

ESSAYS ON PRIVACY PERCEPTIONS AND PRIVACY
BEHAVIORS OF ONLINE SHOPPERS

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ESSAYS ON PRIVACY PERCEPTIONS AND
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CHAPTER I

INTRODUCTION

Gathering and analyzing consumer information is an important approach for governmental and commercial organizations to reduce operational costs and gain competitive advantage. Marketing companies use consumer profiles to launch targeted marketing campaigns. Online vendors analyze online shoppers' browsing pattern to provide personalized offers and increase consumer loyalty. Additionally, many companies are increasingly gathering vast amounts of consumer data made possible by advances in storage, networking and data processing technologies. The recent growing application of data mining techniques has further fueled the thirst for personal information. Thus, collection of consumer information has become the norm for online companies. According to Lessig (June 2000), 92% of commercial Web sites gather personal data. Such wide gathering and analyzing of consumers' information with or without consumers' awareness have increased online shopper concerns over their privacy.

While e-commerce holds out much promise, it only makes up a tiny share (2%) of the total economy worldwide (E-commerce and Development Report, UNCTAD 2004). Privacy concerns have been suggested as one possible significant reason that hampers the growth of e-commerce. "61% of consumers say that they have privacy and security

concerns that make them hesitant to give out credit card information online” (Forrester Research, 2004). The importance of privacy issue has attracted growing attention not only from managers but also from researchers in multiple disciplines such as marketing, law, management information systems, etc.

Most research on online privacy focuses on privacy concern as a personal trait or a person’s general disposition to give out information. These studies also implicitly assume that online shoppers’ privacy *behavior* is primarily driven by their level of concerns over privacy. For example, internet users with high privacy concern are less likely to give personal information and may be more likely to read privacy policy, etc. However, several studies have found that online shoppers’ privacy behavior tends to deviate from their reported privacy concern. Malhotra et al. (2004) found no direct relationship between privacy concern and behavioral intention in an online shopping environment. In the survey by Acquisti and Grossklags (2005), 41% of individuals with high privacy concern rarely read private policies containing the promised rules and safeguards to be offered. Berendt et al. (2005) found that online users easily forget their privacy concerns and disclose the most personal details when they are actually interacting with a Web site that they find entertaining. This contradiction between privacy concern and privacy behavior (which we will refer to as the “privacy contradiction”) has largely been unexplained to date. It is possible that various situational specific factors, beyond a person’s general disposition to privacy (privacy concern), such as overall look, feel and functionality of the Web site, availability and content of privacy policy, nature of the information to be collected by the vendor, economic benefits, among others, may provide an explanation. We are led to this conclusion because privacy is not free of context.

“Individuals’ concepts of privacy are tied to concrete situations in everyday life” (Laufer and Wolfe 1977). The experience of an individual in a given situation affects his/her labeling the situation as privacy intrusive or not. Until now, few studies have been conducted to understand privacy issues in the context of concrete situations. For example, when dealing with unfamiliar online vendors, consumers may primarily rely on the interaction with the Web site to form conscious or unconscious privacy-related feelings and opinions about the vendor.

The primary objective of this dissertation is to address the privacy contradiction by investigating the impact of situational specific factors on privacy perceptions and privacy behaviors in e-commerce. This impact is viewed through two different lenses; an affect-based lens and a cognition-based lens where we study how situations-specific factors influence privacy behavior through both their emotional impact and cognitive impact on perceived privacy. Thus, the research specifically aims to understand how consumers form their privacy perceptions when they are interacting with an unfamiliar Web site, how their privacy perceptions further influence their intention to disclose personal information and the relative importance of privacy concern as a general disposition in this interaction process. The results of the study would enable both practitioners and researcher to have a better understanding of factors actually driving privacy decisions/behaviors when online shoppers are interacting with a Web site.

The dissertation is divided into three essays. The first essay explores the formation of privacy perceptions from the affect perspective. It examines the impact of emotions on Internet users’ perceived privacy. Emotions provide feedback about the environment and, in the context of online shopping, provide feedback about the Web site

such as overall look, design or functionality, etc. They inform online shoppers about potential benefits or problems that may be incurred from a Web site. We primarily examined how the experience of interacting with a Web site may trigger various emotions (in a holistic sense) and how these emotions help to shape an online shopper's privacy perception about the vendor. We also studied their impact on online shoppers' privacy behavior in terms of their willingness to provide information about themselves.

The second and third essays look at the *context of information collection* based on the cognitive evaluation of fairness and justice in procedure and interaction. According to social contract theory, online shoppers conduct a "privacy calculus", comparing benefits and risks of disclosing personal information. Specifically, the second essay separates the impact of initial emotions before information collection with that of vendor mechanisms that could be implemented to increase perceived privacy protection and/or reduce perceived privacy risk. Three fairness-based vendor mechanisms that could influence the information disclosure are examined: reading a fair privacy policy, sensitivity and relevance of the information requested. So, in the second study, the formation of privacy perception is looked at from both affect-based and cognition-based aspects.

The third essay further focuses on the effect of benefits that motivate online shoppers to disclose information in the context of a social contract. In particular, we choose a research context of conventional market place where information exchange is a by-product of a first exchange for products or services and examined the impact of two types of exchange benefits: perceived usefulness of the service or product, and monetary reward. Social contract theory is adopted to understand the cost-benefit tradeoff analysis involved in information exchange and the potential moderation effect of fairness-based

factors on the relationship between monetary reward and behavioral intention to disclose personal information.

The remainder of the dissertation is organized as follows: Chapter 2 proposes a basic framework that is used to tie together three studies. Chapters 3, 4, and 5 are three essays, addressing the privacy contradiction by examining different situation-specific factors.

CHAPTER II

RESEARCH FRAMEWORK

The purpose of this dissertation is to enhance our understanding of privacy-related behavior, specifically, the intent to give personal information in an online shopping context, when dealing with unfamiliar vendors through their Web site. As seen in the previous section, consumers' inherent concerns for privacy are insufficient to explain their behavior, since their privacy behaviors are often contradictory to their privacy concern. We hypothesize that situation-specific factors may play an important role and help explain this contradiction. We will rely on an existing theory to develop our research framework and unify the three studies presented in this dissertation.

Laufer and Wolfe (1977) proposed a Multidimensional Development Theory, which provides a situational analysis of how individuals form their privacy perception. This theory lays the basic foundation for our study which is aimed at explaining the privacy contradiction through understanding the impact of situational factors. The theory organizes factors of a privacy situation into three dimensions: environmental, interpersonal, and self-ego (Figure 2.1).

Self-Ego Dimension

The self-ego dimension “refers to a developmental process that, in our society, focuses on individuation (autonomy) and, by implication, personal dignity.” (Laufer and Wolfe 1977). The concept of privacy touches human's deep need for self-ego. We want

to separate from the social and physical environment and have the freedom to choose being left alone or interacting and functioning with others. Self-ego develops from individuals' life experience whether it is privacy-related or not. Individuals with different levels of self-ego are likely to express different level of concerns regarding their personal information. Such concern for information privacy is likely to further drive online shoppers to form different privacy perceptions and privacy when they are interacting with a Web site. Therefore, in all three of our studies, privacy concern is included as one of the antecedents for privacy perceptions and/or privacy behaviors.

Environmental Dimension

Environmental dimension consists of environment elements that “influence the individual’s ability to perceive, have, and use available options.” (Laufer and Wolfe 1977), which could be cultural, sociophysical, and life cycle. Our study will focus on the social-physical sub-dimension. Laufer and Wolfe (1977) suggest that a physical space could achieve its privacy character by design, activity, and meaning. People may feel that some physical space may “fit” human privacy better than another place. In the context of online shopping, Web site features constitute important social-physical elements. Similar to a physical space, a Web site could achieve its *privacy character* through design, content and functionality. In addition, the understanding of privacy instigated by environmental factors may be unintentional (Laufer and Wolfe 1977). The first essay of this dissertation attempts to examine the influence of environment features from the perspective of affect. We looked at how cognitive evaluation of Web sites could trigger online shoppers’ emotions and how emotions could further have a congruent effect on privacy perceptions and intention to disclose personal information.

Interpersonal Dimension

Privacy essentially arises from the existence of an interpersonal relationship between an online shopper and a vendor. Online shoppers could control their information privacy by deciding whether to interact with the Web site, whether to further enter exchange relationship with the associated vendor, and what kind of personal information to disclose. One important aspect of this dimension is the “calculus of behavior” (Laufer and Wolfe 1977). Consumers looked at economic and non-economic benefits from the exchange and the potential risks of disclosure. They tend to give information when potential risks of information disclosure could be justified by benefits. However, due to the uncertainty commonly involved in the disclosure of personal information in online shopping, exchange fairness may play a key role in the cognitive evaluation of potential benefits and risks. For example, the relevance of information requested in a specific exchange context may further adjust the perceived benefits and risks involved in the information disclosure. Therefore, the “calculus of behavior” involves the evaluation of exchange benefits and risks as well as the exchange fairness.

Factors in this dimension are investigated in the second and third essays. The second essay examines the impact of three fairness-based mechanisms (privacy policy, sensitivity and relevance of the information requested) on the privacy perceptions and privacy behaviors. In addition, perceived privacy protection and perceived risk are examined as two separate constructs to see how individuals seek a balance between the two in evaluating privacy calculus. The third essay examines the impact of monetary benefits and perceived usefulness of product and/or service and the potential interaction with the relevance of information. All our studies assume the conventional e-commerce

marketplace where information is not exchanged directly for money and information exchange is primarily governed by social contracts.

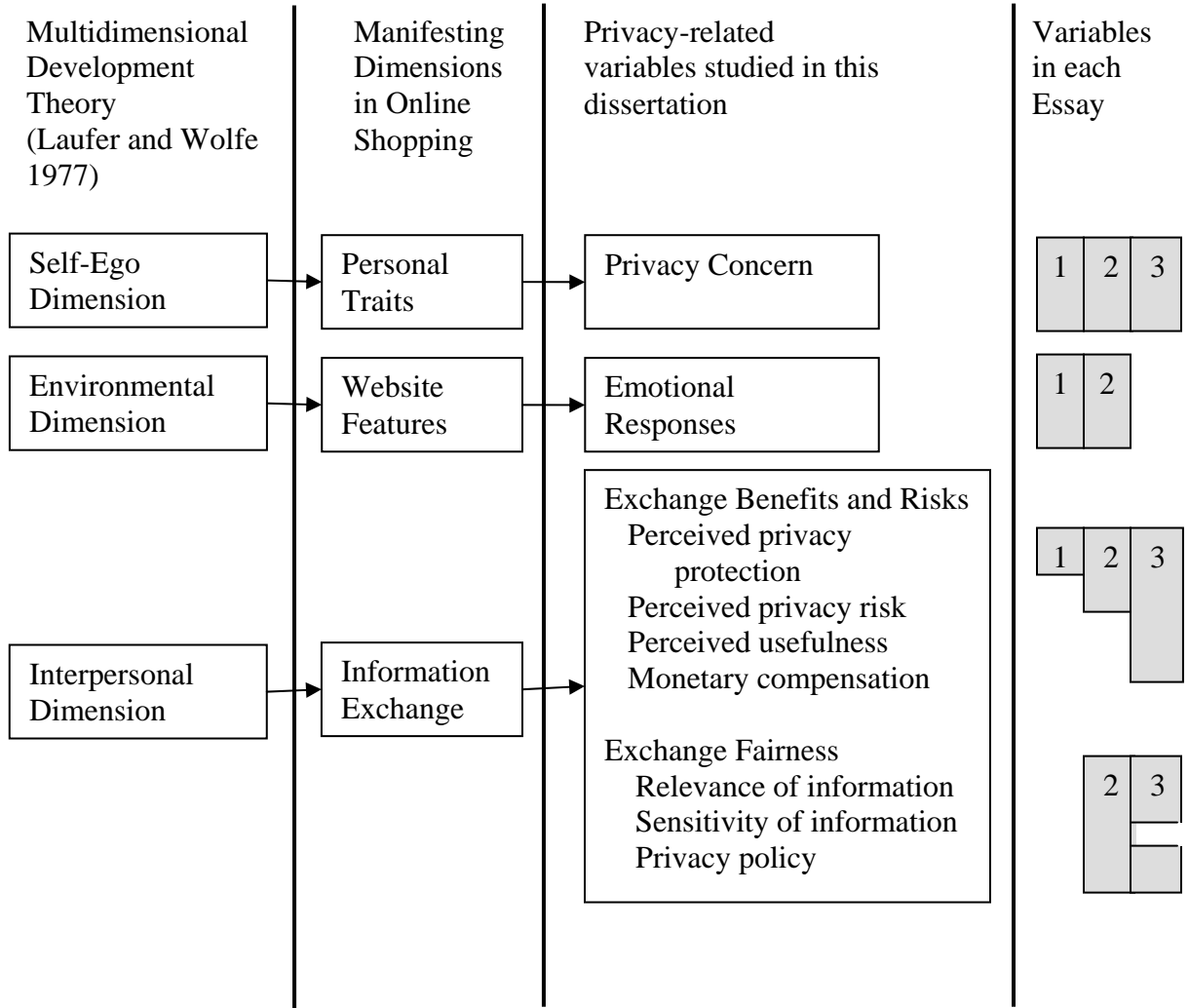


Figure 2.1 Overall research framework.

CHAPTER III

ESSAY 1 - LIKING IS BELIEVING? THE ROLE OF EMOTIONS IN SHAPING CONSUMERS' PRIVACY BELIEFS ABOUT UNFAMILIAR ONLINE VENDORS

1 Introduction

There is little doubt that information privacy is an important issue of concern to vendors as well as online shoppers. Privacy concerns have caused most online shoppers to refuse to provide personal information to Web sites at one time or another (Teltzrow and Kobsa 2004). One of the most frequently cited concerns is secondary access to credit card information by hackers (Metzger 2004). Online vendors have taken advantage of information technology to gather, organize and store vast amounts of information about consumers. While beneficial to organizations, these activities have increased attention on privacy violations aided, in part, by media coverage of security breaches and unauthorized disclosure of customer information by vendors. Such attention could shape online shoppers' belief about the privacy protection offered by a vendor. This, in turn, may strongly influence their shopping decision especially if the vendor is unfamiliar to them. Hence, privacy issues are important not only to consumers but also to online vendors.

Consumers' privacy is an evolving issue, which changes with the research and business context (Smith et al. 1996). One perspective interprets privacy as "control"

(Westin 1967). Information privacy is defined as “the ability of the individual to personally control information about one’s self” (Stone et al. 1983), which includes the transfer and exchange of that information. This perspective stresses the expectation of the consumer *vis-à-vis* the online vendor’s responsibility to consumers to ensure secure access to the customers’ information and allowing them control over the use of their information. Another perspective argues that privacy is an expression of a human’s core value *security* (Moor 1997), emphasizing its central role in an individual’s shopping decision. In this study, our definition of information privacy includes both perspectives. Our definition is also consistent with the four dimensions of privacy concerns identified in two recent IS studies (Smith et al. 1996; Stewart and Segars 2002).

Several factors may mitigate consumers’ concern for privacy when dealing with a well-known vendor (such as Amazon.com or Expedia.com). These include reputation of the vendor, its existing consumer base, personal knowledge of other people’s interaction with the vendor, and personal offline shopping experience with the vendor, among others. However, when dealing with an unfamiliar online vendor, the consumer’s intention to purchase could be affected by the consumer’s perceived comfort in providing personal information to the vendor.

A substantial number of e-commerce interactions are with unfamiliar vendors whose Web site is the primary source of information to the consumer about the vendor. As indicated by Pennington et al. (2003): “The relative ease in which vendors can enter this global marketplace has resulted in an abundance of businesses offering their products to consumers who are completely unfamiliar with them. These “unknown” vendors hope to build a reputation online and often seek ways of assuring the consumers that they are

indeed legitimate and trustworthy.” Thus, we can assume that the Web site interaction is the primary source of information available to the consumer about the vendor, and that this vendor is one of many choices available to the consumer. The consumer’s first interaction with the vendor’s Web site might be the sole basis for the consumer’s perception about privacy protections offered by the vendor.

Prior research provides evidence that users perceive significant risks and uncertainty in interaction (McKnight et al. 2002) with unfamiliar Web sites. It is likely that the consumer might not proceed with the transaction, should (s)he arrive at an adverse conclusion about the vendor. Generally, consumers reach conclusions about unfamiliar vendors in a very short time frame (Lindgaard et al. 2006), especially in the presence of multiple competing vendors. A typical consumer would spend a short period of time at each Web site, moving from one to another. If we exclude those consumers who have a trusted relationship based on a previous, positive experience (in which case they are perhaps more likely to have made their shopping decision), other consumers typically arrive at their decision based on their interaction experience with the Web site, within a few minutes. There are innumerable instances of such shopping situations including vacation rentals, spare parts for appliances, electronic commodities, among others.

From the consumer’s perspective, the absence of a pre-existing relationship and the limited nature of available information increase the uncertainty of the situation. To the vendor, ubiquitous competitors and the extremely short time frame available to reassure the customer about privacy protections pose challenges. It is, therefore, extremely important to the vendor to understand what determines the consumer’s

privacy-related belief about the vendor and how likely the consumer is to provide personal information to the vendor as a consequence of his or her belief.

In this study, we explore how consumers form their privacy belief when dealing with unfamiliar online vendors, what factors impact their privacy belief and behavioral intention, and how this privacy belief affects their intention to provide information to vendors. We assume that providing this information is necessary to complete the transaction. Part of our motivation stems from our belief (as argued in the next section) that the purely rational perspective adopted by previous studies in dealing with formation of privacy beliefs is inadequate in our context, given incompleteness of information, uncertainties inherent in dealing with unfamiliar online vendors and the shortness of the time frame in arriving at their decision. We believe, instead, that consumers would rely more on emotional cues to make decisions. Consumers' affective state driven by their overall (holistic) experience in interacting with the unfamiliar vendor's Web site, determines their privacy belief. This privacy belief (about perceived privacy protections offered by the vendor) will be more important than their general privacy concern (as a personality trait) in determining their willingness to provide personal information. To some extent, this may explain some of the contradictions found both in practice and theory between consumers' stated (often high) level of privacy concerns and their online privacy behavior.

Our study has important implications for the large number of online businesses that do not have the presence of major online e-commerce players and that rely on customers who are unfamiliar with them. It suggests that such vendors may need to pay greater attention to the overall design of their Web site, to mitigate adverse privacy belief

and enhance the probability of a successful consumer transaction. It also provides important direction to future research, by establishing the role played by emotions in determining privacy belief and privacy-related behavior.

The remainder of the document is structured as follows: In the next section we review the literature to establish the need for considering privacy-related beliefs to better explain privacy-related behavior, and the role of emotions in driving these beliefs. In the following section we propose our research model, its theoretical underpinnings and hypotheses underlying the model. Next, we describe our experiment, followed by a discussion of the findings of this study. Finally we present the limitations of the study followed by concluding remarks.

2 Consumers' Concerns and Beliefs about Information Privacy

Existing literature has examined two important constructs related to an online consumer's privacy-related behavior: privacy concern and trust. Privacy *concern* refers to an individual's personal trait or general disposition to privacy invasion (Smith et al. 1996; Stewart and Segars 2002). Individuals may vary in their levels of concern for privacy. Apart from privacy concern, the role of *trust* in determining information disclosure and purchasing activity in the online environment has been studied (Culnan and Armstrong 1999; Malhotra et al. 2004; Metzger 2004). Trust in an online vendor is often a consequence of a pre-existing relationship with, or knowledge about, the vendor. Once trust is fully established in a long-standing relationship, privacy issues are less of a concern (Sweat 2000). Similarly, privacy statements have been found to increase trust in the online environment (Palmer et al. 2000; Pennington et al. 2003). Thus, trust and privacy issues are intertwined.

We argue that privacy concern is inadequate in determining behavioral intention in our context of e-commerce transactions with unfamiliar online vendors. Empirical studies on the underlying dimensions of consumers' privacy concern and its impact on consumers' privacy-related behavioral intention have produced inconsistent results (Smith et al. 1996; Stewart and Segars 2002; Malhotra et al. 2004; Dinev and Hart 2006). Privacy concern was found to be significant when included as a sole predictor (Smith et al. 1996; Stewart and Segars 2002) and was often found to have a weak or no significant impact on privacy-related behavior in the existence of other predictor variables such as trust belief, risk belief etc. (Malhotra et al. 2004; Awad and Krishnan 2006). These studies also do not explain shopping behaviors often observed in practice that are inconsistent with people's privacy concern. For example, Acquisti et al. (2005) indicates that a significant percentage of people with high privacy concern (41%) rarely read private policies containing promised rules and safeguards. Similarly, when dealing with an unfamiliar vendor, relationship-based trust cannot be used to explain privacy-related behavior.

We believe that *privacy belief* is more important for understanding privacy-related behavior in our context. Privacy belief is the subjective probability that consumers believe that their private information is protected as expected (Pavlou and Chellappa 2001; Metzger 2004). Privacy belief is situation-dependent, and it is formed when consumers are interacting with a specific Web site. Privacy belief is consistent with the idea that: "Individuals' concepts of privacy are tied to concrete situations in everyday life" (Laufer and Wolfe 1977). The experience of an individual in a given situation results in his/her labeling the situation as privacy intrusive or not. When dealing with

unfamiliar online vendors, consumers may rely primarily on the interaction with the Web site to form conscious or unconscious privacy-related feelings and opinions about the vendor. This has not been recognized in prior studies.

We also contend that shopping with unfamiliar online vendors calls for a consideration of a consumer's *emotional response* to the Web site experience to successfully explain a consumer's privacy-related behavior. Our contention is motivated by the fact that with unfamiliar Web sites, consumers may lack complete information or possess limited processing capability to make rational privacy decisions. Instead, they may use a simplified mental mode and also rely on emotional cues to make decisions (Acquisti and Grossklags 2005). This is not an unreasonable proposition. Affect has recently been integrated together with cognition to serve as the essential foundation for designing attractive products and explaining human-computer interaction (Norman 2004; Te'eni et al. 2006). Affect is recognized to play as important a role as cognition. Recent studies have found that emotions influence consumers' satisfaction and shopping decision in both the online and offline environment. "Online stores that managed to improve the customer's experience by incorporating more pleasing designs reaped an increase in repeat visits (the ratio of buyers to unique visitors) from 40 percent to 140 percent." (quoted in Te'eni et al. 2006). Delight has been included as one important dimension of e-commerce which influences customer satisfaction (Kim et al. 2002). Consumers' satisfaction with online banking and their continuance intention have been suggested to be driven by four pairs of emotion: dissatisfied/satisfied, displeased/pleased, frustrated/contented and terrible/delighted (Bhattacharjee 2001). Privacy belief, as a higher order cognitive process, may also be explained by online shoppers' emotions. For

example, online users tend to forget their privacy concerns and disclose personal details when interacting with an entertaining Web site (Berendt et al. 2005).

In addition to privacy belief, when consumers interact with an unfamiliar online vendor, *initial trust belief* (or perceived trust) is also relevant. Trust belief is a set of beliefs regarding online vendors' competence, benevolence, and integrity (McKnight et al. 2002) and trust is established based upon those specific beliefs. Initial trust belief has been found to be a key determinant in the disclosure of personal information, especially when environment is uncertain (Jarvenpaa and Tractinsky 1999; Wulf et al. 2001).

In summary, our context calls for a consideration of situation-specific beliefs, such as privacy and trust belief, in addition to privacy concern, to better explain consumers' privacy-related behavior. Such beliefs are a result of the consumer's emotional response to the Web site interaction experience. In the next section, we develop our formal research model and its underlying hypotheses.

3 Theoretical Background and Research Model

Our research model proposes that (a) an online user's affective response is a consequence of their cognitive appraisal of the uncertainty of the online environment and their Web site experience; (b) in turn, this emotional response drives the user's privacy-related beliefs about the Web site vendor, and (c) these beliefs have a salient effect on behavioral intention, which causes them to mediate the impact of personal traits. The research model is presented in Figure 3.1. We discuss the theoretical underpinnings of these propositions and the details of the hypotheses underlying the model below.

