arguments			Frequency	Percent	Valid Percent	Cumulative Percent
Claim Plus Data and Backing	Valid	2.00	1	1.6	1.6	1.6
		3.00	1	1.6	1.6	3.1
		4.00	2	3.1	3.1	6.3
		5.00	4	6.3	6.3	12.5
		6.00	6	9.4	9.4	21.9
		7.00	36	56.3	56.3	78.1
		8.00	11	17.2	17.2	95.3
		9.00	1	1.6	1.6	96.9
		10.00	1	1.6	1.6	98.4
		11.00	1	1.6	1.6	100.0
		Total	64	100.0	100.0	
Claim Only	Valid	.00	4	6.3	6.3	6.3
		2.00	2	3.1	3.1	9.4
		3.00	2	3.1	3.1	12.5
		4.00	3	4.7	4.7	17.2
		5.00	3	4.7	4.7	21.9
		6.00	3	4.7	4.7	26.6
		7.00	41	64.1	64.1	90.6
		8.00	3	4.7	4.7	95.3
		11.00	1	1.6	1.6	96.9
		13.00	1	1.6	1.6	98.4
		15.00	1	1.6	1.6	100.0
		Total	64	100.0	100.0	

Number of Clicks

Sources of Arguments			Frequency	Percent	Valid Percent	Cumulative Percent
Trust Assurance Organziation	Valid	.00	4	6.3	6.3	6.3
		2.00	1	1.6	1.6	7.8
		3.00	1	1.6	1.6	9.4
		4.00	3	4.7	4.7	14.1
		5.00	5	7.8	7.8	21.9
		6.00	5	7.8	7.8	29.7
		7.00	37	57.8	57.8	87.5
		8.00	4	6.3	6.3	93.8
		9.00	1	1.6	1.6	95.3
		10.00	1	1.6	1.6	96.9
		13.00	1	1.6	1.6	98.4
		15.00	1	1.6	1.6	100.0
		Total	64	100.0	100.0	
Store Itself	Valid	2.00	2	3.1	3.1	3.1
		3.00	2	3.1	3.1	6.3
		4.00	2	3.1	3.1	9.4
		5.00	2	3.1	3.1	12.5
		6.00	4	6.3	6.3	18.8
		7.00	40	62.5	62.5	81.3
		8.00	10	15.6	15.6	96.9
		11.00	2	3.1	3.1	100.0
		Total	64	100.0	100.0	