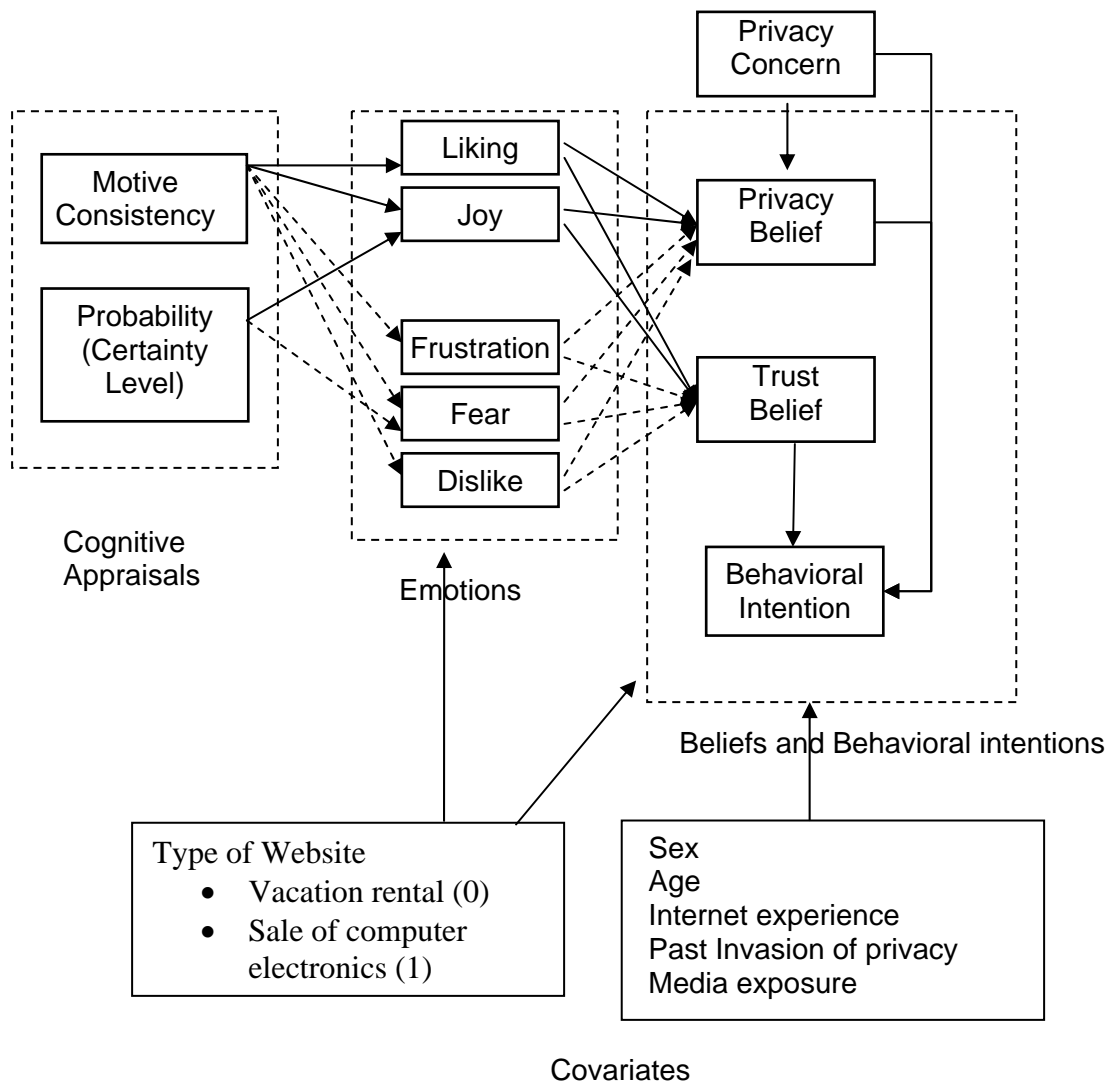


Figure 3.1. Research Model of Essay 1

3.1 Cognitive Appraisal and Emotions

There are two general types of affective states: emotion and mood. Emotions are defined as “felt tendency toward anything intuitively appraised as good (beneficial) or away from anything intuitively appraised as bad (harmful)” (Arnold 1960). Emotions are considered as intense, short-lived (limited to seconds or minutes), and highly conscious affective states (Smith and Kirby 2000). In comparison, moods typically have low intensity with relatively longer duration (several hours to several days). In addition, emotions are relational or directed at a particular object (Frijda 1994) while moods are objectless, i.e. not directed toward a particular object. Therefore, emotions typically have explicit causes or antecedents. In our context, we hypothesize that emotions are driven by a consumer’s interaction (often brief) with a specific Web site.

Emotions have been studied from five perspectives including psychological, evolutionary, cognitive, neurological and social-constructive (Cornelius 1996). Among these, the cognitive perspective was found suitable for theory-driven empirical research on emotions (Ohman 1988). It focuses on discrete emotions instead of just on the valence of affect states as positive or negative. “Specific emotions of the same valence can have very different effects on judgment” (DeSteno et al. 2000). These discrete emotions could have distinctive antecedents (or *appraisals*) and effects. Therefore, they could provide additional insights on how emotions are formed and how they influence online shoppers’ privacy perceptions. Therefore, we adopted the cognitive perspective to study the emotions of online consumers. Emotions serve different adaptive functions that are called for under different sets of environments (Arnold 1960).

Appraisals are the evaluations of the potential harm or benefit in certain circumstances confronting an individual (Smith and Kirby 2001). Appraisals of environments are then expected to elicit appropriate emotions that pull us toward good or push us away from bad things (Arnold 1960; Smith and Kirby 2001). Since the 1980's, many studies have focused on dimensions of cognitive appraisals that elicit emotions (Scherer 1984; Smith and Ellsworth 1985; Roseman et al. 1996). According to these studies, a particular emotion can be attributed to a combination of several cognitive appraisals. For example, fear is often related to an uncertain situation. While many appraisal dimensions have been identified in previous studies, we selected the two most examined cognitive appraisals to address the online circumstance namely, situational state (or motive-consistency) and probability (uncertainty). For emotions, we selected five emotions that were studied in the context of online consumers in previous research, including liking, joy, dislike, frustration, and fear (Ethier et al. 2004). Thus, for reasons mentioned earlier, instead of focusing only on the valence of affect states as positive or negative, we examine five discrete emotions. Motive consistency is an appraisal of the extent to which a situation is in line with one's motive. It reflects whether the situation can help to achieve one's goal. Motive consistency is the primary dimension that differentiates positive emotions from negative emotions. For example, an online customer may feel frustrated if he or she is unable to search for a product in a vendor's Web site. In the context of online shopping, motive consistency reflects the consumers' holistic shopping experience (Ethier et al. 2004). A favorable shopping experience is expected to increase positive emotions while a more unfavorable shopping experience should increase negative emotions (Ethier et al. 2004). Therefore, we have:

H₁: Motive consistency has a positive impact on liking (**H_{1a}**), and joy (**H_{1b}**).

H₂: Motive consistency has a negative impact on frustration (**H_{2a}**), fear (**H_{2b}**) and dislike (**H_{2c}**).

Probability is the second cognitive appraisal dimension used in our study. This dimension reflects an appraisal of the uncertainty level of the situation. The online environment is computer-mediated and the web interface is the primary means for consumers to interact with vendors. Social cues commonly used by consumers to ascertain the exchange relationship are lost. Consumers may feel a greater level of uncertainty that may additionally be heightened by unfamiliarity with the vendor. In the model by Roseman (1996), probability appraisal is related to joy and fear. A greater level of certainty in a situation is expected to increase joy while a more uncertain situation is expected to enhance fear. Therefore, we have

H₃: Probability (certainty level) has a positive impact on joy.

H₄: Probability (certainty level) has a negative impact on fear.

3.2 Emotions and Privacy Beliefs

Emotion is closely intertwined with cognition or how we think. Personal belief is one type of cognition. It has been widely recognized that emotions influence our thinking, judgments, and decisions. Emotions serve as feedback about the environment, guiding our decision about whether to continue or to stop goal-directed processing (Martin et al. 1993). The affect feedback from cognitive appraisals of a vendor's Web site should have a direct impact on people's privacy belief, since privacy is an expression of the core value security (Moor 1997).

Affect congruence theory (Forgas 1995) suggests that people in a positive affective state tend to make more positive judgments than people in negative state. Positive affect can inform individuals that the current environment is safe while negative affective states can signal that the current environment is problematic (Petty et al. 2001). Affect congruity has been suggested to be more likely to take place under certain conditions (Forgas 1995), such as in the presence of constructive and substantive processing. Web sites that are unfamiliar to users require more processing. Conversely, affect congruity may be absent when the task is highly familiar and requiring simple reproduction of previous responses, such as when interacting with familiar Web sites. Additionally, the uncertainty inherent in dealing with unfamiliar Web sites calls for a greater use of emotional cues to make judgments. Therefore, we have

H₅: Liking (**H_{5a}**) and joy (**H_{5b}**) have a positive impact on privacy belief.

H₆: Frustration (**H_{6a}**), fear (**H_{6b}**) and dislike (**H_{6c}**) have a negative impact on privacy belief.

As we discussed in the earlier section on beliefs and information privacy, privacy issues are intertwined with trust. For a long-standing relationship, trust tends to override the effect of privacy concern. Privacy issues become less of a concern (Sweat 2000). While the absence of a pre-existing relationship with unfamiliar vendors precludes the use of trust directly, perceived trust in the form of initial trust belief may still play a role. Initial trust belief enhances consumers' willingness to disclose personal information, especially when environment is uncertain (Jarvenpaa and Tractinsky 1999; Wulf et al. 2001). But, privacy belief and trust belief may play different roles in the different stages of consumer-firm relationships. For new or unfamiliar Web sites, consumers have limited

knowledge to evaluate the trustworthiness of the company. Both privacy belief and trust belief may jointly influence the consumers' intention to release information.

In the context of shopping with unfamiliar vendors, we are interested in the impact of emotions on the formation of initial trust belief as well. Similarly, people in positive affect states are more likely to perceive the Web site to be trustworthy.

Therefore,

H₇: Liking (**H_{7a}**) and joy (**H_{7b}**) have a positive impact on trust belief.

H₈: Frustration (**H_{8a}**), fear (**H_{8b}**) and dislike (**H_{8c}**) have a negative impact on trust belief.

3.3 Privacy Belief, Trust Belief and Behavioral Intention

We are ultimately interested in how privacy concerns and beliefs (driven by emotions resulting from cognitive appraisals) impact the intention of an online user dealing with unfamiliar vendors to provide information to that vendor. As stated in the introduction, we assume that this information is necessary for the purchasing decision and that the intention to share information is equivalent to the intention to purchase the product or service.

As discussed earlier, existing research has dealt with the impact of privacy concern (as a personality trait) on behavioral intention. We assert that privacy belief and trust belief are more direct predictors of consumers' behavioral intention toward a particular vendor than privacy concern. Our assertion is based on the theory of reasoned action (Fishbein and Ajzen 1975), which advocates that salient beliefs mediate the impact of personal traits such as privacy concern on behavioral intention. Privacy belief may partially mediate the impact of privacy concern on behavioral intention. Therefore, we

postulate that privacy concern has both a direct as well as an indirect impact on behavioral intention. Consumers with high privacy belief are more likely to perceive that their information privacy will be respected and may be more inclined toward releasing personal information as well as purchasing the product or service.

H₉: Privacy concern has a negative impact on privacy belief.

H₁₀: Privacy concern has a negative impact on behavioral intention.

H₁₁: Privacy belief has a positive impact on behavioral intention.

Uncertainties related to product quality as well as the consequences of releasing personal information may increase consumers' perceived risk of online shopping (Jarvenpaa and Tractinsky 1999). Trust belief plays a critical role in helping consumers overcome perceptions of privacy risk. Consumers with high trust beliefs are more likely to release personal information and purchase products or services (McKnight et al. 2002). Therefore, we have

H₁₂: Trust belief has a positive impact on behavioral intention.

4 Methodology

4.1 Settings and Participants

Student volunteers at a major Midwestern U.S. university were recruited as subjects for this study. Some studies have suggested that most online shoppers have some college or higher education (Weiss 2001; Lightner 2003). Also, undergraduate students often have convenient access to the Internet and have basic computer skills required for online shopping. They are representative of active online shoppers (Pastore 2000). The request for participation was announced to about 250 undergraduate students enrolled in a

general business core course. As an incentive for participation, respondents received extra credit accounting for about 1% of their total grade. A total of 157 usable responses were received (59 females and 98 males) and used in our data analysis.

Each subject interacted with an unfamiliar Web site to rule out the effect of store familiarity. To induce varying degrees of positive and negative emotions, we selected eight Web sites with diverse look and feel. Four of the Web sites provided information on vacation rental in Florida and the other four Web sites sold computer electronic products.

4.2 Procedures

Subjects were first instructed to visit the main survey Web site describing the purpose of the study. Then, they were directed randomly to one of two pages showing the tasks they were to undertake (Appendix D). One task required subjects to search for a vacation condo for his/her upcoming family reunion. The other task let subjects assume the role of online shopper searching for a MP3 player. After viewing the task page, they were then randomly assigned to one of the four Web sites requiring the corresponding task. Thus, each subject was exposed to only one of the eight commercial Web sites. Subjects were required to carefully browse the assigned Web site to decide whether they would shop with the online vendor in the assigned task context. Once they had decided, they were then asked to answer the questionnaire about their emotions, privacy and trust beliefs formed while browsing the Web site.

4.3 Variable Measurement

Items used to measure constructs were drawn from previous literature and re-worded slightly for the online environment. Motive consistency was measured using four items developed by Éthier, et al. (2004). The instrument to measure probability (certainty level) was derived from Roseman et al. (1996). Joy, liking, dislike and fear were measured by items developed by Shaver et al (Shaver et al. 1987). Frustration was measured using three items adapted from Peters et al (Peters et al. 1980). Privacy belief was measured using six items by Pavlou and Chellappa (2001). Trust belief was measured using the scale developed by Pennington et al. (2003). Behavioral intention to disclose personal information was measured by scales after Malhotra et al (2004) and MacKenzie and Spreng (MacKenzie and Spreng 1992). Privacy concern was measured by three items from Malhotra et al's (2004) global information privacy concern scale.

Motive consistency and emotion constructs were measured using five-point Likert scales with 1 being not at all and 5 being very much. Probability was measured using five-point Likert scale anchored between “strongly disagree” and “strongly agree”. Intention to provide personal information was measured using seven-point semantic scales. All remaining items used seven-point Likert scales with 1 being strongly disagree and 7 being strongly agree. The detailed measures for each core construct are listed in the Appendix C.

4.4 Covariates

Besides the factors mentioned above, individual differences may potentially influence Internet users' behavior related to privacy issues. We include several personal factors in our model as covariates. Specifically, five personal factors are considered: sex (Milne and

Rohm 2000), age (Culnan 1995; Campbell 1997), Internet experience (Milne and Rohm 2000; Phelps et al. 2000), whether the subject has been the victim of privacy invasion in the past (Campbell 1997), media exposure about incidents of privacy invasion (Smith et al. 1996).

In addition, the type of Web site may play a role in the formation of various emotions, privacy belief, trust belief and intention to give out personal information. For example, Web sites with a hedonic purpose may be more likely to trigger joy emotion than Web sites oriented towards a utilitarian purpose. Examining multiple types of Web sites is beyond the scope of a single study. However, to account for the type of Web site, we dummy-coded vacation rental Web sites as 0, and computer electronic product Web sites as 1, in the research model.

5 Data Analysis

Partial least squares (PLS), a structural equation modeling technique, was chosen to examine our measurement model and structural model. PLS does not assume multivariate normal distribution and interval scales (Wold 1982). The sample size required by PLS is much smaller than other SEM techniques. PLS requires the sample size to be at least ten times of the larger number of paths going to an endogenous construct, when all constructs are reflective (Chin 1998). In addition, PLS is well-suited for studies in the early stage of building and testing theories (Joreskog and Wold 1982). Our study is exploratory in extending cognitive appraisal theory and affect congruity theories from the psychology literature to studying Internet users' privacy beliefs.

5.1 Measurement Model

We examined convergent validity, reliability and discriminant validity of all latent constructs before testing hypothesized relationships among them. Convergent validity is suggested if factor loadings are 0.60 or higher (Bagozzi and Yi 1988). All indicators had loadings above 0.6 except one negatively-worded item used to measure privacy belief. That item was then dropped and not included in the subsequent analysis. The remaining items exhibit sound convergent validity (Table 3.1). We then examined the reliabilities of all latent constructs using composite reliability (CR) and average variance extracted (AVE). A scale is considered reliable if it has CR above 0.7 and AVE above 0.5 (Bagozzi and Yi 1988). As shown in Table 3.1, all the scales were reliable. To establish discriminant validity, the square root of AVE of each latent construct should be greater than the correlations between that construct and any other constructs (Fornell and Larcker 1981). All our latent constructs satisfied this criterion (Table 3.2). Therefore, our measurement model exhibits sound reliability and validity.

5.2 Hypotheses Testing

The results of hypothesis testing using PLS are summarized in Figure 3.2 and Table 3.3. In Figure 3.2, R^2 values are presented below each endogenous variable, which reflect the amount of variance explained by the model or the predictive power of the model. We also performed bootstrapping to compute the t-statistics for each hypothesized relationship. With directional relationships explicitly indicated in the hypotheses, one-tailed t-tests are used to test for significance of all hypothesized relationships. For covariates, two-tailed t-tests are used instead due to the absence of explicit directional hypotheses. In Figure 3.2, significant path coefficients are marked near the middle of the path. The specific results of hypothesis testing are presented in the following subsections.

Table 3.1: Loadings, CR and AVE of measurement instruments (Essay 1).

Constructus		Loadings	CR	AVE
Motive Consistency	MC1	0.833	0.948	0.819
	MC2	0.909		
	MC3	0.921		
	MC4	0.946		
Probability (Certainty)	Cert1	0.824	0.916	0.732
	Cert2	0.877		
	Cert3	0.881		
	Cert4	0.861		
Liking	Liking1	0.909	0.929	0.814
	Liking2	0.938		
	Liking3	0.864		
Joy	Joy1	0.913	0.947	0.856
	Joy2	0.943		
	Joy3	0.913		
Frustration	Frust1	0.919	0.954	0.873
	Frust2	0.918		
	Frust3	0.956		
Fear	Fear1	0.828	0.931	0.818
	Fear2	0.942		
	Fear3	0.939		
Dislike	Dislike1	0.898	0.930	0.815
	Dislike2	0.921		
	Dislike3	0.891		
Trust Belief	TB1	0.890	0.952	0.799
	TB2	0.894		
	TB3	0.916		
	TB4	0.930		
	TB5	0.859		
Privacy Belief	PB1	0.872	0.915	0.686
	PB2	0.881		
	PB3	0.887		
	PB4	0.887		
	PB6	0.622		
Behavioral Intention	BI1	0.958	0.969	0.886
	BI2	0.957		
	BI3	0.923		
	BI4	0.934		
Privacy Concern	PC1	0.801	0.899	0.748
	PC2	0.887		
	PC3	0.925		

Table 3.2. Discriminant Validity of Measurement Model (Essay 1)

	MC	Cert	Liking	Joy	Frust	Fear	Dislike	TB	PB	BI	PC
MC	0.905										
Cert	0.524	0.856									
Liking	0.516	0.270	0.902								
Joy	0.467	0.196	0.811	0.925							
Frust	-0.636	-0.429	-0.551	-0.482	0.934						
Fear	-0.457	-0.362	-0.484	-0.273	0.632	0.904					
Dislike	-0.567	-0.386	-0.567	-0.414	0.765	0.664	0.903				
TB	0.555	0.440	0.506	0.415	-0.489	-0.472	-0.421	0.894			
PB	0.559	0.545	0.501	0.456	-0.439	-0.372	-0.366	0.711	0.828		
BI	0.513	0.310	0.491	0.503	-0.380	-0.346	-0.405	0.646	0.578	0.941	
PC	-0.094	-0.028	0.024	-0.029	0.044	0.022	0.062	-0.085	-0.155	-0.241	0.865

Note: Diagonal elements are the square root of the AVE values. Off-diagonal elements are the correlations among latent constructs.

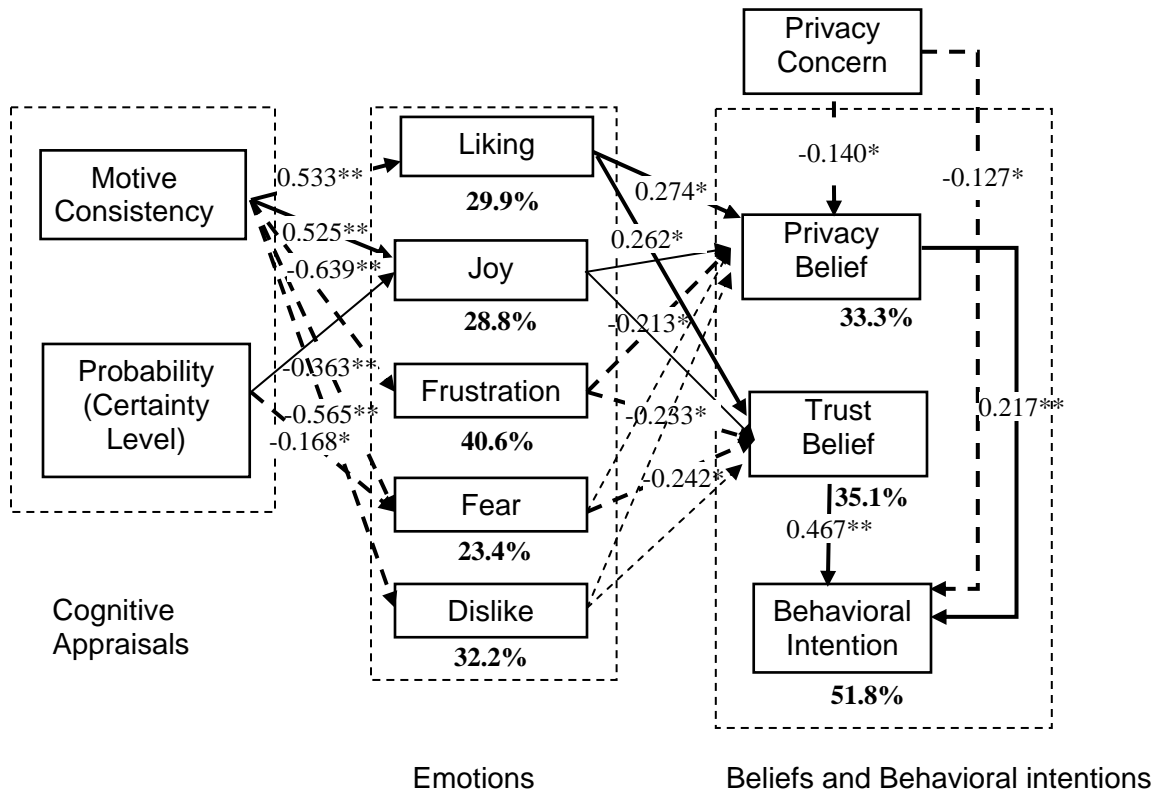


Figure 3.2. Results of testing hypotheses using PLS analysis (Essay 1). Completely standardized estimates, controlled for covariates in the research model, *p < 0.05, **p < 0.01 (one-tailed).

Table 3.3. Summary of hypothesis testing results (Essay 1).

Hypotheses	Path Coefficients	t Value	p value (one-tailed)
H1a Motive consistency has a positive impact on liking.	0.533	7.05	p<0.01 (supported)
H1b Motive consistency has a positive impact on joy.	0.525	6.15	p<0.01 (supported)
H2a Motive consistency has a negative impact on frustration.	-0.639	11.53	p<0.01 (supported)
H2b Motive consistency has a negative impact on fear.	-0.363	3.60	p<0.01 (supported)
H2c Motive consistency has a negative impact on dislike.	-0.565	8.81	p<0.01 (supported)
H3 Probability (certainty level) has a positive impact on joy.	-0.064	0.74	p>0.05 (not supported)
H4 Probability (certainty level) has a negative impact on fear.	-0.168	1.73	p<0.05 (supported)
H5a Liking has a positive impact on privacy belief.	0.274	1.78	p<0.05 (supported)
H5b Joy has a positive impact on privacy belief.	0.158	1.04	p>0.05 (not supported)
H6a Frustration has a negative impact on privacy belief.	-0.213	1.85	p<0.05 (supported)
H6b Fear has a negative impact on privacy belief.	-0.126	1.33	p>0.05 (not supported)
H6c Dislike has a negative impact on privacy belief.	0.116	1.09	p>0.05 (not supported)
H7a Liking has a positive impact on trust belief.	0.262	2.02	p<0.05 (supported)
H7b Joy has a positive impact on trust belief.	0.066	0.55	p>0.05 (not supported)
H8a Frustration has a negative impact on trust belief.	-0.233	2.00	p<0.05 (supported)
H8b Fear has a negative impact on trust belief.	-0.242	2.07	p<0.05 (supported)
H8c Dislike has a negative impact on trust belief.	0.092	0.76	p>0.05 (not supported)
H9 Privacy concern has a negative impact on privacy belief.	-0.14	1.80	p<0.05 (supported)
H10 Privacy concern has a negative impact on behavioral intention.	-0.127	1.85	p<0.05 (supported)
H11 Privacy belief has a positive impact on behavioral intention.	0.217	2.34	p<0.05 (supported)
H12 Trust belief has a positive impact on behavioral intention.	0.467	5.46	p<0.01 (supported)

5.2.1 Cognitive Appraisals and Emotions. Our first set of hypotheses related to how cognitive appraisals in an online environment influence emotions. Specifically, we looked at how motive consistency and probability (certainty level) influence liking, joy, frustration, fear and dislike. From Figure 3.2, motive consistency, probability and type of Web site can explain 28.8% variance in joy and 23.4% variance in fear. Motive

consistency and the type of Web site explain 29.9% of variance in liking, 40.6% variance in frustration, and 32.2% variance in dislike. Motive consistency is statistically significant ($p < 0.01$ one-tailed), positively related to liking and joy and negatively related to frustration, fear and dislike. Probability is found to be a significant predictor of fear but not joy. *Therefore, H_1 , H_2 and H_4 were supported while H_3 was not supported.* In addition, the type of Web site is a significant determinant of liking ($p < 0.01$ two-tailed) and joy emotions ($p < 0.01$ two-tailed). Web sites providing vacation rental information trigger significantly higher liking and joy emotions than those selling computer electronic products. Therefore, the type of Web site does influence the level of positive emotions with hedonic Web sites more likely to yield liking and joy emotions. The type of Web sites is not found to significantly influence the level of negative emotions. Positive emotions and negative emotions seem to have separate antecedents. Thus, it is necessary to examine positive emotions and negative emotions separately.

5.2.2 Emotions, Privacy Belief and Trust Belief. Our second set of hypotheses concerned the impact of emotions on privacy belief. 33.3% of the variance of privacy belief can be explained by the model. t-tests and signs of path coefficients show that liking, frustration and privacy concern are statistically significant at the 0.05 level (one-tailed) and have correct influence directions. *Therefore, H_{5a} and H_{6a} and H_9 were supported while H_{5b} , H_{6b} and H_{6c} were not supported.*

Our structural model also examined the impact of emotions on trust belief. The model explains 35.1% of variance of trust belief (Figure 3.2). Liking, frustration and fear are statistically significant at the 0.05 level (one-tailed) and have the expected influence

direction. Therefore, H_{7a} , H_{8a} and H_{8b} were supported while H_{7b} and H_{8c} were not supported.

5.2.3 Privacy Belief, Trust Belief and Behavioral Intention. Our third set of hypotheses focused on how privacy belief and trust belief influence intention to give out personal information to the vendor. Privacy concern is also included as an antecedent of behavioral intention to test whether privacy concern has a direct impact on behavioral intention, given the existence of privacy belief and trust belief. In addition, the type of Web site, sex, age, Internet experience, whether the subject has been the victim of privacy invasion in the past, and media exposure about incidents of privacy invasion were also entered simultaneously into the model as covariates. From Figure 3.2, our model explains 51.8% of variance in behavioral intention. Privacy belief, trust belief, and privacy concern are statistically significant (one-tailed) and have expected influence directions on behavioral intention. Among the six covariates, only “invasion of privacy in the past” is significant (two-tailed). Therefore, H_{10} , H_{11} and H_{12} were supported. The data analysis suggests that privacy concern may have a direct as well as indirect impact on behavioral intention (to provide information). We further tested the strength of the indirect effect of privacy concern on behavioral intention using the bootstrap method proposed by Shrout and Bolger (2002). 1000 bootstrap samples were generated for this test and the ratio of indirect effect to total effect of privacy concern (or effect ratio) was computed for each bootstrap sample. Figure 3.3 shows the bootstrap distribution of effect ratio. Both the mean and median of the distribution are around 0.19. The 80% bootstrap percentile interval ranges from 0.03 to 0.49, which corresponds to a one-tailed significant test at the 0.1 level. The distribution suggests that there is an 80% chance that the

negative effect of privacy concern on behavioral intention is mediated through privacy belief. About 19% of the effect is mediated and most of the effect is direct. Overall, this result provides weak support for the indirect impact of privacy concern on intention to disclose information. Privacy concern primarily exerts a direct influence over willingness to disclose personal information.

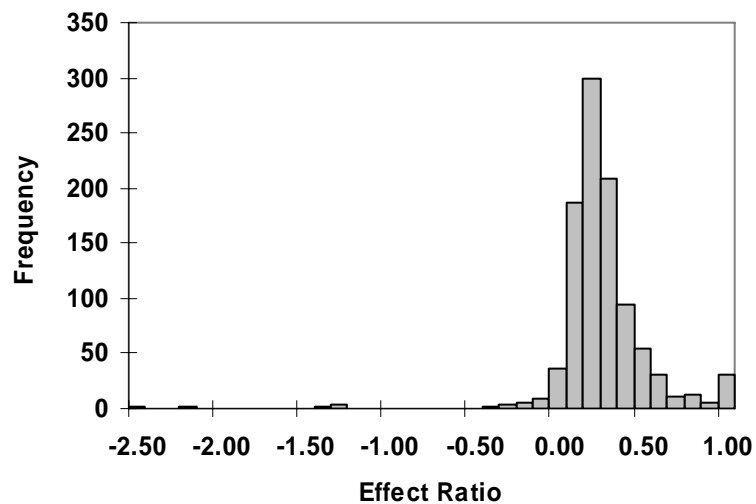


Figure 3.3. Bootstrap distribution of effect ratio (Essay 1).

6 Discussion of Findings

The results of our experiment show that, for an unfamiliar Web site, a holistic shopping experience (motive consistency) triggers positive emotions and negative emotions.

Certainty level further helps to differentiate fear from frustration and dislike. However, certainty level is not significant predictor for joy. This may be caused by the dominant influence of motive consistency in eliciting joy (Smith and Ellsworth 1985; Roseman et al. 1996) and the moderate correlation between motive consistency and certainty level ($r = 0.524$). Certainty level could not explain a significant amount of additional variance in joy that is beyond the influence of motive consistency. Liking and frustration then color

Internet users' beliefs about the level of privacy protection offered by online vendors. Positive emotions can signal individuals that the current shopping Web site is safe. In this case, people tend to take a heuristic shortcut in forming a positive perception regarding the level of privacy protection offered by the vendor. Therefore, liking could enhance Internet users' perceived privacy. On the other hand, frustration could adversely impact perceived privacy. In the task context used in this study, frustration is largely related to the navigation and search functionality of the Web sites. Feelings of frustration can make the subjects skeptical about vendors' capability to ensure their privacy or lower their perceived privacy.

Similarly, liking and frustration are found to color Internet users' trust belief as well. In addition, interestingly, fear significantly reduces trust belief but has no significant impact on privacy protection belief. Fear may drive online shoppers into an avoidance mode that prevents the active evaluation about the potential level of privacy protection offered. Instead, fear will cause consumers to actively evaluate the risks involved in the situation and reach a quick decision regarding the trustworthiness of the Web sites, and act accordingly. If there are many competitive Web sites of the same type, online shoppers may very likely switch to another Web site. If there is a need to stay due to the limited alternatives, they would need to search for further information to reduce perceived risk.

However, joy and dislike were not found to have a significant impact on privacy belief or trust belief. Joy is highly correlated with liking ($r = 0.814$) or shares 66.3% variance with liking. In the presence of liking in the research model, joy could not explain a significant amount of additional variance in privacy belief and trust belief.

Dislike also failed to have a significant impact on privacy belief. Dislike mostly has parallel effects with that of frustration as suggested by the relative high correlation between dislike and frustration ($r = 0.77$). So, in the presence of frustration, dislike could not explain a significant amount of additional variance in privacy belief and trust belief. This was also confirmed by building an alternative model. Dislike by itself is a significant predictor ($p < 0.01$) of both privacy belief and trust belief if the paths from frustration are removed. It becomes insignificant only when frustration is entered into the model.

The above findings suggest that it is necessary for Web site designers to consider the affective experience of online shoppers or affective quality of Web sites. “The emotional side of design may be more critical to a product’s success than its practical elements” (Norman 2004). Attractive things are more likely to be perceived better since attractiveness produces positive emotions, causing mental processes to be more tolerant of minor difficulties (Norman 2004). Holistic user experience is closely related to aesthetic properties of Web sites (Page 292 Lavie and Tractinsky). A well designed Web site that enhances the holistic shopping experience should help to induce positive emotions and reduce negative emotions. Emotions then drive online shoppers’ perception regarding the trust worthiness and the potential level of privacy protection offered by online vendors. Such favorable holistic experience is not only influenced by the ease of use or functionality of the Web site but also dependent upon the affective quality of the Web sites. This is especially true for unfamiliar Web sites. Visual attractiveness is very likely to be the first hurdle for unfamiliar Web sites to reassure potential customers.

To examine the relative importance of emotions and privacy concern in the formation of privacy belief, we examined the changes to R^2 values, after excluding emotions from our research model. We found that R^2 decreases from 33.3% to 2.4%. Privacy concern by itself can only explain 2.4% of the total variance of privacy belief. This suggests that the formation of privacy belief is primarily formed based on emotions such as liking and frustration emotions, generated by situation-specific factors. *Personal propensity to be concerned about privacy is less important for forming privacy protection belief when subjects are interacting with a specific Web site. Situation specific stimuli present in the Web site are more important in the formation of privacy belief.*

For unfamiliar Web sites, many IS studies have found that initial trust belief is the primary determinant of Internet users' behavioral intention to transact with the Web site such as giving out information, purchasing or following legal advice, etc. (Jarvenpaa and Tractinsky 1999; McKnight et al. 2002; Pennington et al. 2003). This was confirmed in our study. Besides trust belief, we found that privacy belief was another important determinant of behavioral intention to give out personal information. Privacy concern while having some direct impact on intention to disclose personal information has a far less important effect than situation-specific trust beliefs and privacy beliefs. If the direct path from privacy concern to behavioral intention was removed from our model, R^2 for behavioral intention only decreased slightly from 51.8% to 50.5%.

In summary, our findings provide the following insights when dealing with unfamiliar online vendors:

- 1) Emotions can influence online shoppers' privacy belief and trust belief.

Emotional cues are used as information by online shoppers to cognitively evaluate

the level of the potential privacy protection and trustworthiness of online vendors.

It is important for web designers to consider aesthetic features as well as

functionality of Web sites to create favorable holistic shopping experience.

- 2) Privacy concern as a general personal trait has a small impact on online shoppers' privacy perception and their behavioral intention to disclose personal information.

Privacy perception is primarily formed from situation-specific interaction with

Web sites and behavioral intention to disclose personal information is primarily

driven by the two situational-specific beliefs (i.e. privacy belief and trust belief).

This explains the recently reported privacy contradiction between consumers'

stated level of privacy concern and their privacy behaviors.

- 3) It is necessary to examine discrete emotions. Not only does emotional valence (i.e. positive versus negative) matter but also different negative emotions could have differential impact on consumers' beliefs. Frustration reduces both privacy belief and trust belief while fear reduces only trust belief but not privacy protection belief. Consumers with fear emotion will narrow their attention, which prevents them from actively evaluate the perceived level of privacy protection. Instead, they focus on trustworthiness of the vendor directly so they could take action quickly.

7 Limitations and Future Research

Despite the overall support for our research model, this study has some limitations. The

primary limitation relates to the study sample. Undergraduate students were used to

represent online shoppers. Although fairly typical of online consumers, their age may not

be representative of the natural range for common online shoppers. This may restrict the external validity of this study. Future studies should be attempted using non-student samples. Secondly, a single survey is used to gather the values of all constructs at one point in time. This may induce the problem of common method variance. The correlation matrix was examined to identify the potential existence of common method variance. We found that all items tapping the privacy concern construct have low correlations with items in all other core constructs. The absolute correlations ranged from 0.00 to 0.32. Therefore, common method variance is not a big concern in our study. However, to further reduce the possibility of common method variance, future studies could be conducted by measuring the actual behavior of giving out personal information instead of measuring behavioral intention. Finally, the major purpose of this study is to establish whether emotions do play a significant role in shaping Internet users' privacy belief. We only investigated the impacts of emotions triggered by the holistic navigating and searching experiences (motive consistency). We did not examine the relative impacts of specific privacy levers such as privacy policy, type of information collected etc. Further studies could be conducted to separate the impacts of initial emotions formed from first impression of Web sites and those of privacy levers. This might lead to more specific prescriptions for online-vendors.

8 Conclusions

This study explored the impact of Internet users' emotions on the formation of their privacy beliefs in the context of consumer's shopping with unfamiliar, online vendors. It makes several contributions. First, it found that, for an unfamiliar Web site, a holistic

shopping experience (motive consistency) triggers positive emotions and negative emotions. Second, some of these emotions (likings and frustration) are primary determinants of privacy belief. Personal propensity to be concerned about privacy is less important in shaping privacy protection belief than emotions when subjects are interacting with a specific Web site. Third, trust belief and privacy beliefs serve as primary antecedents of intention to give out personal information. Privacy concern has a mostly direct, but small impact on behavioral intention. Therefore, privacy researchers should devote more efforts in studying privacy beliefs and situation-specific factors that may influence privacy beliefs, such as emotions, privacy levers, etc. Our findings have important practical implications for online vendors. Findings of this study suggest that, to enhance perceived privacy, online vendors should pay attention to Internet users' emotions. In the task context used this study, the overall look of the Web site may be the primary determinant of liking, joy, dislike and fear emotions. In addition, alleviating frustration by focusing on the functionality of the Web site such as ease of use should improve consumers' privacy perception and consequently make it more likely that they would purchase goods or services.

CHAPTER IV

ESSAY 2 - EXPLORING AFFECT-BASED VERSUS COGNITION-BASED PRIVACY BELIEF

1. Introduction

Privacy is highly coveted in our society as it expresses the profound value we place on security (Moor 1997). However, recent developments in information and communication technologies have greatly challenged consumers' information privacy. Companies are collecting, storing and analyzing vast amounts of consumer information to cut their operational costs and to identify new business opportunities. Internet and e-commerce further expand the source and ease the access of personal information. 92 percent of commercial Web sites gather personal data with or without consumers' awareness (Lessig June 2000).

The online environment has been described as the "wild wild west" of the 19th century (McKnight et al. 2002). Consumers face great uncertainty when purchasing from online vendors. Further, online vendors are more capable to profile consumers' preference than physical stores because they are able to obtain additional data beyond that obtained from the transaction, such as point-and-click information. Amazon.com has been criticized for exercising price discrimination using personal information collected. The fear of privacy invasion is also increased by the growing media report of privacy

breaches in our daily life. In 1999, DoubleClick attempted to link its own 100,000 anonymous consumer profiles with personally identifiable data from Abacus Direct, resulting in immediate public backlash. The stock price of the company then dropped sharply, which forced the company to stop the plan.

As a result of concerns over potential risks of information privacy, 61% of consumers are hesitant to disclose credit card information online (Forrester Research, 2004). Information privacy is one of the most important issues facing online companies. It has spawned considerable research focusing on consumers' privacy concern (Smith et al. 1996; Stewart and Segars 2002; Dinev 2003; Malhotra et al. 2004; Dinev and Hart 2006) as *a general personal propensity* toward the potential privacy risk. Yet, the stated levels of privacy concerns of online shoppers are often found to deviate from their actual privacy decisions and behaviors (Acquisti and Grossklags 2005). One possible explanation for this dilemma is that the effect of the *situational factors* may override that of *general* privacy concerns. A recent study has found that online users easily forget their privacy concerns and disclose the most personal details when they are actually interacting with an entertaining Web site (Berendt et al. 2005). This is consistent with the idea that: "Individuals' concepts of privacy are tied to concrete situations in everyday life" (Laufer and Wolfe 1977). Therefore, to have a better understanding of online privacy decisions/behaviors, researchers cannot ignore the online shopping task environment and the interaction between the shopping environment and consumers.

The decision to disclose or withhold personal information involves a cost –benefit analysis or so called "privacy calculus" (Dinev and Hart 2006; Hui et al. 2007). Consumers look at economic, social or other benefits from the exchange and the potential

risks of disclosure. They tend to disclose their personal information when net positive outcome is expected. However, due to the uncertainty commonly involved in the disclosure of personal information in online shopping, exchange fairness plays a key role in this cognitive evaluation of potential risks. For example, online vendors commonly use privacy policies to increase the perceived fairness of the information exchange which further helps to shape favorable privacy beliefs. So, it is necessary to identify situational fairness levers that could be employed by online vendors to influence this “privacy calculus”. In addition, for unfamiliar Web sites, consumers do not have complete information. They may rely on emotional cues as feedback about the potential risks of Web site, and use them to adjust their cost-benefit.

The objective of our study is to have better understanding of *situational elements* that contribute to the disclosure or withholding of personal information when online shoppers are interacting with a Web site. These situational elements were examined from both affective and cognitive perspectives. Specifically, we look at *the effects of initial emotional responses to an unfamiliar Web site versus the effects of reading the vendor’s privacy policy and the nature of information requested by the vendor*. Adopting *both the affective and cognitive lens* helps us gain a complete picture of online information exchange. Our research questions are: 1) Can initial emotions formed from overall Web site impression influence online shoppers’ privacy beliefs when they are immersed in an information exchange? 2) What are the situational fairness levers that potentially influence the cognitive evaluation of “privacy calculus” or privacy beliefs in this study? 3) What is the relative importance of initial emotions and situational fairness levers in

shaping privacy beliefs? 4) What is the role played by privacy concern as a personal trait in the “privacy calculus” of risks versus benefits?

2. Literature Review and Theoretical Framework

Information privacy is “the ability of the individual to personally control information about one’s self” (Stone et al. 1983), which includes the transfer and exchange of that information. The need for privacy expresses people’s core value for security (Moor 1997). Existing privacy studies primarily examined privacy concern and its impact on privacy behaviors. Individuals may vary in their levels of concern for privacy. Privacy concern, as a construct, is a person’s tendency to be concerned about privacy invasion and resembles the distrust propensity construct of Malhotra et al (2004). It is a personality trait that is relatively stable across a broad spectrum of online shopping situations and does not reflect the situational factors such as reputation of the Web site, appearance and functionality of the web site, fairness of information exchange in terms of potential merits and risks, etc. When an individual is interacting with a Web site, he or she further develops salient beliefs toward that particular vendor. Based on the Theory of Reasoned Action (Fishbein and Ajzen 1975), privacy beliefs as salient beliefs regarding information privacy should exert more direct influence over behavioral intention and its influence is very likely to override that of general privacy concern toward Internet shopping.

Until now, the specific information exchange context and related salient beliefs have been generally ignored in the IS domain (Smith et al. 1996; Stewart and Segars 2002; Malhotra et al. 2004). The importance of situational factors in shaping privacy

perception has long been emphasized by Laufer and Wolfe (1977). They suggested that individuals form their privacy perception from evaluating concrete situational elements such as features of the physical space, institutional definition of appropriate behavior, expected risks and benefits, etc. Privacy must be examined in concrete situations in everyday life (Laufer and Wolfe 1977 Page 22). Their study examined privacy as a general social phenomenon. It is necessary to extend the context to online transaction to understand the formation of privacy perceptions (or beliefs) and privacy decisions/behaviors when consumers are interacting with a Web site.

Furthermore, disclosure of personal information is based on an evaluation of “privacy calculus” (Laufer and Wolfe 1977; Dinev and Hart 2006; Hui et al. 2007). Individuals consider the merits and potential negative consequences with respect to the current interaction as well as future situations. Few studies have examined online privacy in the context of an exchange or as “privacy calculus”. The study by Dinev and Hart (2006) represents one of the initial efforts in examining how cost-benefit analysis drives the intention to disclose information in a general Internet context. But, their study still ignored various situational elements that contribute to the formation of privacy beliefs and the evaluation of cost-benefit analysis.

The following subsections propose the research model and hypothesize the relationship between constructs. The research model (Figure 4.1) depicts how initial emotions from an overall impression of an unfamiliar Web site and fairness-based factors in a specific information exchange context could affect the formation of privacy beliefs, and how these salient beliefs further influence a consumer’s decision to disclose personal information.

2.1 Privacy Calculus and Social Contract Theory

The cognitive lens adopted in this study is based on social contract theory and its associated justice principles. Several studies have pointed out that disclosure of personal information is governed by a “social contract” (Culnan and Bies 2003; Malhotra et al. 2004). Consumers will “participate in the social contract as long as the perceived benefits exceed the risks” (Culnan and Armstrong 1999). Before disclosing personal information, consumers evaluate the benefits of disclosure against the risks of disclosure. In addition, a social contract involving information exchange in online shopping is often considered to be quite unpredictable. Once online shoppers disclose their personal information to an online firm, the subsequent use of their personal information is often beyond their control. The online firm may disclose the information to an authorized third party or combine it with other data sources to profile their customers and exercise price discrimination. Due to the uncertainty in information disclosure, consumers further adjust the perceptions of risks and benefits based on perceived fairness of disclosure, i.e. whether the collection of certain information and the subsequent usage are fair relative to the context of exchange. The fairness of a company’s information practices positively influences privacy perception (Bies 1993). The implementation of fair information practices could help to alleviate consumers’ privacy concerns toward direct marketing or reduce their perceived privacy risks (Culnan and Armstrong 1999).

In this study, we are interested in how situational fairness factors can be used to adjust the cost-benefit analysis and influence privacy perception. Exchange fairness and cost-benefit analysis are two separate but related factors influencing the disclosure of personal information. Low fairness may cause consumers to withhold personal

information even if benefits override the contemporary risks. For example, gender information is typically considered to have low sensitivity and therefore considered to have a low disclosure risk associated with disclosure. However, the collection of such low risk information in a context that is not relevant to the transactions may raise an alert about potential privacy risk in the future and the trustworthiness of the vendor. So, consumers could become wary and hesitant to give information.

Fairness of information exchange serves as the grounding component inherent in a social contract governing the disclosure of personal information. Fairness of information exchange could shaped by following three justice principles: distributive justice, procedural justice and interactional justice (Culnan and Bies 2003). Distributive justice is about the fairness of outcomes or whether the benefits received from the company are fair relative to the personal information disclosed (Culnan and Bies 2003). Procedural justice refers to the perceived fairness of procedures and enactment of those procedures(Culnan and Bies 2003). Interactional justice refers to the fairness of interpersonal treatment received by consumer (Culnan and Bies 2003).

Consumers juxtapose exchange benefits and exchange risks and are likely to disclose personal information when perceived benefits are greater than perceived costs. Such cost-benefit tradeoff analysis is subject to the adjustment by fairness of information exchange. Exchange fairness provides a signaling function to consumers about risks in the exchange (Culnan and Bies 2003). Low fairness will alert online shoppers about potential risks involved in information exchange while high fairness help consumers to alleviate their risk perceptions. The adjustment by fairness of information exchange is especially important for unfamiliar Web sites. For unfamiliar Web sites, consumers could

simultaneously perceive high benefits and high costs due to the great uncertainty in the exchange. Offering attractive benefits is not as effective as that in long-term exchange relationship or for familiar Web site. Online vendor should look into minimizing risk perceptions as well and rely on fairness of information exchange to adjust the cost-benefit analysis involved in online information disclosure.

In this study, we investigated several fairness levers based on procedural justice and interactional justice. In the context of online shopping, procedural justice is mainly about whether an individual is granted control over his or her personal information, and is informed about the information practice, i.e. what is collected, how information is collected and how it is used and secured, etc. Procedural justice could be enforced through self-regulation, and legalistic and technologic approaches. Privacy policy is one type of widely used self-regulation approaches by online vendors to enhance their consumers' privacy perception (Meinert et al. 2006). Other self-regulation approaches are third-party seals such as BBBOnline and TRUSTe. These third party seals are essentially based on self-assessment and have not been effectively implemented to alleviate consumer risk perceptions toward privacy (Culnan and Bies 2003; Pennington et al. 2003; Hui et al. 2007). In this study, we choose only to study the natural behavior of reading the vendor's privacy policy as the situational element used to reduce risk perception. The effects of third party seals were not examined.

In the context of online privacy, factors related to interactional justice could be methods used to collect information, and the nature of information collected. In this study, we focus on the nature of information collected and investigated two additional fairness levers: sensitivity and relevance of information collected. Therefore, a total of

three fairness levers were examined in this study: privacy policy, information sensitivity and relevance of information collected. Detailed discussions on each of these three levers and their effect on the cost-benefit tradeoff analysis are provided later in separate subsections.

2.2 Emotions as Information

Online consumers often do not have complete information or face unknown consequences of disclosing their personal information. They may rely on emotional information to make decisions. Emotions have been found to influence consumers' satisfaction and shopping decision in both online and offline environments. Several studies have found positive relationships between positive shopping emotions and consumer satisfaction and favorable consumer behaviors, such as staying longer or spending more money, etc (Baker et al. 1992; Dubé et al. 1995; Sherman et al. 1997; Yalch and Spangenberg 2000). Offline companies attempt to influence consumers' emotion through store decoration, and store layout. In an online environment, pleasure has been demonstrated to positively influence consumers' shopping behavior (Menon and Kahn 2002). For online banking, consumers' satisfaction and continuance intention are found to be determined by four adjective pairs describing emotion: dissatisfied/satisfied, displeased/pleased, frustrated/contented and terrible/delighted (Bhattacharjee 2001). The role of emotions is also receiving growing attention in human-computer interaction (HCI) studies (Norman 2004; Te'eni et al. 2006). Affect is recognized to play as important a role as cognition. "Online stores that managed to improve the customer's experience by

incorporating more pleasing designs reaped an increase in repeat visits (the ratio of buyers to unique visitors) from 40 percent to 140 percent” (quoted in Te’eni et al. 2006).

Emotions may provide important feedback about privacy characters of a Web site and shape the privacy perceptions of an individual. People may feel that some Web sites “fit” their privacy better than other Web sites. It has been found that a physical space could achieve its privacy character by design, activity, and meaning (Laufer and Wolfe 1977). Similar to a physical space, a Web site could achieve its privacy character through design, content and functionality. The effect of these environmental features or Web site features may be unintentional (Laufer and Wolfe 1977) and rely on emotional responses as feedback channels. For example, a visually appealing and professional Web site may trigger liking, while a poorly designed Web site may trigger frustration and/or fear. Positive and/or negative emotions triggered by a Web site could then be used by an individual as information cues to evaluate the benefits or potential privacy risks that may arise from that Web site. The role of emotions is especially important for unfamiliar Web sites since consumers have limited information to judge the trustworthiness and privacy of the Web site. Therefore, we argue that it is necessary to consider the effect emotions to understand the formation of online shoppers’ privacy beliefs (or perceptions). This is not an unreasonable proposition and is supported by the finding of a recent study that online users could forget about their privacy concerns and disclose personal details when they are interacting with an entertaining Web site (Berendt et al. 2005). In this study, we chose to examine the impact of three commonly felt emotions in online shopping: liking, fear and frustration (Ethier et al. 2004). Specifically, the impacts of initial emotions triggered by overall interaction with the Web site before information exchange were investigated.

In summary, we call for a consideration of both cognition-based and affect-based situation-specific factors to have a better understanding the privacy perceptions and privacy behaviors. From the perspective of a cognitive lens, privacy perceptions are subject to the adjustment of fairness of information exchange or influenced by fairness-based levers. From the perspective of an affect-based lens, privacy perceptions are also colored by the consumer's emotional response to the Web site features. Therefore, our research model proposes that (a) initial emotional response and fairness-based levers jointly drive the user's privacy-related beliefs about the Web site vendor; (b) these beliefs have a salient effect on behavioral intention to disclose personal information. Below, we develop our research model and the underlying hypotheses.

2.3 Initial Emotions and Privacy Beliefs

In this study, two types of privacy beliefs (or perceptions) are investigated: *privacy protection belief* and *privacy risk belief*. Privacy protection belief refers to the subjective probability that consumers believe that their private information is protected as expected. (Pavlou and Chellappa 2001; Metzger 2004). It can be treated as one type of salient enticer or benefit in privacy calculus since it is essentially about how secure or trustworthy the environment is. Privacy risk belief is defined as the expected loss potential associated with releasing personal information to the firm (Malhotra et al. 2004). The separation of these two types of contrary privacy beliefs may allow us to have a closer examination of the privacy calculus phenomenon. These two privacy beliefs, although related, may be driven or shaped by different factors and they may also

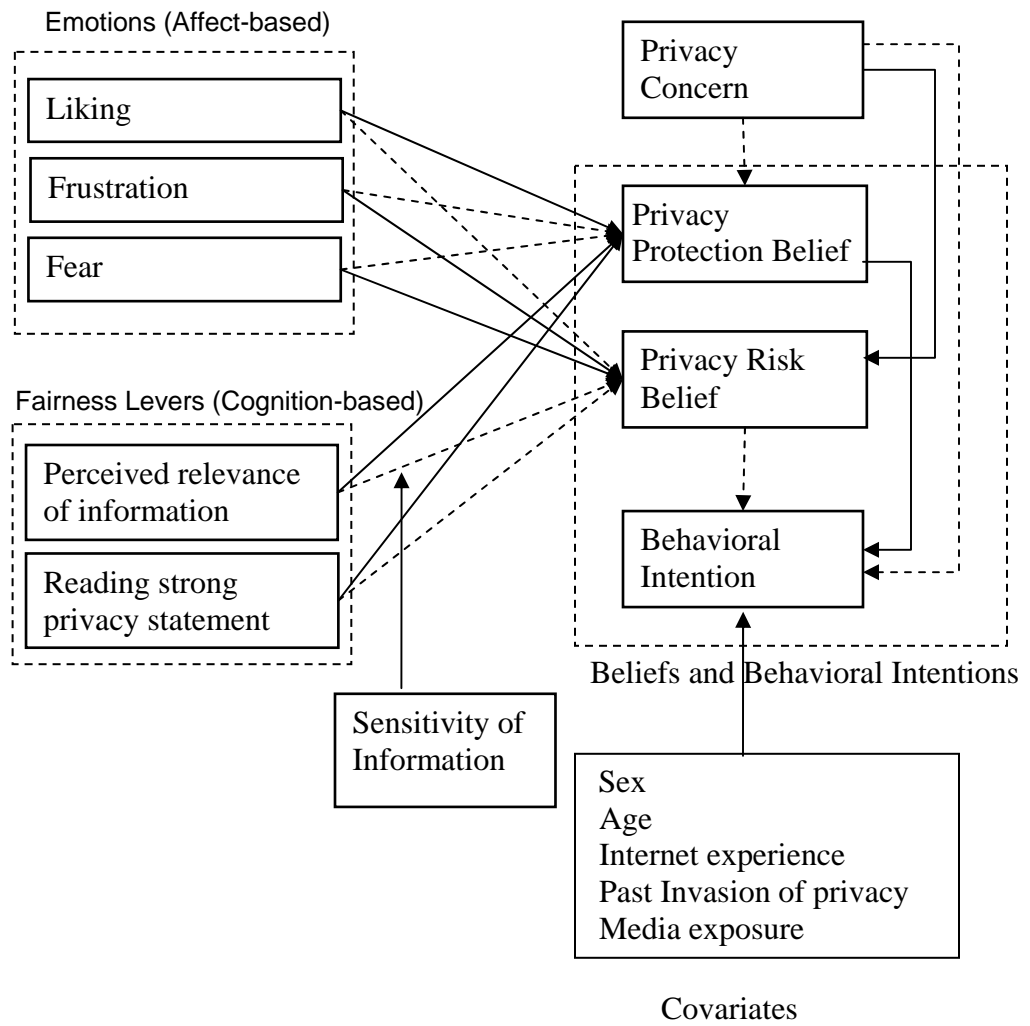


Figure 4.1. Research Model of Essay 2

play different roles in influencing privacy decisions or behaviors. Situational elements may play different roles in adjusting costs and benefits involved in privacy calculus. For example, strong fear about a Web site is likely to dramatically increase privacy risk belief toward a Web site but has less influence over privacy protection belief. Furthermore, these contrary beliefs represent important decision elements of privacy calculus and a bundled examination of these contrary beliefs help to advance our knowledge about privacy calculus.

According to affect congruence theory (Forgas 1995), affect could produce a congruent effect on people's thinking, judgment and decision (Bower and Forgas 2001; Clore et al. 2001; Forgas 2001). Emotions, as one type of affect state, can influence people's thinking and judgment in a way such that people in positive emotions tend to have more positive thinking or judgment than those in negative emotions. Personal cognitive beliefs (such as privacy beliefs) are essentially about *how* we think and, therefore, are expected to be influenced by emotions in a congruent way. At the same time, emotions and cognitive beliefs can be interdependent. Emotions are likely to vary in different stages of the interaction between online shoppers and the Web site. Initial emotions formed from overall Web site impression may be different from those experienced in later stage when online shoppers are evaluating the information exchange based on the cost, benefit and perceived fairness of a social contract. In this study, *we focused on the effect of initial emotions* so the effect of emotional responses to overall Web site impressions can be separated from that of information exchange or privacy calculus evaluation. Based on affect congruence theory, we have the following hypotheses:

H₁: Initial liking has a positive effect on perceived privacy protection.

H₂: Initial liking has a negative effect on perceived privacy risk.

H₃: Initial frustration has a negative effect on perceived privacy protection.

H₄: Initial frustration has a positive effect on perceived privacy risk.

H₅: Initial fear has a negative effect on perceived privacy protection.

H₆: Initial fear has a positive effect on perceived privacy risk.

Privacy beliefs may also vary with the level of privacy concern. Ackerman (1999) found that online consumers can be clustered into three segments: privacy fundamentalists, privacy pragmatists and marginally concerned. Privacy fundamentalists are extremely concerned about their personal data and generally unwilling to disclose their information to Web sites. Marginally concerned people are “generally willing to provide data to Web sites under almost any condition.” Privacy pragmatists are in the middle of the previous two clusters and are willing to provide data to Web sites under certain circumstances such as the sufficient implementation of privacy protection practices.

The general disposition toward information privacy (or privacy concern) is very likely to influence online shoppers’ privacy perceptions toward a firm. Thus, we propose that privacy concern will influence privacy protection belief negatively and privacy risk belief positively (i.e., the belief that there is a higher privacy risk).

H₇: Privacy concern has a negative effect on privacy protection belief.

H₈: Privacy concern has a positive effect on privacy risk belief.

Privacy is often examined together with trust (Culnan and Armstrong 1999; Malhotra et al. 2004; Metzger 2004). For example, trust beliefs have been found to be

one of the key determinants to the disclosure of personal information especially when environment is uncertain (Jarvenpaa and Tractinsky 1999; Wulf et al. 2001). Trust beliefs refer to a set of specific beliefs about integrity, benevolence, competence of a firm (McKnight et al. 2002). To certain extent, the privacy protection belief included in our research model could be considered as one element of trust beliefs. In this study, we are interested in unfamiliar Web sites, about which consumers have little prior knowledge such as reliability of product, delivery, etc. Consequently, the effect of privacy protection belief on information disclosure is expected to mostly overlap with that of trust beliefs. To keep the model parsimonious, trust belief is not included in our research model.

2.4 Fairness Levers and Privacy Beliefs

As mentioned before, information disclosure is governed by a social contract. It involves a cost-benefit tradeoff analysis of exchange benefits and exchange risks or *privacy calculus*. The cost-benefit tradeoff analysis is further subject to a second assessment about the fairness of information disclosure. This subsection investigates three fairness-based levers (sensitivity and relevance of information collected and privacy policy) that could be implemented by online vendors and their impact on the privacy calculus or, in this study, the joint assessment of two contrary privacy beliefs.

2.4.1 Sensitivity and Relevance of Information Requested The nature of the information requested by a Web site could influence the privacy calculus through its level of sensitivity and legitimacy relative to the purpose of exchange. Not all types of information cause concern. Consumers generally have little concern over providing basic demographic information (e.g. sex, age, education, marital status) and are slightly to

moderately protective over information about their purchasing behavior, hobbies, occupation, name, email, postal address and mostly concerned with the control over telephone number and financial information (Gauzente 2004; Metzger 2004). Disclosure of personal information inevitably implies the potential loss of control or risk of personal information. This is likely to increase privacy risk belief and the effect tends to be greater for more sensitive personal information. At the same time, it is well recognized that there is no absolute privacy. The type of information by itself cannot determine whether the level of privacy provided meets consumers' *expectations*. The influence of sensitivity of information is relative, varying with situation (Phelps et al. 2000). For example, whether consumers will perceive certain types of requested information to be invasive varies across the purpose of information collection. The request for genetic testing data may not be considered to be invasive if the purpose is to provide medical advice. However, such information is likely to trigger strong privacy concern when requested by an insurance company. A consumer may worry that the information could be used to discriminate against her or him. Concern for privacy rises quickly when the type of information requested is perceived to have very low relevance, i.e. having little bearing on the purpose for which the data is collected. Therefore, this study focuses on relevance of information and the potential moderating role of sensitivity on relevance. We have:

H₉: The perceived relevance of information requested has a positive impact on privacy protection belief.

H₁₀: The perceived relevance of information requested has a negative impact on privacy risk belief.

H₁₁: The effect of perceived relevance on privacy risk belief is moderated by sensitivity such that the effect is greater when sensitive information is requested.

2.4.2 Privacy Policies on the Web Site Privacy policies are widely adopted by vendors to address privacy concerns of online shoppers. Privacy policies represent a self-regulated commitment to notify consumers about a firm's information practices. They help to increase the transparency of information collection procedures of an online company, and help consumers evaluate the privacy risks of disclosure and decide whether to disclose information.

The Federal Trade Commission suggested four basic elements of fair information practices: notice, choice, access and security. A strong privacy policy is expected to contain these four elements that give strong promises to individuals about the control over the disclosure and subsequent use of personal information (Culnan and Bies 2003). Reading a strong privacy policy should help to increase privacy protection belief and reduce privacy risk belief. Therefore,

H₁₂: Reading the privacy statement manifesting fair information practices has a positive impact on privacy protection belief.

H₁₃: Reading the privacy statement manifesting fair information practices has a negative impact on privacy risk belief.

2.5 Privacy Beliefs and Behavioral Intention to Disclose Personal Information

In the trust and privacy literature, privacy decisions/behaviors have been studied by measuring the intention to purchase, give information, remove names from a direct

marketing list, etc. This is in line with the research stream based on the theory of reasoned action (TRA) (Fishbein and Ajzen 1975). The same approach is taken by this study. We examine the effect of salient privacy belief and privacy concern on intention to release personal information (behavioral intention). Consumers with a high privacy protection belief should perceive more control over the disclosure and subsequent use of their personal information, while those with high privacy risk beliefs and/or privacy concern are more likely to be wary about the potential loss of control over their personal information. Therefore,

H₁₄: Privacy concern has a negative impact on online shoppers' behavioral intention to disclose their personal information.

H₁₅: Privacy protection belief has a positive impact on online shoppers' behavioral intention to disclose their personal information.

H₁₆: Privacy risk belief has a negative impact on online shoppers' behavioral intention to disclose their personal information.

3. Research Methodology

3.1 Study Design and Procedures

Experimental design was employed to test the research model. An artificial Web site that mimics a real commercial Web site providing Internet fax service was created to allow an easy manipulation of sensitivity of information. In addition, an artificial Web site also helps to rule out the effect of store familiarity and reputation since our research focus is on initial information exchange or for unfamiliar Web sites. The experimental web site has a 30-day free trial membership sign-up form, which was used to manipulate

information sensitivity. A common set of information of low to moderate sensitivity was requested for both low sensitivity and high sensitivity treatment conditions, which includes name, gender, email, and postal address. Besides the common information, high sensitivity condition also requests telephone number and credit card information.

For the variable “reading strong privacy statement”, this study chooses to measure the natural behavior of reading a strong privacy policy instead of manipulating it. This is different from the approach taken in previous studies. Previous studies have mainly examined the effect of availability and/or the level of guarantee of privacy policy through experimental manipulation. These studies randomly assign subjects to each treatment group which dictates whether privacy policy has to be read or not. They mostly ignored the “contextual factors relating to the likelihood that a privacy policy statement will be read” (Meinert et al. 2006). A perfect privacy policy will not be effective if nobody reads it. Several surveys have found that less than 50% of online shoppers actually read privacy policy (Acquisti and Grossklags 2005; Meinert et al. 2006). Therefore, to increase the realism of our research context, this study measures the natural behavior of reading privacy policy. Subjects are free to decide whether to read the privacy policy or not. The privacy policy used in the experimental Web site was designed to be a strong privacy policy, i.e. containing all basic elements of fair information practices.

The sensitivity of information was manipulated at two levels: low sensitivity and high sensitivity. Subjects were randomly assigned to only one of two treatment conditions, i.e. either low sensitivity or high sensitivity. A major task page was used to introduce the task scenario to subjects and provide detailed step by step instructions. Each subject assumed the role of online shopper interacting with an internet fax service for the

purpose of sending resumes for job applications. Subjects were required to interact with the site as naturally as possible for about 10 minutes to get an overall impression of the Web site. Then, they are instructed to fill out section I of the survey for measuring their initial emotions. The next stage of the experiment simulated an information exchange context. Subjects were instructed to evaluate a sign-up form of the company's 30-day free trial program. A link to the vendor's privacy policy was provided at the bottom of the form. They may choose to read the privacy policy if they feel necessary. After evaluating the sign-up form, subjects were required to fill out the following two sections of the survey.

3.2 Variable Measurement

Existing published scales were adapted to measure variables in the research model whenever possible. Some items were re-worded slightly to reflect the research context. Liking and fear were measured by items developed by Shaver et al (1987). Frustration items were based on the instrument developed by Peters et al (1980). Perceived relevance items were modified from Stone (1981). Privacy protection belief was measured using the scales by Pavlou and Chellappa (2001). Privacy risk belief was adapted from the instruments by Malhotra et al. (2004). Behavioral intention to give personal information was measured by scales after Malhotra et al. (2004) and MacKenzie and Spreng (1992). Privacy concern consists of three items developed by Malhotra et al (2004) to tap global information privacy concern. The detailed privacy concern scale developed by Malhotra et al (2004) was not used in this study because the focus of this study is not on the sub-dimensions of privacy concern. Three emotion constructs were measured using five-point Likert scales with 1 being "not at all" and 5 being "very

much”. All the remaining constructs were measured on seven-point Likert scales with 1 being “strongly disagree” and 7 being “strongly agree”. The detailed scales for each core construct are available in the Appendix C. In addition, a seven-point Likert scale question was developed to check whether the manipulation on sensitivity is successful. The question inquires about how subjects perceive the level of sensitivity of the information in the 30-day free trial sign-up form.

3.3 Survey Administration

Before the final experiment, a pilot study was administered to 20 undergraduate and graduate students in a major Midwestern U.S. university. The purpose was to identify and refine potentially ambiguous measurement items, and assess the clarity of survey instructions and the length of the time needed to complete the survey. In the final experimental study, the recruitment message was delivered to about 220 undergraduate students who are different from those in the pilot study. The participation was voluntary. Extra credit accounting for about 2% of their total grade was used as an incentive for participation. A total of 175 valid responses were received. About 50% of these respondents are part-time students who have working experiences. The demography of survey respondents is given in Table 4.1. It shows an equal representation of male and female and a fairly wide distribution in age and Internet experience.

Table 4.1. Demography Distribution of Survey Respondents (Essay 2)

Gender		Age	
Male	47.4%	19-25	77.7%
Female	52.6%	26-30	11.4%
		30-35	4.6%
		36-40	2.9%
Internet Experience		40-45	2.3%
<1 yr	6.9%	>45	1.1%
1-3 yr	24.7%		
3-6 yr	45.4%		
>=6 yr	23.0%		

3.3 Covariates

Five covariates that might influence privacy decisions/behaviors were included in this study as control variables for predicting intention to disclose personal information. They are gender, age, Internet experience, previous experience of being victims of privacy invasion, and media exposure of privacy invasion incidents.

4. Data Analysis

First, the result of manipulation of sensitivity of information was checked using an independent t-test. Perceived sensitivity for subjects assigned to the high sensitivity group was significantly higher than that of the low sensitivity group ($p < 0.001$). Therefore, sensitivity manipulation was considered successful. The research model was then tested with partial least squares (PLS) technique. PLS requires a much smaller sample size than other structural equation modeling (SEM) techniques. The minimum sample size requested by PLS is ten times the larger number of paths going to an endogenous construct when all constructs are reflective (Chin 1998). For our research model, the maximum number of path leading to an endogenous variable is eight considering the control variables. Therefore, a sample size of 175 is sufficient for us to conduct SEM

using PLS technique. Furthermore, PLS does not assume a multivariate normal distribution and interval scales, making it appropriate to test a research model with manipulated constructs like sensitivity.

Our research model was tested using a two-step approach. We first examined the validity of our measurement model. After validating the measurement model, we then tested our research hypotheses or structural model.

4.1 Measurement Model

To validate the measurement model, we tested reliability, convergent and discriminant validity of the latent constructs. A scale is considered as reliable if its composite reliability (CR) is above 0.7 and average variance extracted (AVE) above 0.5 (Bagozzi and Yi 1988). As shown in Table 4.2, all scales are reliable. To establish convergent validity, all indicators of a latent construct should have loadings above 0.6 (Bagozzi and Yi 1988). From Table 4.2, all loadings of all items are above this recommended cutoff, suggesting the convergent validity of all latent constructs. Discriminant validity of each latent construct was tested by the method recommended by Fornell and Larcker (1981). The square root of AVE of each construct should be higher than the correlation between that construct and any other constructs. This criterion is satisfied by all latent constructs (Table 4.3). Therefore, our measurement model exhibits sound reliability and validity necessary for further testing of research hypotheses.

Table 4.2: Loadings, CR and AVE of measurement instruments (Essay 2).

Constructs		Loadings	CR	AVE
Liking	Like1	0.844	0.894	0.738
	Lkie2	0.878		
	Like3	0.856		
Frustration	Frust1	0.932	0.957	0.880
	Frust2	0.933		
	Frust3	0.949		
Fear	Fear1	0.748	0.882	0.715
	Fear2	0.928		
	Fear3	0.851		
Relevance of Information	Relev1	0.912	0.906	0.764
	Relev2	0.788		
	Relev3	0.917		
Privacy Protection Belief	PPB1	0.786	0.875	0.585
	PPB2	0.711		
	PPB3	0.818		
	PPB4	0.808		
	PPB5	0.692		
Privacy Risk Belief	PBR1	0.889	0.950	0.827
	PBR2	0.906		
	PBR3	0.927		
	PBR4	0.916		
Behavioral Intention	BI1	0.932	0.963	0.866
	BI2	0.960		
	BI3	0.911		
	BI4	0.919		
Privacy Concern	PC1	0.815	0.866	0.683
	PC2	0.787		
	PC3	0.875		

Table 4.3. Discriminant Validity of Measurement Model (Essay 2)

	Liking	Frust	Fear	Relev	PPB	PRB	BI	PC
Liking	<u>0.859</u>							
Frust	-0.181	<u>0.938</u>						
Fear	-0.122	0.459	<u>0.846</u>					
Relev	0.238	-0.187	-0.119	<u>0.874</u>				
PPB	0.396	-0.104	-0.099	0.385	<u>0.765</u>			
PRB	-0.420	0.204	0.204	-0.367	-0.596	<u>0.909</u>		
BI	0.393	-0.152	-0.162	0.479	0.416	-0.519	<u>0.931</u>	
PC	-0.081	0.134	-0.109	-0.140	-0.031	0.247	-0.282	<u>0.826</u>

Note: Diagonal elements are the square root of the AVE values. Off-diagonal elements are the correlations among latent constructs.

4.2 Hypotheses Testing

Figure 4.2 and Table 4.4 summarizes the results of testing the hypotheses. In Figure 4.2, completely standardized path coefficients are given on each significant path. The amount of variance explained in each endogenous variable (or R^2) is displayed within the corresponding construct rectangle. We hypothesized that emotions have a congruent effect on privacy beliefs. This congruent effect was supported in liking and fear. Liking is found to have a significant positive effect on privacy protection belief ($p < 0.001$, two-tailed) and significant negative effect on privacy risk belief ($p < 0.001$, two tailed). Fear has a significant positive effect on privacy risk belief ($p < 0.05$, two tailed). No significant relationship was found between fear and privacy protection belief and between frustration and the two privacy beliefs.

Before testing the main effect of relevance of information, it is necessary to study the potential moderating effect of sensitivity. We followed the procedures proposed by Chin et al. (Chin et al. 2003). The effect size of interaction (f^2) was computed to be 0.003 for predicting privacy risk belief, which is the far less than the 0.02 cutoff for small effect

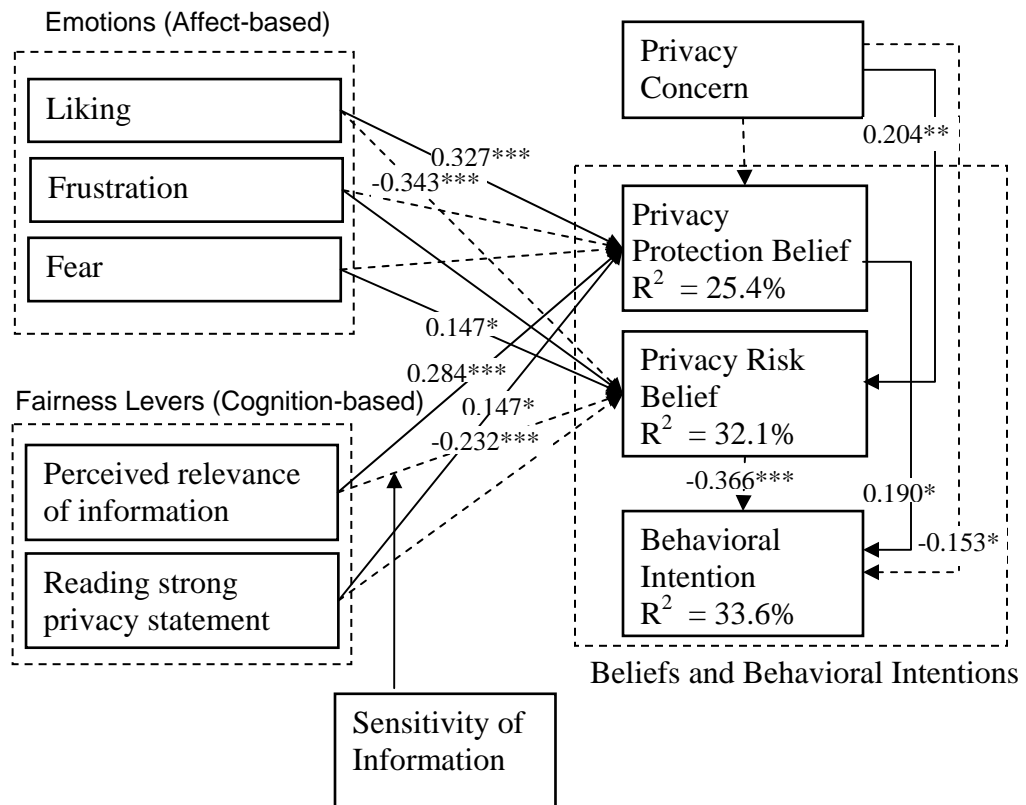


Figure 4.2. Results of testing hypotheses using PLS analysis (Essay 2). Completely standardized estimates, controlled for covariates in the research model, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed).

Table 4.4. Summary of hypothesis testing results (Essay 2)

Hypotheses	Path Coefficients	t Value	p value (two-tailed)
H1 Initial liking has a positive effect on perceived privacy protection.	0.327	4.56	p<0.01 (supported)
H2 Initial liking has a negative effect on perceived privacy risk.	-0.343	4.85	p<0.01 (supported)
H3 Initial frustration has a negative effect on perceived privacy protection.	0.002	0.03	p>0.05 (not supported)
H4 Initial frustration has a positive effect on perceived privacy risk.	0.002	0.03	p>0.05 (not supported)
H5 Initial fear has a negative effect on perceived privacy protection.	-0.018	0.22	p>0.05 (not supported)
H6 Initial fear has a positive effect on perceived privacy risk.	0.147	2.12	p<0.05 (supported)
H7 Privacy concern has a negative effect on privacy protection belief.	0.018	0.24	p>0.05 (not supported)
H8 Privacy concern has a positive effect on privacy risk belief.	0.204	3.21	p<0.01 (supported)
H9 The perceived relevance of information requested has a positive impact on privacy protection belief	0.284	4.64	p<0.01 (supported)
H10 The perceived relevance of information requested has a negative impact on privacy risk belief.	-0.232	3.48	p<0.01 (supported)
H11 The effect of perceived relevance on privacy risk belief is moderated by sensitivity such that the effect is greater when sensitive information is requested.	0.043	0.46	p>0.05 (not supported)
H12 Reading the privacy statement manifesting fair information practices has a positive impact on privacy protection belief.	0.147	2.31	p<0.05 (supported)
H13 Reading the privacy statement manifesting fair information practices has a negative impact on privacy risk belief.	0.030	0.45	p>0.05 (not supported)
H14 Privacy concern has a negative impact on online shoppers' behavioral intention to disclose their personal information.	-0.153	2.16	p<0.05 (supported)
H15 Privacy protection belief has a positive impact on online shoppers' behavioral intention to disclose their personal information.	0.190	2.05	p<0.05 (supported)
H16 Privacy risk belief has a negative impact on online shoppers' behavioral intention to disclose their personal information.	-0.366	3.82	p<0.01 (supported)

size (Cohen 1988)¹. The result of bootstrap sampling also shows that the interaction effect was not significant. Therefore, sensitivity is not found to significantly moderate the relationship between information relevance and privacy risk belief. In the absence of a moderating effect, the main effects of relevance and sensitivity were further tested. Relevance was found to have a significant positive impact on privacy protection belief ($p < 0.001$, two tailed) and negative impact on privacy risk belief ($p < 0.001$, two tailed). Sensitivity of information was found to weakly aggravate privacy risk belief ($p < 0.1$, two-tailed).

Reading strong privacy policy demonstrating fair information practices was found to significantly enhance privacy protection belief ($p < 0.05$, two-tailed) but was insignificant in shaping privacy risk belief. Besides the above affect-based and cognition-based situational factors, personal concern as a personal trait had a significant influence on privacy risk belief ($p < 0.01$, two-tailed) but was not significant for the formation of privacy protection belief. Totally, the model can explain 25.4% of the variance in privacy protection belief and 32.1% of the variance in privacy risk belief.

The two contrary privacy beliefs (protection belief and risk belief) and privacy concern, were further found to have a significant impact on behavioral intention to give personal information. No covariates were found to be significant. Totally, the model can account for 33.6% variance of behavioral intention. The result also suggests that privacy concern has significant direct impact on behavioral intention as well as significant indirect effect on behavioral intention through privacy risk belief. We further tested the strength of indirect effect mediated through two privacy beliefs following the bootstrap method proposed by Shrout and Bolger (2002). The ratio of indirect effect to total effect

¹ $f^2 = [R^2(\text{interaction model}) - R^2(\text{main effects model})] / [1 - R^2(\text{main effects model})]$.

of privacy concern (or effect ratio) was computed for 1000 bootstrap samples and the distribution of effect ratio was shown in Figure 4.3. A weak support for indirect effect was found since the 80% bootstrap percentile interval ranges from 0.05 to 0.53. It suggests that there is 80% chance that the effect of privacy concern on behavioral intention is mediated through the two privacy beliefs. But, the strength of mediation relative to total effect is low as suggested by an average effect ratio of only 0.28. So, most of the effect of privacy concern on behavioral intention (72%) is through the direct path.

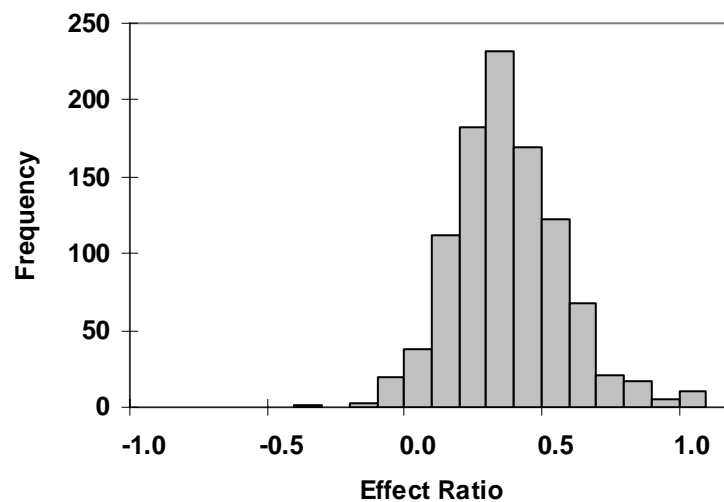


Figure 4.3. Bootstrap distribution of effect ratio (Essay 2).

5. Discussion

5.1 Theoretical Contributions

This study attempted to study situational factors that lead to privacy beliefs and further privacy decisions/behaviors through two sets of lens, i.e. affective and cognitive. The analysis of the results of the experiment indicate that, for an unfamiliar Web site, initial liking and fear emotions formed from an overall impression of the Web site continue to play an important role in shaping privacy beliefs and decisions, even if subjects are later exposed to cognitive processing of information exchange or the “privacy calculus”.

Thus, initial emotions have a lasting coloring effect on later stage cognitive processing. Online vendors should not ignore initial emotions, which serve as an initial hurdle for enticing consumers to give information. Frustration was not found to be significant for shaping privacy beliefs in this study. This may be due to the low level of frustration triggered by the experimental Web site. Some subjects commented directly on the easy navigation of the site.

To have a better understanding of cognitive processing involved in information exchange, this study includes two contrary privacy beliefs: privacy protection belief and privacy risk belief. The former is as one type of enticer belief regarding the security of the exchange environment and the latter is treated as one type of cost beliefs in privacy calculus. The result of our data analysis apparently supports the separation of these two beliefs. Despite some common antecedents (liking and perceived relevance of information requested), they are also driven by some distinct situational factors. We found that reading privacy policy significantly enhances privacy protection belief only and is less effective or not significant in reducing privacy risk belief. This may be largely

due to the essential self-commitment nature of privacy policy. A privacy policy cannot effectively reassure online shoppers about the potential risks or unknown consequences of releasing personal information. But, a privacy policy can effectively enhance belief in the benefit of information exchange. In addition, interestingly, fear was found to significantly aggravate privacy risk belief, but have no significant impact on privacy protection belief. This finding corroborates with the broaden-and-build theory that posits that negative emotions narrow one's momentary thought-action repertoire (Fredrickson 2001). As a result, being afraid would drive one to escape or into an avoidance mode, which prevents online shoppers from actively evaluating the potential level of privacy protection offered. Instead, they focus on the risks involved in the situation and reach a quick decision regarding the potential privacy risks of the Web sites, and act accordingly.

We further investigated the relative contributions of initial emotions, fairness-based levers (sensitivity and relevance of information collected and privacy policy) and privacy concern. Three additional models were built by including only initial emotions, only fairness-based levers or only privacy concern to predict privacy protection belief and privacy risk belief. The R^2 of these three alternative models were compared (Table 4.5). The result suggested that emotions and fairness-based levers had about the same contribution in shaping the privacy beliefs and their effects dominate that of privacy concern.

Table 4.5. Comparison of relative explanatory power of initial emotions, fairness-based levers and privacy concern.

	R ²		
	Emotions Only	Fairness Levers Only	Privacy Concern Only
Privacy Protection Belief	16.0%	15.5%	0.1%
Privacy Risk Belief	20.5%	14.5%	6.1%

The result of our study also suggested that the intention to give personal information was driven by competing influences of the two contrary privacy beliefs and the general privacy concern. We further checked the relative importance of the direct impact of privacy concern. An alternative model excluding the direct path from privacy concern to behavioral intention was built. Model R² decreases slightly from 33.6% to 31.9%, suggesting the less important role of privacy concern in privacy decisions. Situation-specific beliefs are more important in influencing privacy decisions.

5.2 Managerial Implications

Our findings suggest that the effect of situational factors tend to override general privacy concern when consumers are interacting with a Web site. This directly explains why the stated levels of privacy concerns of online shoppers often deviate from their actual privacy decisions and behaviors (Acquisti and Grossklags 2005). Our study provides practitioners with important insights into what situational elements influence online shoppers' privacy perception and privacy decisions. Vendors without established reputation track need to address both privacy protection belief and privacy risk belief. Behavioral intention to disclose information is simultaneously driven by those two contrary privacy beliefs. To enhance privacy protection belief, online vendors should

first ensure a good overall Web site design and functionality to increase liking. Initial emotions were found to have lasting effect on privacy beliefs and decisions. In addition, online vendors could enhance privacy protection belief through fairness-based levers. In particular, online vendors could post a privacy policy to notify consumers about their commitment to fair information practices. In the stage of information exchange, online vendors need to ensure the information collected is legitimate or relevant to the purpose of the exchange.

On the other hand, online firms should take efforts to reduce privacy risk belief. Our findings from the affect perspective suggest that fear significantly increases privacy risk belief. Online vendors may be able to reduce fear and its influence on privacy risk belief by improving the design and the content of Web site. For example, fear may be reduced if the site reflects a consumer's prototype of a highly reputable site. Also, a physical contact address and/or live chat with real representative may help to reduce fear emotions. Online companies also could use fairness levers to reduce the privacy risk belief. Our study suggests that requesting relevant information is effective to reduce privacy risk belief.

5.3 Limitation and Future Research

Several limitations of this study should be recognized here. First, common method variance (CMV) might be a potential threat to the validity of our study. We attempted to reduce part of this threat by using an anonymous questionnaire and dividing the questionnaire into three sections with separate covers. Initial emotions were measured in section I of the survey before subjects were exposed to information exchange and

subjects were required not to go back to the previous sections when they were filling later sections. Harman's single-factor test was further used to assess the extent of common method variance (Podsakoff et al. 2003). All items of those eight latent constructs were loaded simultaneously into an exploratory factor analysis, which yields an eight-factor solution. This suggests that common method variance is not a major problem. To further reduce the threat of common method variance, future studies could use different methods to measure independent and dependent variables. For example, intention to give personal information could be replaced with the measurement of actual privacy behaviors.

We only examined a subset of situation-specific factors. Future research could investigate other situation-specific factors. For example, effort could be devoted to examining the effect of legislative and technical solutions on privacy decisions and the potential interactions among these different approaches. Legislative and technical solutions may play different roles in the "privacy calculus". For example, the technical solutions may be more effective in enhancing privacy protection belief while legislative solutions more effective for reducing privacy risk belief. Interactions may also exist among these situational factors. For example, fairness levers may moderate the effect of legislative and technical solutions.

Furthermore, our studies only examined the effect of two privacy beliefs in driving privacy decisions. Other beliefs may compete with these two privacy beliefs. Future studies may focus on how privacy decisions are driven by other economic or non-economic benefits and related beliefs. For example, the perceived usefulness of the product or service could be important for privacy decisions, especially for Web sites used for non-hedonic purpose. Additional research is also needed to explore the impact of

economic compensation on privacy calculus and the potential interaction with fairness levers. From the perspective of social contract, fairness levers such as relevance of information are very likely to moderate the impact of economic benefits on privacy decisions.

The task context of this study was the evaluation of an internet fax service. It is possible that the effect of sensitivity of information may be stronger for Web sites requesting extremely sensitive information such as social security number, health data, etc.

6. Conclusions

Information privacy is a source of a growing tension between online firms and consumers. This study empirically demonstrated that situation-specific factors are more important than consumers' general concern about privacy in shaping salient privacy beliefs and privacy decision when interacting with a Web site. In particular, this study focused on unfamiliar Web sites and identified two sets of important situational factors: emotions and fairness-based levers. These two sets of factors provided important insights about how consumers adjust their privacy protection belief and privacy risk belief, and how these privacy beliefs lead to their privacy decisions. We found that, initial emotions formed based on overall Web site impression have a lasting coloring effect on later stage cognitive processing or the formation of salient privacy beliefs. During information exchange, fairness-based levers (privacy policy and relevance of information) further adjust privacy protection belief and privacy risk belief. These two contrary privacy

beliefs then jointly determine online shoppers' intention to disclose their personal information.

CHAPTER V

ESSAY 3 -- UNDERSTANDING ONLINE INFORMATION DISCLOSURE – A CONTINGENCY APPROACH BASED ON SOCIAL CONTRACT THEORY

1. Introduction

Based on the statistics of U.S. Department of Commerce for the first quarter of 2005, the retail value of e-commerce is \$19.8 billion of the total retail values of the United States, and growing rapidly. Accompanying the growth of e-commerce is the increasing tension between companies' need to gather and analyze consumer data and consumers' information privacy. Consumers' personal information is a valuable asset to online companies. Companies rely on consumers' personal information not only to enable basic transactions and operations of their business but also to identify new business opportunities through cross-selling based on their browsing pattern or explicitly collected preference information. On the other hand, online shoppers are increasingly concerned about their information privacy. 85 percent of online users have declined to give out personal information to Web sites at one time or another; and 34 percent have lied when requested about their personal habit and preference information (Teltzrow and Kobsa 2004). The tension between online vendors need for information and consumers' desire for information privacy is recognized as a major impediment to the growth of e-commerce. This issue has attracted the attention of researchers trying to have a better

understanding about online shoppers' privacy concerns and the impact on their willingness to disclose information (Dinev and Hart 2006; Malhotra et al. 2004). Drivers of information disclosure should be examined in the context of an exchange process where consumers make cost-benefit trade-offs to decide whether to exchange their personal information for economic or non-economic benefits (Culnan and Bies 2003). Individuals are more likely to disclose personal information if risks could be offset by benefits. Some researchers have taken an economic approach to study factors that entice consumers to disclose information. They argue that personal information is a commodity that can be clearly priced and exchanged using monetary awards (Hann et al. 2002; Laudon 1996). For example, consumers may release their information to a direct marketing company to receive cash.

The pure economic approach to information exchange is arguable in the context of the conventional e-commerce marketplace. First, the information exchange acts as a by-product of a prior exchange where goods or services are exchanged for money or other goods (Culnan and Bies 2003). The successful completion of an ecommerce transaction often requires some consumer information to validate the identity of the consumer and allow normal business operations such as product delivery, customization, etc. Therefore, consumer information is an essential enabler of ecommerce transactions, rather than being just an exchangeable commodity. Second, monetary awards such as discounts or coupons when offered are usually meant to attract online shoppers to complete the exchange for products or services, and not purely for the sake of luring consumers to disclose their personal information. Third, the information exchange is governed by a *social contract* since consumers “do not view their personal data in the

context of an economic exchange” (Hoffman et al. 1999) and the social contract has an implicit assessment that “their personal information will subsequently be used fairly and they will not suffer negative consequences” (Culnan and Armstrong 1999; Culnan and Bies 2003). The perceived fairness of the information exchange will modify the cost-benefit tradeoff analysis.

Thus far, monetary awards have been primarily examined as an explicit enticer of information disclosure and have been found to increase consumers’ willingness to disclose personal information (Hann et al. 2002). However, our approach takes into account the realities of the conventional e-commerce marketplace where monetary rewards are not usually offered as an explicit enticer for personal information. The objective of this study is to investigate motivators that entice online consumers to disclose personal information and how fairness elements could influence the cost-benefit tradeoff analysis. In particular, our research questions are: 1) How does the perceived fairness of information exchange adjust the cost-benefit tradeoff analysis? 2) What is the impact of monetary reward on information disclosure? 3) How does perceived fairness of information exchange adjust the impact of monetary awards?

2. Literature and Research Hypotheses

Information privacy is the ability of individuals to control when, how, and to what extent their personal information is exchanged with and used by others (Culnan and Bies 2003; Stone et al. 1983; Westin 1967). Absolute information privacy is usually not possible.

Online shoppers often have to disclose some personal information in exchange for completing an ecommerce transaction. The information exchange involves a cost-benefit tradeoff analysis. Consumers’ willingness to disclose their personal information must be

situated in an exchange context to be understood (Culnan and Bies 2003). Until now, few studies have empirically studied online privacy in the context of an exchange or as “privacy calculus (Dinev and Hart 2006). In this study, information privacy is examined as part of an exchange process based on Social Contract Theory. The research model (proposed and discussed below – Figure 5.1) depicts how online shoppers’ intention to disclose their personal information is driven by competing assessments of exchange benefits and exchange risks adjusted for fair information practices.

2.1 Social Contract Theory

Consumers often make cost-benefit trade-offs to decide whether to exchange their personal information for economic or non-economic benefits. The benefits are balanced against risks of information disclosure. Individuals are more likely to disclose personal information if the risks of privacy could be offset by benefits. In the context of a conventional e-commerce marketplace, the cost-benefit trade-off analysis is further subject to a second assessment about whether the information is collected fairly and will subsequently be used fairly i.e., the social contract (Culnan and Bies 2003; Laufer and Wolfe 1977).

Therefore, consumers’ willingness to disclose personal information could be enhanced in three ways: 1) providing sufficient benefits such as attractive products or services, discounts, etc; 2) inducing favorable privacy beliefs or perceptions since the invasion to information privacy is the major cost factor of information disclosure; and 3) increasing the perceived fairness of information disclosure. The following three

subsections illustrate each of the approaches and their impact on intention to disclose personal information.

2.1.1 Exchange benefits For an initial e-commerce transaction with an unfamiliar vendor's Web site, the attractiveness of the products or services is probably the foremost factor that drives consumers' willingness to disclose personal information, and information disclosure is only a by-product of completing the transaction. In this study, attractiveness of the offering is operationalized as perceived usefulness of the products or services. Usefulness of the products or services should increase online shoppers' willingness to relinquish some privacy in return for the utility from the products or services. Therefore, we hypothesize:

H1: Perceived usefulness of the product or service has a positive impact on online shoppers' behavioral intention to disclose their personal information.

In addition, information disclosure could also be driven by other benefits such as monetary rewards, time saving, etc. Monetary rewards are found to one of the most important motivators that lead to information disclosure and are used by many Internet businesses (Hui et al. 2006; Phelps et al. 2000). However, unlike previous studies where monetary rewards are empirically investigated as explicit monetary benefits obtained in return for personal information, we assume, based on a conventional e-commerce marketplace, that information is not exchanged explicitly for money. Instead, money awards are manipulated as benefits to attract customers to purchase products or services.

Since information disclosure is the by-product of the first exchange of products/services for money, monetary rewards are hypothesized to take a similar positive effect on information disclosure.

H2: Monetary rewards have a positive impact on online shoppers' behavioral intention to disclose their personal information.

2.1.1 Exchange Risks Besides evaluating benefits of an e-commerce transaction, online shoppers assess risks associated with information disclosure. Many risks could be involved in an exchange such as poor product quality, unauthorized sharing of personal information, among others. In this study, our focus is on privacy risks. Two privacy beliefs could be formed from the assessment of privacy risks: privacy protection belief and privacy risk belief. The former refers to the subjective probability that consumers believe that their private information is protected as expected (Metzger 2004; Pavlou and Chellappa 2001). The latter is defined as the expected loss potential associated with releasing personal information to the firm (Malhotra et al. 2004). These two contrary privacy beliefs reflect different aspects of the risk assessment and their separation may allow us examine the privacy calculus more closely. These two privacy beliefs, while related, may be driven or shaped by different factors and may also play different roles in influencing privacy decisions or behaviors. Although privacy protection belief is not related to the explicit benefits of the first exchange, consumers with a high privacy protection belief should perceive more control over privacy risks and are more likely to disclose their personal information. Conversely, consumers with high privacy risk beliefs should perceive a greater loss potential and may be wary about disclosing their personal information. Therefore,

H3: Privacy protection belief has a positive impact on online shoppers' behavioral intention to disclose their personal information.

H4: Privacy risk belief has a negative impact on online shoppers' behavioral intention to disclose their personal information.

2.1.3 Fairness of Information Exchange Besides cost-benefit tradeoffs, information disclosure in online environment is further subject to perception about the fairness of information disclosure. The perceived fairness of disclosure pertains to whether the collection of certain information and the subsequent usage are fair relative to the context of exchange. Fairness perception is especially important in an online environment since it involves greater uncertainty about the vendor's information practice. For example, online vendors could surreptitiously collect point-click data without the consumers' explicit permission that, when combined with data collected from the e-commerce transaction, can be used to profile online shoppers and perform price discrimination.

Online firms could implement fair information practices to enhance fairness perception and alleviate the effect of privacy risks on consumers' willingness to disclose personal information (Culnan and Armstrong 1999; Culnan and Bies 2003). Internet users are primarily concerned about collection, awareness and control of their personal information (Malhotra et al. 2004). They are concerned about the amount of information collected by an online vendor, their ability to control over the collected information and their awareness of how the collected information is used. Among these three sub-dimensions of information privacy concern, collection is "the central theme of equitable information exchange" (Malhotra et al. 2004). Collected information should be commensurate with the exchange benefits. It implies that the nature of information

requested should be relevant. Therefore, in this study, perceived fairness of information exchange is operationalized as perceived relevance of information, which is defined as the “the degree to which the data requested appear relevant or appear to have a bearing upon the purpose of the inquiry” (Stone 1981). Online shoppers could rely on the relevance of information as a signal about the potential privacy risks. A Web site collecting information relevant to the transaction would be deemed more likely to respect and protect consumers’ information privacy. On the other hand, a Web site requesting irrelevant information would be considered as more likely to violate information privacy through surreptitious use of the information for unauthorized purposes. Therefore, we hypothesize:

H5: Perceived relevance of information collected has a positive impact on privacy protection belief.

H6 Perceived relevance of information collected has a negative impact on privacy risk belief.

Besides the effect on privacy perceptions, fairness of information exchange could also adjust the effect of a monetary reward. For example, consumers may undervalue the monetary compensation offered in exchange for personal information if companies collect information irrelevant to the purpose of the transaction.

H7: The relationship between rewards and intention to disclosure information is moderated by relevance of information, such that the positive impact is stronger when perceived relevance is high.

2.2 Covariates

Our research model incorporates five situation-specific factors that could influence the first exchange and information disclosure. Besides situation-specific factors, individual differences may also influence information disclosure. Six personal factors that might influence privacy decisions/behaviors were included in this study as control variables for predicting intention to disclose personal information. They are gender, age, Internet experience, previous experience of being victims of privacy invasion, media exposure of privacy invasion incidents and privacy concern. Empirical studies have been conducted to investigate the impact of privacy concern on consumers' privacy behaviors. The results are inconsistent. For example, privacy concern was found to be significant when included as a sole predictor (Smith et al. 1996; Stewart et al. 2002) and was often found to exert weak influence or no influence over information disclosure in the existence of other predictor such as trust belief, risk belief, etc (Awad and Krishnan 2006; Malhotra et al. 2004). The direct impact of privacy concern as a personal trait is unstable and is very likely to be overridden by situation-specific factors. In the presence of multiple situation-specific factors in the research model, the effect of privacy concern is expected to be unstable. Even if some weak direct relationship is found, such relationship has limited external validity. So, privacy concern is included as a control variable.

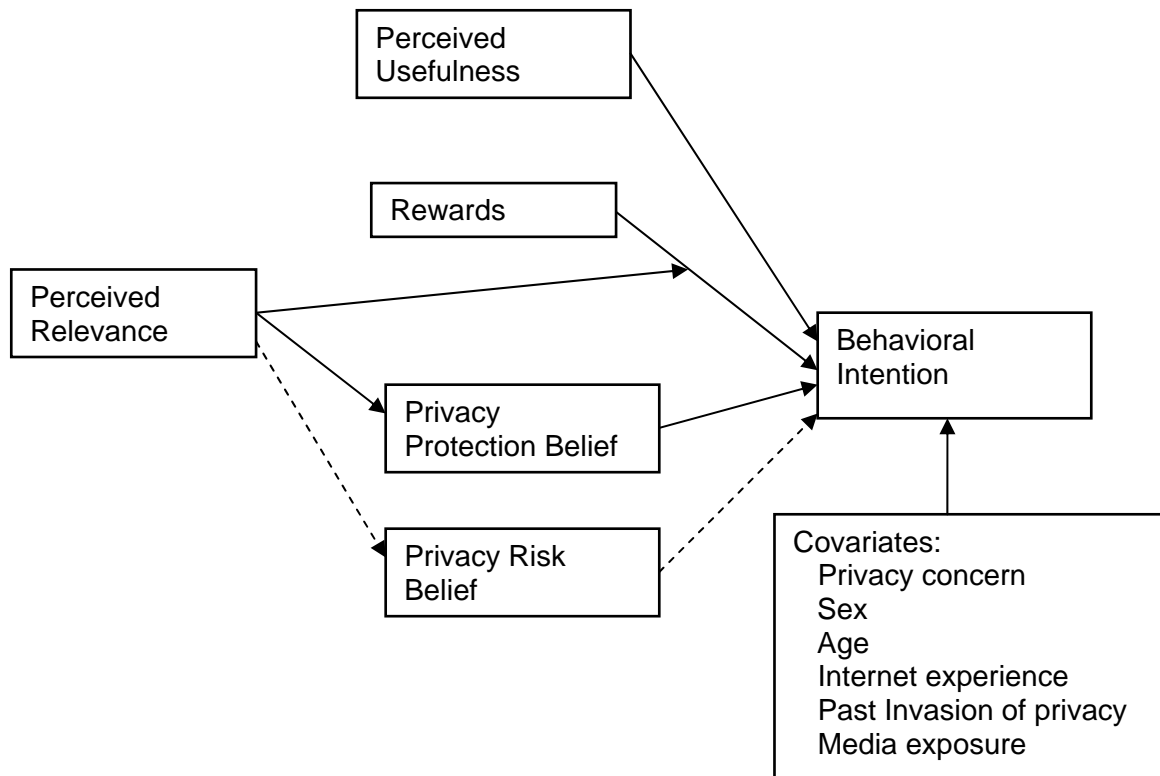


Figure 5.1. Research Model of Essay 3.

3. Research Methodology

3.1 Study Design and Procedures

An artificial Web site that mimics a real commercial Web site providing internet fax service was created for this purpose. Besides easy manipulation, an artificial Web site also helps to rule out the effect of store familiarity and reputation since our research focus is on initial information exchange or for unfamiliar Web site. The other variables were

Reward was manipulated at two levels: no reward and reward (\$10 off the service fee for two months or a total of \$20 discount). Subjects were randomly assigned to only one of these two treatment conditions, i.e. either no reward or reward. A major task page was used to introduce the task scenario to subjects and provide detailed step by step instructions. Each subject assumed the role of online shopper searching for electronic fax

service for the purpose of job hunting. Subjects were requested to interact with the Web site as naturally as possible to get to know the company and the service offered by the company. Then, they were instructed to evaluate a membership sign-up form which is required before using the company's Internet fax service. After evaluating the sign-up form, subjects were required to fill out the survey.

3.2 Variable Measurement

Existing published scales have been adapted to measure variables in the research model whenever possible. Some items were re-worded slightly to reflect the research context. Perceived usefulness scale was adapted from TAM model by Davis et al (1989) and UTAUT model by Venkatesh et al (2003). Perceived relevance items were modified from Stone (1981). Privacy protection belief was measured using the scales by Pavlou and Chellappa (2001). Privacy risk belief was adapted from the instruments by Malhotra et al (2004). Behavioral intention to disclose personal information was measured by scales after Malhotra et al. (2004) and MacKenzie and Spreng (1992). Privacy concern consists of three items developed by Malhotra et al (2004) for measuring global information privacy concern. The detailed privacy concern scaled developed by Malhotra et al (2004) was not used in this study because the focus of this study is not on the sub-dimensions of privacy concern. All constructs are measured on a seven-point Likert scales with 1 being "strongly disagree" and 7 being "strongly agree". In addition, a single question (whether the Web site provided discounts or coupons for signing up with its service) was developed to check whether the manipulation on reward was successful.

3.3 Survey Administration

Before the final experiment, a pilot study was administered to 75 undergraduate and graduate students in a major Midwestern U.S. university. The purpose was to evaluate the content validity and clarity of measurement scales. In the final experimental study, the recruitment message was delivered to about 238 undergraduate students who are different from those in the pilot study. The participation was voluntary. Extra credit accounting for less than 2% of their total grade was used as an incentive for participation. A total of 182 valid responses were received. The demography of survey respondents is given in Table 5.1. Most of them have more than one year's Internet experience.

Table 5.1. Demography Distribution of Survey Respondents (Essay 3)

Gender		Age	
Male	66.5%	19-25	94.5%
Female	33.5%	26-30	3.8%
		31-35	1.1%
		>35	0.5%
Internet Experience			
<1 yr	11.6%		
1-3 yr	39.8%		
3-6 yr	33.1%		
>=6 yr	15.5%		

4. Data Analysis

The t-test on reward manipulation was significant with a p-value <0.01, suggesting the success of the manipulating monetary reward. Partial least squares (PLS) technique was then applied to test the measurement model and research hypotheses. PLS requires a sample size that is at least ten times larger than the number of paths going to an endogenous construct when all constructs are reflective (Chin 1998). For our research model, the maximum number of path leading to an endogenous variable is twelve

including the interaction term between perceived relevance and monetary reward and those six control variables. Therefore, a sample size of 182 is sufficient for testing our research model. Furthermore, PLS does not assume a multivariate normal distribution and interval scales, making it appropriate for testing our research model with monetary reward as a binary manipulated construct.

A two-step approach was adopted to test our research model. We first assessed the reliability and validity of all latent constructs or the measurement model and then tested our research hypotheses or structural model.

4.1 Measurement Model

Results of testing measurement model are presented in Tables 5.2 and 5.3. Table 5.2 provides the composite reliability (CR), average variance extracted (AVE) and loadings of each item on its intended construct and on other constructs (i.e., cross-loadings). A scale is considered as reliable if its composite reliability (CR) is above 0.7 and average variance extracted (AVE) above 0.5 (Bagozzi and Yi 1988). As shown in Table 5.2, all scales are reliable. For convergent validity, we examined the standardized loadings and their significance. All items load significantly on their respective latent construct and all loadings except PPB5 are above 0.6, the recommended cutoff by Bagozzi and Yi (1988). But, the loading of PPB5 is still above 0.5, which is acceptable according to Chin (1998). Discriminant validity of each latent construct was tested by the method recommended by Fornell and Larcker (1981). The square root of AVE of each construct should be higher than the correlation between that construct and any other constructs. This criterion is satisfied by all latent constructs (Table 5.3). Overall, these results indicate that our

measurement model has adequate the convergent and discriminant validity. So, the structural model can be examined further.

Table 5.2. Loadings, CR and AVE of measurement instruments (Essay 3).

Constructs/Items		Loadings					
		PU	PPB	PRB	RELE	BI	PC
PU CR = 0.927 AVE = 0.717	PU1	0.772	0.305	-0.200	0.247	0.333	0.048
	PU2	0.881	0.243	-0.194	0.197	0.356	0.059
	PU3	0.883	0.323	-0.238	0.282	0.405	0.077
	PU4	0.826	0.251	-0.185	0.258	0.269	-0.010
	PU5	0.868	0.253	-0.252	0.227	0.398	-0.086
PPB CR = 0.848 AVE = 0.533	PPB1	0.273	0.755	-0.389	0.255	0.472	-0.158
	PPB2	0.261	0.779	-0.409	0.376	0.453	-0.096
	PPB3	0.206	0.801	-0.427	0.309	0.373	-0.113
	PPB4	0.263	0.767	-0.457	0.319	0.398	-0.128
	PPB5	0.187	0.507	-0.205	0.188	0.179	-0.105
PRB CR = 0.928 AVE = 0.762	PBR1	-0.271	-0.461	0.880	-0.224	-0.520	0.277
	PBR2	-0.234	-0.431	0.855	-0.311	-0.462	0.219
	PBR3	-0.179	-0.503	0.898	-0.271	-0.541	0.317
	PBR4	-0.211	-0.456	0.858	-0.292	-0.478	0.252
RELE CR = 0.909 AVE = 0.769	Relev1	0.293	0.349	-0.231	0.877	0.379	-0.163
	Relev2	0.158	0.301	-0.258	0.823	0.382	-0.184
	Relev3	0.292	0.406	-0.328	0.928	0.410	-0.200
BI CR = 0.942 AVE = 0.803	BI1	0.426	0.513	-0.556	0.391	0.939	-0.224
	BI2	0.359	0.501	-0.510	0.329	0.899	-0.151
	BI3	0.319	0.450	-0.475	0.415	0.843	-0.186
	BI4	0.396	0.449	-0.510	0.463	0.897	-0.256
PC CR = 0.877 AVE = 0.704	PC1	0.080	-0.131	0.272	-0.173	-0.167	0.842
	PC2	-0.053	-0.155	0.272	-0.180	-0.256	0.891
	PC3	0.053	-0.116	0.225	-0.176	-0.125	0.789

Note: Diagonal boldface numbers are loadings (correlations) of indicators to their own construct; other off-diagonal numbers are cross-loadings.

Table 5.3. Discriminant Validity of Measurement Model (Essay 3).

	PU	PPB	PRB	RELE	BI	PC
PU	<u>0.847</u>					
PPB	0.328	<u>0.730</u>				
PRB	-0.255	-0.531	<u>0.873</u>			
RELE	0.285	0.406	-0.314	<u>0.877</u>		
BI	0.421	0.535	-0.574	0.447	<u>0.896</u>	
PC	0.017	-0.163	0.306	-0.208	-0.233	<u>0.839</u>

Note: Diagonal elements are the square root of the AVE values. Off-diagonal elements are the correlations among latent constructs.

4.2 Hypotheses Testing Results

Figure 5.2 and Table 5.4 summarize the results of testing the hypotheses. Completely standardized path coefficients are given on each significant path. The model could explain 50.8% of the variance in behavioral intention, 16.5% of the variance in privacy protection belief and 9.9% of the variance in privacy risk belief.

Since we hypothesize that the effect of monetary reward is moderated by perceived relevance of information collected, it is necessary to test the interaction effect before examining the main effect of monetary reward. Therefore, we first analyzed the interaction effect or Hypothesis 7, before testing the other hypotheses. To test Hypothesis 7, we followed the procedures proposed by Chin et al. (2003). The existence of interaction was evaluated based on both effect size and statistical significance. The effect size of interaction (f^2) was 0.022, which satisfies the 0.02 cutoff for small effect size (Cohen 1988)². The interaction is also found to be statistically significant ($p < 0.05$). Hence, perceived relevance of information collected moderates the relationships between monetary rewards and behavioral intention. The interaction pattern is shown in Figure 5.3,

² $f^2 = [R^2(\text{interaction model}) - R^2(\text{main effects model})] / [1 - R^2(\text{main effects model})]$.

which consists of two regression lines with one for high value of perceived relevance (i.e. one standard deviation above the mean) and one for low value of perceived relevance (i.e., one standard deviation below the mean). The utility by Preacher et al. (2003) was then implemented to find out the region of statistical significance. We found that when the perceived relevance of information is 4.7 or above, the relationship between monetary reward and behavioral intention is not statistically significant. When the perceived relevance is below 4.7, the relationship becomes negative and statistically significant ($p < 0.05$). Therefore, H₇ was partially supported. Despite the existence of significant moderation, the interaction pattern is counter-intuitive and will be discussed in the following section.

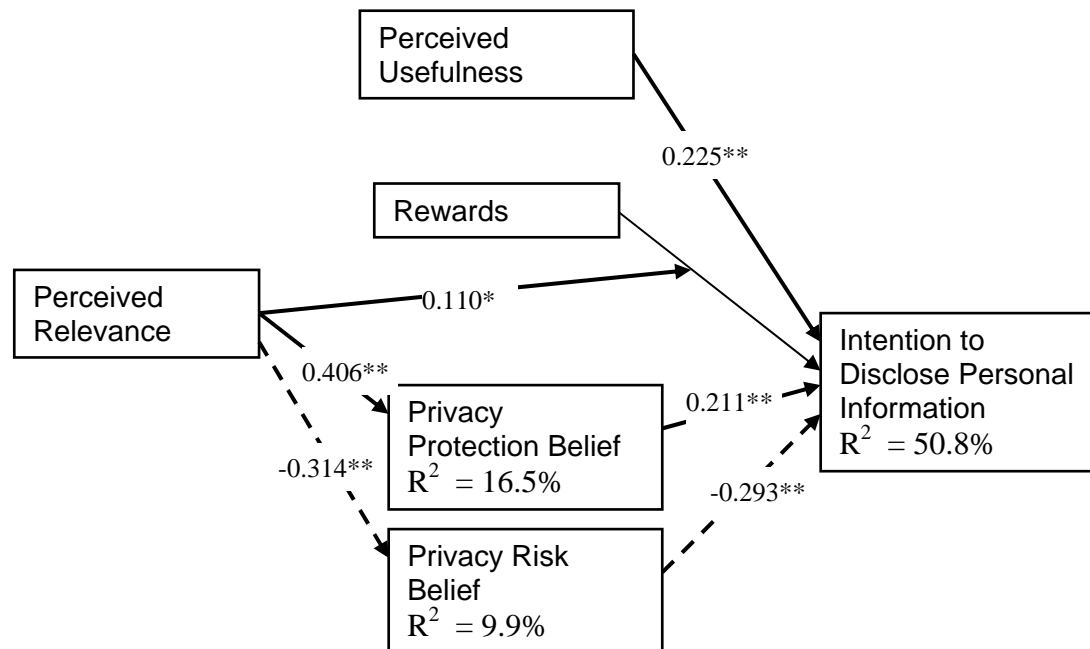


Figure 5.2. Results of testing hypotheses using PLS analysis (Essay 3). Completely standardized estimates, controlled for covariates in the research model, * $p < 0.05$, ** $p < 0.01$ (two-tailed).

Table 5.4. Summary of hypothesis testing results (Essay 3).

Hypotheses	Path Coefficients	t Value	p value (two-tailed)
H1: Perceived usefulness of the product or service has a positive impact on online shoppers' behavioral intention to disclose their personal information.	0.225	3.36	p<0.01 (supported)
H2: Monetary rewards have a positive impact on online shoppers' behavioral intention to disclose their personal information.	-0.065	1.17	p<0.05 (not supported)
H3: Privacy protection belief has a positive impact on online shoppers' behavioral intention to disclose their personal information.	0.211	2.83	p<0.01 (supported)
H4: Privacy risk belief has a negative impact on online shoppers' behavioral intention to disclose their personal information.	-0.293	3.94	p<0.01 (supported)
H5: Perceived relevance of information collected has a positive impact on privacy protection belief.	0.406	6.44	p<0.01 (supported)
H6: Perceived relevance of information collected has a negative impact on privacy risk belief .	-0.314	5.43	p<0.01 (supported)
H7: The relationship between rewards and intention to disclosure information is moderated by relevance of information, such that the positive impact is stronger when perceived relevance is high.	0.110	2.05	p<0.05 (partially supported)

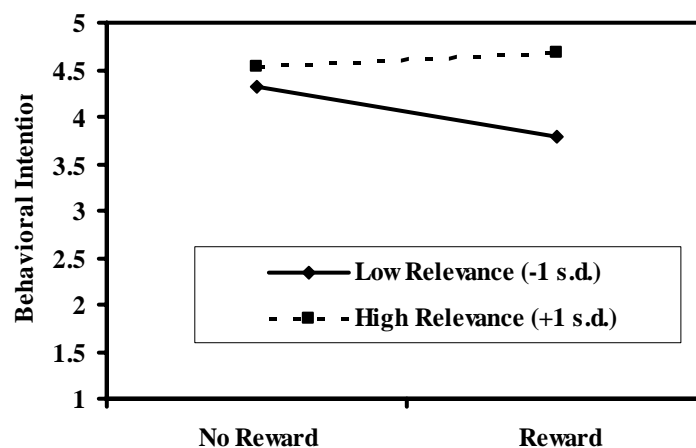


Figure 5.3. The interaction pattern between reward and behavioral intention to disclose personal information (Essay 3).

Because the interaction is significant, main effect or H_2 cannot be interpreted. We went on to examine the other hypotheses, i.e. H_1 , H_3 , H_4 , H_5 and H_6 . They were found to be statistically significant. Therefore, the overall research model is well supported except for the unexpected interaction pattern. In addition, none of the six covariates were found to be significant. This suggests that the direct effect of privacy concern is trivial. Situation-specific factors are the major drivers for information disclosure.

5. Discussions

5.1 Summary of Findings and Limitations

Our findings suggest that when the products or services are attractive to online shoppers, they are more likely to disclose their personal information. Interestingly, we found that monetary rewards has a significant undermining effect on willingness to disclose personal information when information collected is perceived to have low to moderate relevance. This implies that monetary rewards, in the presence of low exchange fairness, may actually hold back online shoppers from disclosing their information. Past studies have used self-perception theory as the primary explanation for such an undermining effect of rewards, positing that “past behavior is used as an informational cue to form an attitudinal judgment” (Tietje 2002). The undermining effect of rewards could occur “when behavior is attributed to a reward rather than a positive evaluation of the attitude object”. Therefore, in our research context, monetary rewards could be perceived as unfavorable when information disclosure is attributed primarily to a reward instead of a true desire for product or services (the first exchange). In other words, the undermining effect takes place when online firms are perceived as attempting to use monetary reward

to enable information disclosure. This is consistent with what has been found by Hoffman et al (1999) that “consumers do not view their personal data in the context of an economic exchange.” The fairness of information exchange is an important part of the social contract in information disclosure. Collecting improper information is very likely to enhance the salience of the reward’s disclosure-contingency and the subsequent undermining effect.

Our results suggest that online shoppers’ willingness to disclose personal information is also driven by their salient beliefs regarding the level of privacy protection offered as well as the expected privacy risks associated with releasing personal information involved. The assessment of privacy risks is further adjusted by the perceived fairness of information exchange. Collecting information of high relevance was found to enhance privacy protection and reduce privacy risk belief.

Before we discuss the implications of our study, we point to some of its limitations. Although we found an undermining effect of monetary reward, we should exercise caution in generalizing it to other contexts. Other situation-specific factors could also influence the rewards’ disclosure-contingency and the subsequent undermining effect. For example, Web site quality may be a factor influencing the undermining effect. A poorly designed Web site is very likely to make consumers suspicious and trigger the perception about the reward’s disclosure contingency and the subsequent undermining effect. In addition, the study uses student subjects. Empirical studies using a different subject population will provide stronger support for our findings.

5.2 Implications for Research

This study has five important implications for research. First, willingness to disclose personal information is primarily driven by situation-specific factors. Our results are consistent with what argued by Laufer and Wolfe (1977) that “Individuals’ concepts of privacy are tied to concrete situations in everyday life”. This study examined a subset of the situation-specific factors related to the exchange process. Future studies could examine other situation-specific factors such as reputation of the vendor, design of the Web site, etc.

Second, the findings show that benefits of the first exchange could also influence information disclosure. For example, perceived usefulness, as the benefit of the first exchange, is found to enhance information disclosure as well. Therefore, when examining initial information disclosure in conventional marketplace, researchers should treat information disclosure as a by-product of the first exchange for products or services and examine the impact of first-exchange benefits on information disclosure as well.

Third, we found that collecting information perceived to have low relevance will enhance the salience of rewards’ disclosure-contingency, which then leads to the undermining effect of monetary rewards on information disclosure. The effect of monetary rewards could also be moderated by other factors in a business context such as the design of a Web site, reputation of the vendor, offering time of the reward, etc. Future studies are needed to have better understanding of the effect of monetary rewards or other explicit benefits.

Fourth, the findings support that information disclosure involves a cost-benefit tradeoff analysis (or privacy calculus). Privacy risks are evaluated against exchange benefits. Willingness to disclose personal information is driven by competing influences

of the exchange benefits and two contrary privacy beliefs. Attractive benefits of the first exchange by themselves, or together with high privacy protection belief, could override the influence of privacy risks and result in high behavioral intention to disclose personal information. Future studies are needed to examine the effectiveness of various types of benefits and privacy protection belief in overriding the effect of privacy risk belief more closely. Under what condition will certain benefits be more effective than other benefits? What factors help to enhance privacy protection belief and/or reduce privacy risk belief? In this study, we investigated the effect of perceived relevance of information collected on these two opposing privacy beliefs. Other factors could also exert influence over these two contrary privacy beliefs such as emotional response to a Web site, privacy policy, third-party seals, etc.

Finally, the results of this study support that the cost-benefit tradeoff analysis involved in information disclosure is subject to the assessment about the fairness of information exchange. Perceived fairness of information exchange is found to enhance privacy protection belief, reduce privacy risk belief and moderate the impact of monetary reward. Therefore, social contract theory provides a useful theoretical foundation for researchers to study information disclosure in conventional marketplace.

5.3 Implications for Practice

The findings in this study also have important implications for online vendors that collect personal information in order to enable e-commerce transactions. First, online vendors should treat information disclosure as being associated with the first exchange for products or services. The benefits offered for the first exchange may influence

information disclosure as well. They should be careful about providing monetary rewards to attract new customers. Monetary rewards could undermine consumers' willingness to disclose their personal information if the information collected has low relevance to the purpose of the ecommerce transaction.

In addition, information disclosure entails inherent privacy risks to online shoppers. Their willingness to disclose personal information is the result of competing influence of exchange benefits and the two contrary privacy beliefs. The effect of privacy risk belief could be overridden by the other factors. Online vendors could enhance consumers' willing to disclose personal information by providing attractive exchange benefits and/or enhancing privacy protection belief.

Besides exchange benefits and privacy risks, online vendors also need to take into account the fairness of information exchange. Online firms could implement fair information practices to boost fairness perception, which further adjusts the cost-benefit tradeoff analysis in information disclosure, i.e. enhancing privacy protection belief, and reducing privacy risk belief. The net result of such adjustment will be online shoppers' greater behavioral intention to disclose their personal information.

6. Conclusions

This paper contributes by increasing our theoretical and empirical understanding of the effect of situation-specific factors on online shoppers' willingness to disclose their personal information in the context of conventional marketplace. This paper adopts social contract theory to account for not only the cost-benefit tradeoff among competing factors but also the adjustment by fairness of information disclosure. Willingness to disclose personal information is found to be driven by competing influences of the exchange

benefits and two contrary privacy beliefs. Attractive benefits of the first exchange by themselves or together with high privacy protection belief could override the influence of privacy risks and result in high behavioral intention to disclose personal information. In addition, the study illustrates that the effect of monetary rewards is moderated by perceived relevance of information collected. Monetary rewards could undermine information disclosure.

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APPENDIX A
COPY OF IRB APPROVAL LETTER FORMS

ESSAY-1

Oklahoma State University Institutional Review Board

Date Wednesday, November 30, 200 Protocol Expires: 10/12/2006
IRB Application No: BU069
Proposal Title: Exploring the Impact of Emotions on Internet Users' Perceived Privacy

Reviewed and Exempt
Processed as: Continuation

Status Recommended by Reviewer(s) Approved

Principal Investigator(s)

Han Li
408 CBA
Stillwater, OK 74078

Rathindra Sarathy
407 Business
Stillwater, OK 74078

Approvals are valid for one calendar year, after which time a request for continuation must be submitted. Any modifications to the research project approved by the IRB must be submitted for approval with the advisor's signature. The IRB office MUST be notified in writing when a project is complete. Approved projects are subject to monitoring by the IRB. Expedited and exempt projects may be reviewed by the full Institutional Review Board.

[X] The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

The last sentence and signature line of the revised consent form has been removed from this approved copy since the consent is not personally explained to each subject.

Signature: Sue C Jacobs
Sue C. Jacobs, Chair, Institutional Review Board

Wednesday, November 30, 200
Date

ESSAY-2

Oklahoma State University Institutional Review Board

Date: Tuesday, April 04, 2006
IRB Application No BU0625
Proposal Title: Exploring Affect-based Versus Cognition-based Privacy Beliefs

Reviewed and
Processed as: Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 4/3/2007

Principal
Investigator(s)

Han LI	Rathindra Sarathy
408 CBA	407 Business
Stillwater, OK 74078	Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 415 Whitehurst (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,



Sue C. Jacobs, Chair
Institutional Review Board

ESSAY-3

Oklahoma State University Institutional Review Board

Date: Wednesday, August 23, 2006
IRB Application No BU0637
Proposal Title: Understanding Online Information Disclosure - A contingency Approach Based on Social Contract Theory

Reviewed and Processed as: Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 8/22/2007

Principal Investigator(s)

Han Li
408 CBA
Stillwater, OK 74078

Rathindra Sarathy
407 Business
Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

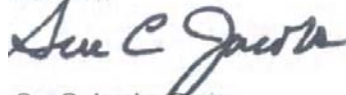
The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 415 Whitehurst (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,



Sue C. Jacobs, Chair
Institutional Review Board

APPENDIX B
INFORMED CONSENT FORMS AND SCRIPTS

ESSAY-1

Informed Consent Form

We are currently conducting research in the area of e-commerce. We would like to request your participation in this research. Participation in this research study is voluntary. You have the right to withdraw at anytime or refuse to participate entirely without jeopardy to your class status, grade or standing with the university.

There are no risks/discomforts for participation in this study. Participation in this study is anonymous. No personal identifying information will be collected. All information provided will remain confidential. Also, there are no direct benefits to you if you choose to participate. However, it is hoped that through your participation, researchers will learn more about e-commerce.

Participants will receive 5 extra credit points for completing the questionnaire. For those who do not wish to participate in the research, 5 extra credit points can be earned by completing an alternative assignment such as a program exercise.

If you choose to participate in this study, you will be asked to visit a commercial website and then complete a questionnaire. It will take about 30 minutes to fulfill the requirements of participating in this study.

If you have questions about this study, you may contact Han Li (the primary investigator), or Dr. Rathindra Sarathy (advisor). For questions about your rights as a participant in this research, please contact Dr. Sue C. Jacobs. The contact information for these individuals is listed below:

Han Li	Dr. Rathindra Sarathy	Dr. Sue C. Jacobs
Doctoral Student	Professor	IRB Chair
Department of Management Science and Information Systems	Department of Management Science and Information Systems	Research Compliance Oklahoma State University 415 Whitehurst
Oklahoma State University Stillwater, OK 74078	Oklahoma State University Stillwater, OK 74078	Stillwater, OK 74078
Ph: (405) 744-4078	Ph: (405) 744-8646	Ph: (405) 744-1676
Email: han.li@okstate.edu	Email: sarathy@okstate.edu	

If you wish to participate in the study, please complete the following steps:

- 1) Complete and sign the following consent form.
- 2) After class, visit the survey website in compute labs or at home. The survey website is <http://ecommerce.msis.okstate.edu/hanli>
- 3) Follow instructors on the survey website to visit a commercial website and then complete the online questionnaire.
- 4) At the end of the questionnaire, click submit button. You should see a thank you page showing thank you message and a random number. Write down the random number on the next page of this informed consent form. The random number displayed on the thank you page is not linked to your survey answer. The survey answers are anonymous. The random number is solely used by the instructor to decide who has filled the survey.
- 5) Turn in the consent form with your signature and the random number to the instructor. 5 Extra credit points will then be assigned to you.

We thank you for your participation in this research study.



I understand that participation is voluntary and that I will not be penalized if I choose not to participate. I also understand that I am free to withdraw my consent and end my participation in this project at any time without penalty after I notify the primary investigators.

I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me.

Date: _____ Time: _____ (a.m./p.m.)

Name (written)

Signature

Random Number: _____



Script to be provided to subjects prior to agreement of participate.

We are currently recruiting subjects who are at least 18 years old to participate in a study involving online shopping. We would like to request your participation in this study. Participation will involve visiting an assigned commercial website and then completing a short instrument. The study will take approximately 30 minutes to complete. The survey questionnaire is online. The study can be completed in the business computer lab or at home.

Your participation is voluntary. Your participation in this research is anonymous. No identifying information will be collected. The information provided by you will be available only to the researchers.

The study will be conducted at the following date at time:

Paper-based informed consent forms will be distributed at the above time. If you wish to participate in the study, please sign the consent form and visit the survey website. The address of the survey website is given at the bottom of the informed consent form. If you do not wish to participate in the study, you do not need to complete the consent form or visit the survey website.

If you have any questions regarding this study, you may contact Han Li (han.li@okstate.edu) and Rathindra Sarathy (sarathy@okstate.edu).



ESSAY-2



Informed Consent Form

We are currently conducting research in the area of e-commerce. We would like to request your participation in this research. Participation in this research study is voluntary. You have the right to withdraw at anytime or refuse to participate entirely without jeopardy to your class status, grade or standing with the university.

There are no risks/discomforts for participation in this study. Participation in this study is anonymous. No personal identifying information will be collected. All information provided will remain confidential. Also, there are no direct benefits to you if you choose to participate. However, it is hoped that through your participation, researchers will learn more about e-commerce.

Participants will receive 10 extra credit points for completing the questionnaire. For those who do not wish to participate in the research, 10 extra credit points can be earned by completing an alternative assignment such as a program exercise.

If you choose to participate in this study, you will be asked to visit a commercial website and then complete a questionnaire. It will take about 30 minutes to fulfill the requirements of participating in this study.

If you have questions about this study, you may contact Han Li (the primary investigator), or Dr. Rathindra Sarathy (advisor). For questions about your rights as a participant in this research, please contact Dr. Sue C. Jacobs. The contact information for these individuals is listed below:

Han Li
Doctoral Student
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Dr. Rathindra Sarathy
Professor
Department of Management
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Systems,
Oklahoma State University
Stillwater, OK 74078
Ph: (405) 744-8646
Email: sarathy@okstate.edu

Dr. Sue C. Jacobs
IRB Chair
Research Compliance
Oklahoma State University
415 Whitehurst
Stillwater, OK 74078
Ph: (405) 744-1676

If you wish to participate in the study, please complete the following steps:

- 1) Complete and sign the following consent form.
2) Visit the survey website at http://ecommerce.msis.okstate.edu/hanp2 to follow further instructions on the survey website to visit an artificial commercial website and fill out surveys.
3) Turn in the consent form with your signature and the completed questionnaire. 10 Extra credit points will then be assigned to you.

We thank you for your participation in this research study. Please sign your name below if you wish to participate.

I understand that participation is voluntary and that I will not be penalized if I choose not to participate. I also understand that I am free to withdraw my consent and end my participation in this project at any time without penalty after I notify the primary investigators.

I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me.

Date: _____ Time: _____ (a.m./p.m.)

Name (written)

Signature

Script to be provided to subjects prior to agreement of participate.

We are currently recruiting subjects who are at least 18 years old to participate in a study involving online shopping. We would like to request your participation in this study. Participation will involve visiting an assigned commercial website and then completing a short paper-based survey. The study will take approximately 30 minutes to complete.

Your participation is voluntary. Your participation in this research is anonymous. No identifying information will be collected. The information provided by you will be available only to the researchers.

The study will be conducted in the business computer lab during the following time slots:

Paper-based informed consent forms and surveys will be distributed in the business computer lab at the above time. The address of the survey website is given in the informed consent form. If you wish to participate in the study, please pick a time slot and sign your name on the signup sheet. If you do not wish to participate in the study, you do not need to sign your names. 10 extra credits will be given to those who participate in this study or those who choose to do an alternative assignment such as writing a program, etc.

If you have any questions regarding this study, you may contact Han Li (han.li@okstate.edu) and Rathindra Sarathy (sarathy@okstate.edu).



ESSAY-3

Informed Consent Form



We are currently conducting research in the area of e-commerce. We would like to request your participation in this research. Participation in this research study is voluntary. You have the right to withdraw at anytime or refuse to participate entirely without jeopardy to your class status, grade or standing with the university.

There are no risks/discomforts for participation in this study. Participation in this study is anonymous. No personal identifying information will be collected. All information provided will remain confidential. Also, there are no direct benefits to you if you choose to participate. However, it is hoped that through your participation, researchers will learn more about e-commerce.

Participants will receive 10 extra credit points for completing the questionnaire. For those who do not wish to participate in the research, 10 extra credit points can be earned by completing an alternative assignment such as working on a critical thinking exercise.

If you choose to participate in this study, you will be asked to visit a commercial website and then complete a questionnaire. It will take about 30 minutes to fulfill the requirements of participating in this study.

If you have questions about this study, you may contact Han Li (the primary investigator), or Dr. Rathindra Sarathy (advisor). For questions about your rights as a participant in this research, please contact Dr. Sue C. Jacobs. The contact information for these individuals is listed below:

Han Li
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Email: sarathy@okstate.edu

Dr. Sue C. Jacobs
IRB Chair
Research Compliance
Oklahoma State University
415 Whitehurst
Stillwater, OK 74078
Ph: (405) 744-1676

If you wish to participate in the study, please complete the following steps:

- 1) Complete and sign the following consent form.
- 2) Visit the survey website at <http://ecommerce.msis.okstate.edu/hanp2> to follow further instructions on the survey website to visit an artificial commercial website and fill out surveys.
- 3) Turn in the consent form with your signature and the completed questionnaire. 10 Extra credit points will then be assigned to you.

We thank you for your participation in this research study. Please sign your name below if you wish to participate.

I understand that participation is voluntary and that I will not be penalized if I choose not to participate. I also understand that I am free to withdraw my consent and end my participation in this project at any time without penalty after I notify the primary investigators.

I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me.

Date: _____ Time: _____ (a.m./p.m.)

Script to be provided to subjects prior to agreement of participate.

We are currently recruiting subjects who are at least 18 years old to participate in a study involving online shopping. We would like to request your participation in this study. Participation will involve visiting an assigned commercial website and then completing a short paper-based survey. The study will take approximately 30 minutes to complete.

Your participation is voluntary. Your participation in this research is anonymous. No identifying information will be collected. The information provided by you will be available only to the researchers.

The study will be conducted in the business computer lab during the following time slots:

Paper-based informed consent forms and surveys will be distributed in the business computer lab at the above time. The address of the survey website is given in the informed consent form. If you wish to participate in the study, please pick a time slot and sign your name on the signup sheet. If you do not wish to participate in the study, you do not need to sign your names. 10 extra credits will be given to those who participate in this study or those who choose to do an alternative assignment such as writing a program, etc.

If you have any questions regarding this study, you may contact Han Li (han.li@okstate.edu) and Rathindra Sarathy (sarathy@okstate.edu).



APPENDIX C
SURVEY INSTRUMENTS

ESSAY-1

Motive Consistency (Ethier et al. 2004)	
MC1	The website gave me the opportunity to accomplish the tasks required successfully.
MC2	The website was just like what I had hoped for while I shop on the Web.
MC3	My experience with the website was a good example of what I would expect when I shop on the Web.
MC4	Overall, my experience with the website was satisfactory.
Probability (or Certainty Level) (Adapted from Roseman, et al., 1996)	
P1	I understand the consequences of transacting through this website.
P2	I am able to predict what is going to happen if I transact through this website.
P3	I understood what was happening while I was browsing the website.
P4	The behavior of the website was predictable.
Like (Shaver et al. 1987)	
Like1	Fondness
Like2	Liking
Like3	Attraction
Joy (Shaver et al. 1987)	
Joy1	Joy
Joy2	Enjoyment
Joy3	Pleasure
Dislike (Shaver et al. 1987)	
Dislike1	Dislike
Dislike2	Disgust
Dislike3	Revulsion
Frustration (Peters et al. 1980)	
Frust1	Browsing through this website was frustrating.
Frust2	Interacting with this website will always cause frustration.
Frust3	Overall, I experienced frustration with this website.
Fear (Shaver et al. 1987)	

Fear1 Fear2 Fear3	Fear Uneasiness Anxiety
Trust Belief (Pennington et al. 2003)	
TB1 TB2 TB3 TB4 TB5	This vendor appears to be one who would keep promises and commitments. I believe the information that this vendor provides me. I would trust this vendor to keep my best interest in mind. This vendor is trustworthy. I do not find any reasons to be cautious about this vendor.
Privacy Belief (Pavlou and Chellappa 2001)	
PB1 PB2 PB3 PB4 PB5 PB6	I am confident that I know all the parties who would collect information if I transact with this vendor. I am aware of the exact nature of information that will be collected during a transaction with this vendor. I believe I have control over how my information will be used by this vendor if I transact with this vendor. I believe I can subsequently verify the information I provide during a transaction with this vendor. I believe that this vendor will disclose my information without my consent if it has my information. I believe there is an effective mechanism to address any violation of the information I provide to this vendor.
Behavioral Intention to Give Personal Information (Malhotra et al. 2004)	
Please specify the extent to which you would reveal your personal information to this vendor.	
BI1 BI2 BI3 BI4	Unlikely/likely Not probable/probable Impossible/possible Unwilling/willing
Privacy Concern (Malhotra et al. 2004)	
PC1 PC2 PC3	Compared to others, I am more sensitive about the way online companies handle my personal information. To me, it is most important to keep my privacy intact from online companies. I am concerned about threats to my personal privacy today.

ESSAY-2

Like (Shaver et al. 1987)	
Like1	Fondness
Like2	Liking
Like3	Attraction
Frustration (Peters et al. 1980)	
Frust1	Browsing through this website was frustrating.
Frust2	Interacting with this website will always cause frustration.
Frust3	Overall, I experienced frustration with this website.
Fear (Shaver et al. 1987)	
Fear1	Fear
Fear2	Uneasiness
Fear3	Anxiety
Perceived Relevance of Information (Stone 1981)	
Relev1	Information gathered seemed relevant for signing up the 30-day free trial program
Relev2	Questions in the signup form appeared to have a bearing upon the purpose of the signing up.
Relev3	Information collected in the signup form look appropriate for signing up the free-trial program.
Privacy Protection Belief (Pavlou and Chellappa 2001)	
PB1	I am confident that I know all the parties who would collect information if I transact with this vendor.
PB2	I am aware of the exact nature of information that will be collected during a transaction with this vendor.
PB3	I believe I have control over how my information will be used by this vendor if I transact with this vendor.
PB4	I believe I can subsequently verify the information I provide during a transaction with this vendor.
PB5	I believe there is an effective mechanism to address any violation of the information I provide to this vendor.
Privacy Risk Belief (Malhotra et al. 2004)	

PRB1	It would be risky to disclose my personal information to this vendor.
PRB2	There would be high potential for loss associated with disclosing my personal information to this vendor.
PRB3	There would be too much uncertainty associated with giving my personal information to this vendor.
PRB4	Providing this vendor with my personal information would involve many unexpected problems.
Behavioral Intention to Give Personal Information (Malhotra et al. 2004)	
Please specify the extent to which you would reveal your personal information to this vendor.	
BI1	Unlikely/likely
BI2	Not probable/probable
BI3	Impossible/possible
BI4	Unwilling/willing
Privacy Concern (Malhotra et al. 2004)	
PC1	Compared to others, I am more sensitive about the way online companies handle my personal information.
PC2	To me, it is most important to keep my privacy intact from online companies.
PC3	I am concerned about threats to my personal privacy today.

ESSAY-3

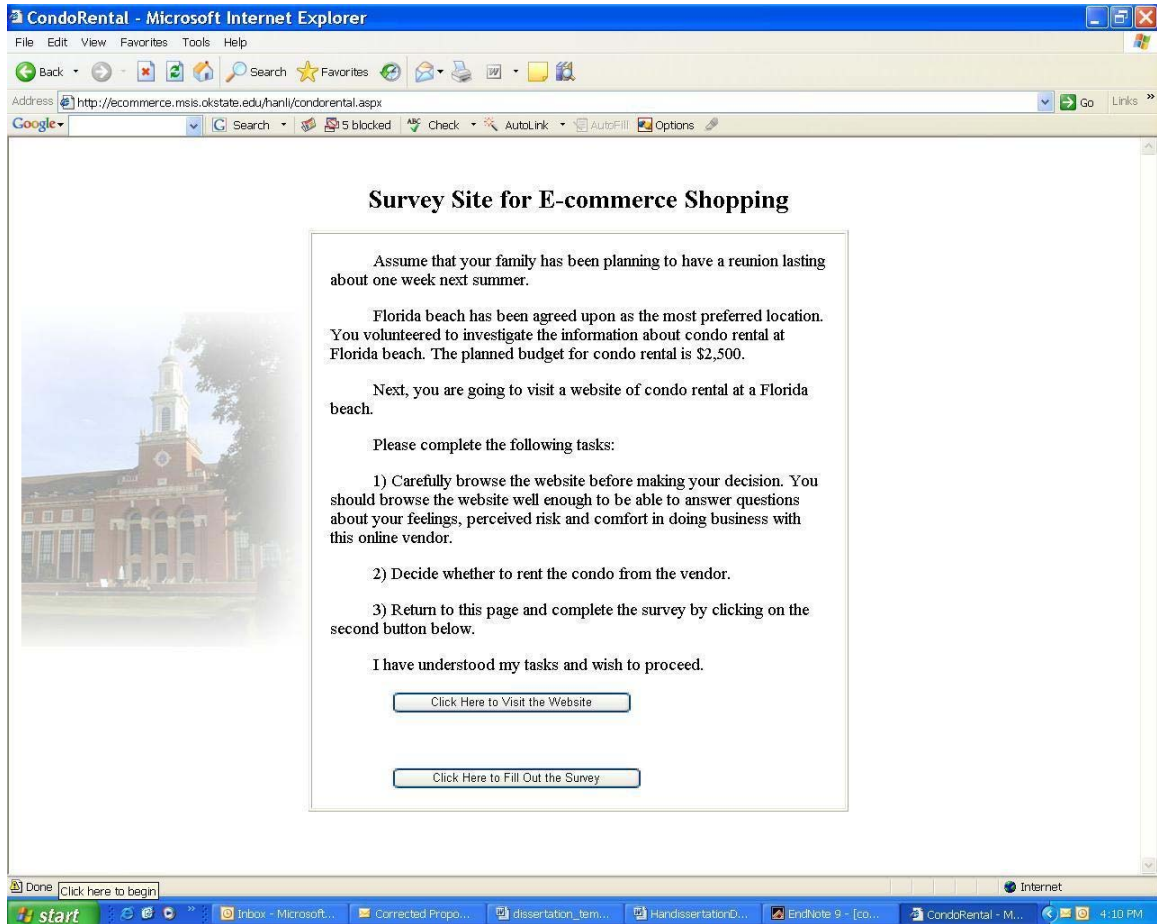
Perceived Usefulness (Davis 1989; Venkatesh et al. 2003)	
PU1	Using internet fax would enable me to send/receive my documents more quickly than traditional fax.
PU2	Using internet fax would improve my task performance.
PU3	Using internet fax would increase my productivity.
PU4	Using internet fax would enhance the effectiveness of my job search.
PU5	I find internet fax useful for my job search.
Privacy Protection Belief (Pavlou and Chellappa 2001)	
PB1	I am confident that I know all the parties who would collect information if I transact with this vendor.
PB2	I am aware of the exact nature of information that will be collected during a transaction with this vendor.
PB3	I believe I have control over how my information will be used by this vendor if I transact with this vendor.
PB4	I believe I can subsequently verify the information I provide during a transaction with this vendor.
PB5	I believe there is an effective mechanism to address any violation of the information I provide to this vendor.
Privacy Risk Belief (Malhotra et al. 2004)	
PRB1	It would be risky to disclose my personal information to this vendor.
PRB2	There would be high potential for loss associated with disclosing my personal information to this vendor.
PRB3	There would be too much uncertainty associated with giving my personal information to this vendor.
PRB4	Providing this vendor with my personal information would involve many unexpected problems.
Perceived Relevance of Information (Stone 1981)	
Relev1	Information gathered seemed relevant for signing up the 30-day free trial program
Relev2	Questions in the signup form appeared to have a bearing upon the purpose of the signing up.
Relev3	Information collected in the signup form look appropriate for signing up the free-trial program.
Behavioral Intention to Give Personal Information (Malhotra et al. 2004)	
Please specify the extent to which you would reveal your personal information to this	

vendor.	
BI1	Unlikely/likely
BI2	Not probable/probable
BI3	Impossible/possible
BI4	Unwilling/willing
Privacy Concern (Malhotra et al. 2004)	
PC1	Compared to others, I am more sensitive about the way online companies handle my personal information.
PC2	To me, it is most important to keep my privacy intact from online companies.
PC3	I am concerned about threats to my personal privacy today.

APPENDIX D
SCREENSHOTS OF THE WEB SITE USED

ESSAY-1

D.1. Task page for vocation rental.



Survey Site for E-commerce Shopping

Assume that your family has been planning to have a reunion lasting about one week next summer.

Florida beach has been agreed upon as the most preferred location. You volunteered to investigate the information about condo rental at Florida beach. The planned budget for condo rental is \$2,500.

Next, you are going to visit a website of condo rental at a Florida beach.

Please complete the following tasks:

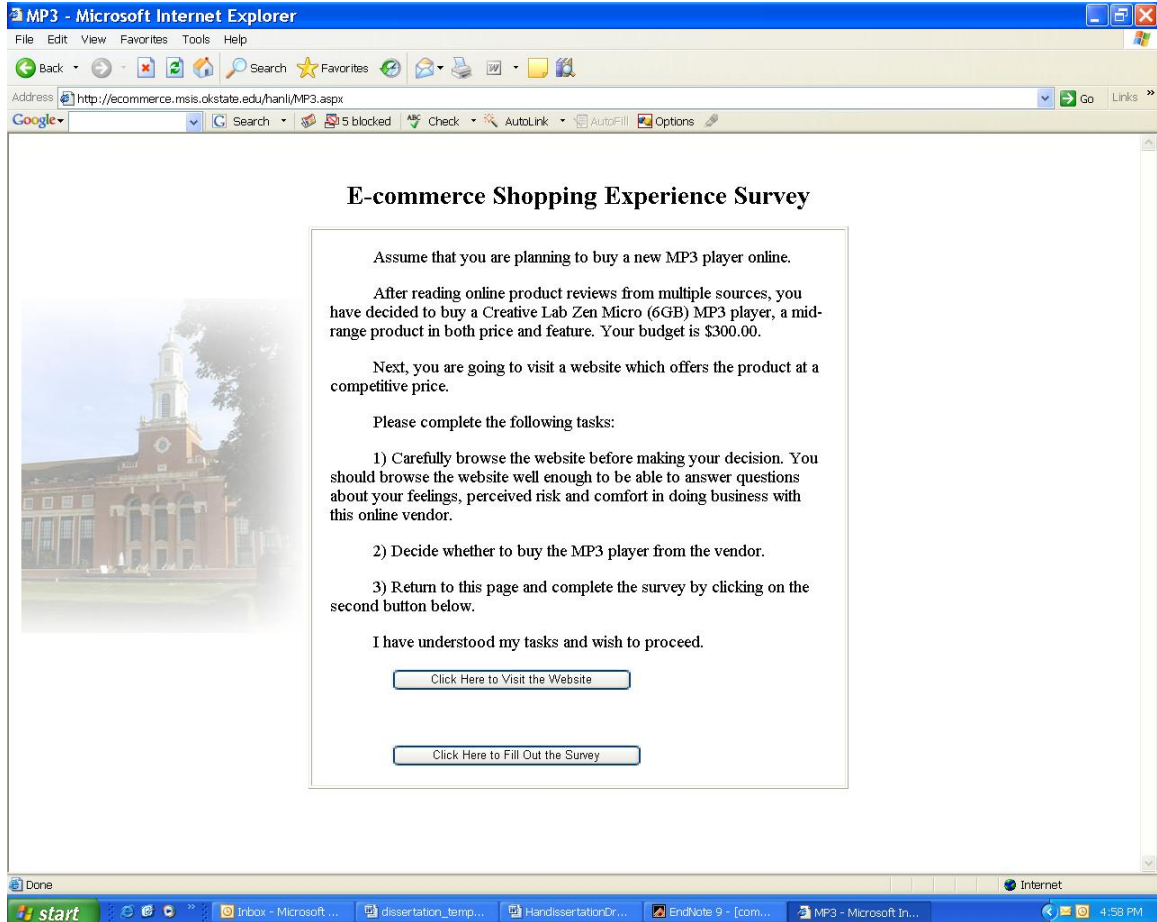
- 1) Carefully browse the website before making your decision. You should browse the website well enough to be able to answer questions about your feelings, perceived risk and comfort in doing business with this online vendor.
- 2) Decide whether to rent the condo from the vendor.
- 3) Return to this page and complete the survey by clicking on the second button below.

I have understood my tasks and wish to proceed.

[Click Here to Visit the Website](#)

[Click Here to Fill Out the Survey](#)

D.2. Task page for purchasing MP3 player.



E-commerce Shopping Experience Survey

Assume that you are planning to buy a new MP3 player online.

After reading online product reviews from multiple sources, you have decided to buy a Creative Lab Zen Micro (6GB) MP3 player, a mid-range product in both price and feature. Your budget is \$300.00.

Next, you are going to visit a website which offers the product at a competitive price.

Please complete the following tasks:

- 1) Carefully browse the website before making your decision. You should browse the website well enough to be able to answer questions about your feelings, perceived risk and comfort in doing business with this online vendor.
- 2) Decide whether to buy the MP3 player from the vendor.
- 3) Return to this page and complete the survey by clicking on the second button below.

I have understood my tasks and wish to proceed.

[Click Here to Visit the Website](#)

[Click Here to Fill Out the Survey](#)

D.3. Vacation rental website 1

The screenshot shows a web browser window displaying the homepage of Paradise Beach Homes. The browser's address bar shows the URL <http://www.paradisebeachhomes.com>. The website features a pink and white color scheme with a decorative border. At the top, a banner reads "Paradise Beach Homes" and "THE BEST SELECTION OF HOMES ON PENSACOLA BEACH!". Below the banner, a central image shows a family of four (a man, a woman, and two children) smiling, with the text "WELCOME TO PENSACOLA BEACH, FLORIDA" overlaid. To the left of the central image is a vertical menu of pink buttons: "PROPERTY SEARCH ONLINE RESERVATIONS", "DISCOUNTS-SPECIALS", "DIRECTIONS-MAP", "VACATION TIPS VACATION PLANNING", and "AREA ATTRACTIONS". To the right is another vertical menu: "FEATURED PROPERTY", "SEND A VIRTUAL POSTCARD", "COMPANY INFORMATION", "CONTACT US", and "CALENDAR OF EVENTS". Below the central image, the address "27 Via de Luna - Pensacola Beach, FL - 32561" is listed along with phone numbers: "(888) 860-0067", "(850) 916-0777", and "Fax (850) 932-8382". At the bottom, there are logos for "Paradise Bar & Grill", "Paradise Coastal Realty Inc.", and "Paradise Inn", along with a "Site Map" link. The browser's taskbar at the bottom shows several open applications, including Microsoft Office Word, EndNote 9, and the website itself.

D.4. Vacation rental website 2

http://www.pensacolabeach.20m.com - Home - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites 5 blocked Check AutoLink AutoFill Options

Absolutely In Love! CONDO

[Home](#) | [Photos](#) | [Floor Plan](#) | [Contact Owner](#)

PENSACOLA BEACH Condo for Rent!!!

NEW UPGRADES!

Available NOW Weekly or Monthly
ACT FAST... CALL 630-926-9010 TO BOOK...

AFFORDABLE LUXURY...Immediate Access to Gulf Beach (right across street) AND Sound Beach.
One of **very few locations** on entire Island offering Direct Access to Both!

Spacious 2+ Bedroom Condo sleeps 6+ comfortably (1280 Sq. Feet + Private Balcony).
Many 2-Bedroom condos you find are only 700-800 square feet.

Preferred West-Side location on the Island -Fort Pickens Road-, you will find yourself free from the 'Concrete Jungles' typical of the many densely-populated condo sites.



Amenities

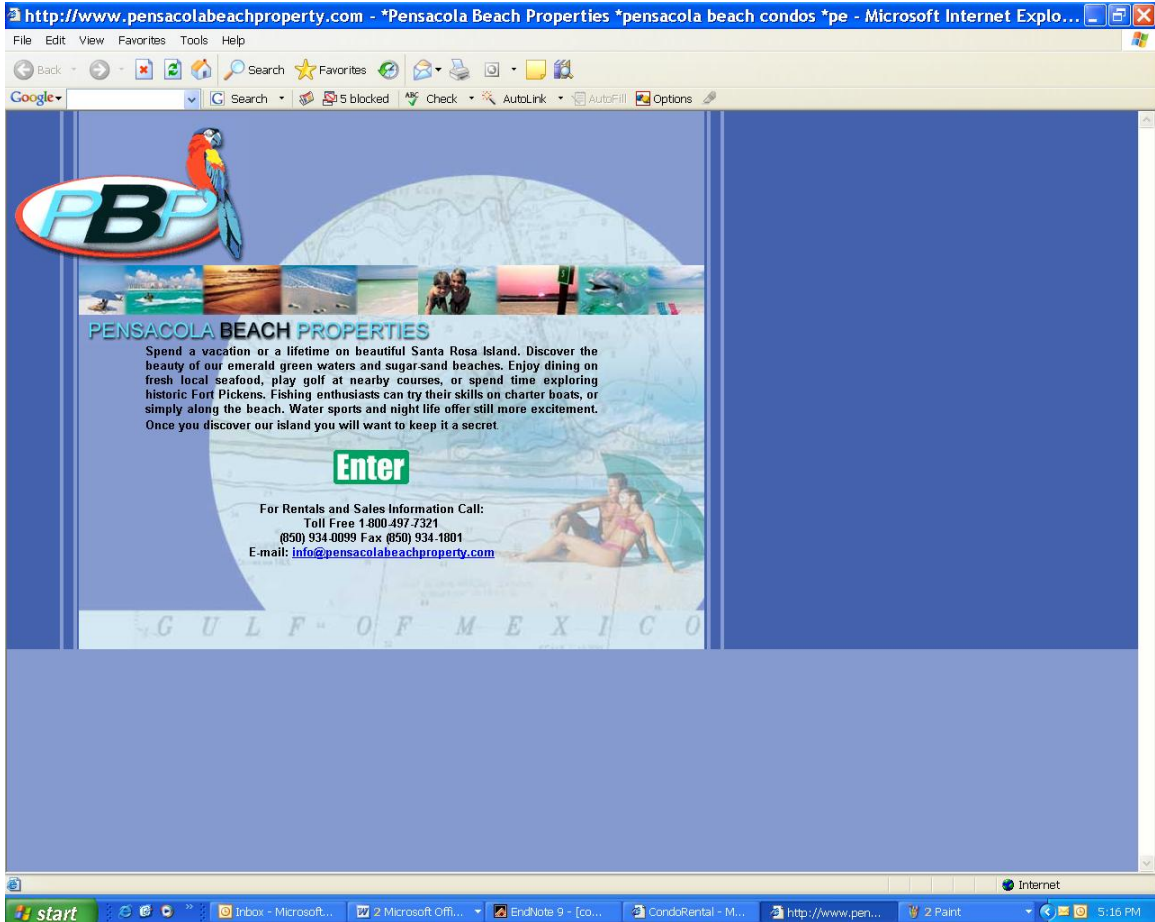
- Newly Remodeled!
- 1280 Square Feet!
- 2 Bedrooms upstairs (1 King/2 Twins) and Sleeper/Sofa (Queen-size) on main floor
- 2 1/2 Baths!
- Comfortably Sleeps 6+
- Private Balcony
- Beautiful Views
- Boat Dock/Fishing Pier
- Central Air-Conditioning/heat
- Refrigerator/Ice-Maker



Done Internet

start Inbox - Micro... 2 Microsoft... EndNote 9 - ... CondoRental... http://www... http://www... 2 Paint 5:03 PM

D.5. Vacation rental website 3



D.6. Vacation rental website 4

[Home](#) [Map](#) [Email](#) [Links](#)

CONDO ON DAYTONA BEACH
SAND DOLLAR
A NON-SMOKING CONDO
2 BEDROOM, 2 BATH - 10th FLOOR OCEANFRONT CONDO



The Perfect Spot for your Florida Vacation Rental. Only About An Hour from most Central Florida Attractions, on Beautiful Daytona Beach in Florida.

WEEKLY RENTALS - SATURDAY TO SATURDAY
MINIMUM RENTAL PERIOD - 7 DAYS
MAXIMUM OCCUPANCY IS 4/6 PEOPLE, INCLUDING CHILDREN

D.7. MP3 player purchase website 1

The screenshot shows the Page Computers website interface. At the top, the browser address bar displays "http://www.pagecomputers.com - Page Computers - Microsoft Internet Explorer". The website header includes the Page Computer logo and navigation links: Home, My Account, View Cart, Testimonials, Site Map, Contact Us, Order Status, and Log In.

The main content area is titled "Our Product Showcase" with the tagline "We gather top products and sell them at really low prices!". It features a grid of product listings:

- DELKIN CORPORATION WIRELESS PRE-N CABLE/DSL ROUTER 108MBPS WIFI 802.11G/B COMPAT**: \$92.99. [Buy now](#)
- NEC DISPLAY SOLUTIONS 19" LCD 700-1 1280X1024 SILVER / WHITE DVI VGA 4MS**: \$343.39. [Buy now](#)
- LINKSYS WIRELESS G BROADBAND RTR WITH 4PORT SWITCH SRX200**: \$101.99. [Buy now](#)
- MICROSOFT MICROSOFT WINDOWS XP MEDIA CENTER EDITION 2005 UPR2 3PK ENG RETAIL**: \$107.90. [Buy now](#)
- AVERATEC INC. AVERATEC 4155-EH1 NOTEBOOKTUR64 MT. 30 1.6G 512MB 80GB DVDRW 13.3 WXGA W/ XPI**: \$832.35. [Buy now](#)
- TRIPP LITE SMART PRO UPS 1500VA TOWER 120V 5-15P LINE-INT 6OUT 5-15R USB DR3**: \$261.88. [Buy now](#)
- KONICA-MINOLTA MAGICOLOR 2400W 20/5PPM 2400X600DPI LGL USB 32MB**: \$379.00. [Buy now](#)
- STARTECH TV JOCKEY - WATCH TV ON YOUR COMPUTER MONITOR**: \$62.67. [Buy now](#)

Below the product showcase is "The Manufacturer Store" section, which lists various brands: APC, BELKIN, hp, KONICA MINOLTA, LINKSYS, Maydor, Microsoft, NEC, OKI, and SAMSUNG.

On the right side of the page, there are several promotional banners:

- Clearance Items**: Items 30% - 80% OFF SECTION. [Click Here !!](#)
- Service Providers**: Service Providers Wanted.
- Special Deals**: SAMSUNG ML-2010 LASER PRINTER (REFURBISHED) Mfg# ML-2010XAA \$49.99. Limited Time Offer. Lowest Price Offer for 20ppm Laser Printer.

The bottom of the page shows the Windows taskbar with the Start button and several open applications: Inboxes - Microsoft..., 2 Microsoft Offi..., EndNote 9 - [com..., 5 Internet Expl..., and 2 Paint.

D.8. MP3 player purchase website 2

http://www.spacecentersystems.com - SpaceCenter Systems, Inc. - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites AutoFill Options

Google Search 5 blocked Check AutoLink AutoFill Options

MANUFACTURERS TRACKING INVOICE SHOPPING CART LOGIN

SPACE CENTER SYSTEMS

Western Digital We Got Your Back...up!

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SEARCH

Search for a product...

ADVANCED SEARCH

BAGS/CARRY CASES

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CABLES- AUDIO/VIDEO

CABLES- COMPUTER

CAMERAS

CASES & POWER SUPPLIES

COMPUTERS- DESKTOP

COMPUTERS- NOTEBOOKS

CONTROLLER CARDS

DRIVE ENCLOSURES

DRIVES- CD/CDRW/DVD

DRIVES- HARD/FLOPPY

HANDHELD/ PDAS

INPUT DEVICES

INPUT DEVICES- WIRELESS

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MONITORS

MOTHERBOARDS

MOUNTS & BRACKETS

MP3/MP4 PLAYERS

Warriors PS2 \$30.00

GoldenEye Rogue Agent PS2 \$20.00

15' USB 2.0 CABLE TYPE A B \$19.00

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PCI 10/100MBPS ADTPR W/WOL \$11.00

SWITCH 5-PORT 10/100MBPS DSKTP \$20.00

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HiSpeed USB CompactFlash Reacr \$18.00

250GB External HD USB 2.0/fire \$195.00

Hewlett Packard Q2683A Magenta \$148.00

SHOPPING CART 0 items

Western Digital

ROCKETDRIVES

INFRANT TECHNOLOGIES

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AMD intel

Antec AXIS

LINKSYS

Microsoft Seagate

CREATIVE

Kingston ATI

MasterCard VISA

AMEX

http://secure-scs.com/product_info.php/products_id/1068?SCSID=pbbmrbh4h3tcc0nqqp9ak514

start

Inbox - Microsoft... 2 Microsoft Off... EndNote 9 - [co... MP3 - Microsoft I... http://www.spac... 2 Paint

Internet

5:10 PM

D.9. MP3 player purchase website 3

The screenshot displays the Newegg.com website interface during an 8-hour sale. The browser window title is "http://www.newegg.com - Newegg.com - Buy Computer Parts, Laptop Computers, Digital Cameras, and - Microsoft Internet Exp...". The website header includes the Newegg logo, a search bar, and navigation links like "CUSTOMER SERVICE", "HELP & INFO", and "ABOUT US". A prominent banner reads "8 HOUR SALE! Shop all 4 pages >>>". Below this, a section titled "BUY NOW & PAY \$0 TILL DECEMBER 06" lists 48 total deals. The main content area is a grid of product listings, each featuring a product image, brand name, title, specifications, price, and an "ADD TO CART" button. The products include:

- Acer AL1916Ab Black 19" 8ms LCD Monitor - Retail**: Price \$239.99 (after \$60.00 Mail-In Rebate). Specifications: 1280x1024, 700:1, D-Sub. Avg Rating: 4.5/5 [59].
- COOLER MASTER Centurion 5 CAC-T05-UB Black /Blue Computer Case - Retail**: Price \$44.99 (Instant Savings: -\$5.00). Specifications: Aluminum Bezel, SECC Chassis, USB 2.0 x 2, IEEE 1394 (FireWire) x1. Avg Rating: 4.5/5 [140].
- Leadtek Geforce 6600 PX6600TD-256 Video Card - Retail**: Price \$69.99 (\$5.25 Three Day Shipping). Specifications: Geforce 6600, 256MB DDR, PCI Express x16. Avg Rating: 4.5/5 [17].
- Western Digital Caviar SE 320GB 3.5" IDE Ultra ATA100 Hard Drive - OEM**: Price \$105.99 (\$5.25 Three Day Shipping). Specifications: 320GB, 7200 RPM 8MB Cache, IDE Ultra ATA100. Avg Rating: 4.5/5 [199].
- pqi TURBO 2GB (2 x 1GB) 240-**: Price not fully visible.
- Intel Pentium 4 640 800MHz**: Price not fully visible.
- BIOSTAR TForce6100-939**: Price not fully visible.
- PowerColor POWERCOLOR Radeon**: Price not fully visible.

The right sidebar contains "PRODUCT REVIEWS" for various products, including a "No Payment for 6 Months" offer and "The New Age of High Speed DDR2 Begins...". The bottom of the browser window shows the Windows taskbar with the Start button, several open applications (Inbox, dissertation, Handdissertati..., EndNote 9, MP3 - Micro..., http://www..., MP3.jpeg - P...), and the system tray showing the time as 5:00 PM.

D.10. MP3 player purchase website 4

http://www.zipzoomfly.com - ZipZoomFly - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Refresh Print Mail Stop

Google Search 5 blocked Check AutoLink AutoFill Options

Thermaltake WD070RUC TR2 Series 430W Power Supply Retail ONLY \$24.99 (After Resale. Ends 5/27/06)

ZipZoomfly.com

RealMen Don't Use Recipes Real Men Appear

HOME SYSTEMS HARDWARE DIGITAL CAMERAS Mac

LOGIN SHOP BY BRAND WISH LIST ORDER STATUS SERVICE REBATE CENTER SPECIAL PROMOTION MY ACCOUNT

CATEGORIES SEARCH Entire site Brand (A-Z) GO VIEW CART

Systems

- ▶ Barebones
- ▶ Handhelds / PDAs
- ▶ Notebooks
- ▶ Server Boards
- ▶ Server
- ▶ Tablet PC

Hardware

- ▶ CD ROMs/CDRWs
- ▶ CPUs
- ▶ Cables
- ▶ Cases
- ▶ Cellular Phones **New**
- ▶ Controller Cards
- ▶ Digital Camera
- ▶ DVD Drives
- ▶ FDD / ZIP
- ▶ Fans / Accessories
- ▶ Flash Memory
- ▶ GPS
- ▶ Hard Drives
- ▶ MP3 / DVD Player
- ▶ Media
- ▶ Memory
- ▶ Mice / Keyboards
- ▶ Monitors
- ▶ Motherboards
- ▶ Networking
- ▶ Power Sources
- ▶ Printers
- ▶ Projectors
- ▶ Scanners
- ▶ Sound Devices
- ▶ Video Cards

Software

- ▶ Games
- ▶ Games: PC
- ▶ Graphics
- ▶ Music/Video/DVD
- ▶ Office
- ▶ Operating System
- ▶ Utilities

Top Seller!

\$50 Rebate

OCZ OCZP4002GK 2GB Kit DDR400 PC3200 Platinum XTC Edition Dual Channel Memory Retail ***Free Shipping***
MFG SKU: OCZP4002GK
Our Price: \$191.99

Top Seller!

\$50 Rebate

Kingston KVR400X64C3V1 G 1GB DDR400 PC3200 Memory Retail ***Free Shipping***
MFG SKU: KVR400X64C3V1 G
Our Price: \$81.99

Top Seller!

\$50 Rebate

Samsung 214T-Black SyncMaster 21in Digital LCD Monitor (Black) Retail ***Free Shipping***
MFG SKU: 214T-BLACK
Our Price: \$649.99

Top Seller!

\$50 Rebate

Asus A8N32-SLI Deluxe nForce4 SLI Athlon 64 (FX)/Athlon 64 X2/Sempron SM939 DDR ATX Motherboard w/Audio, Dual Gigabit LAN, RAID/Serial ATA Retail ***Free Shipping***
MFG SKU: A8N32-SLI DELUXE
Our Price: \$184.99

Top Seller!

\$50 Rebate

Viewsonic V924 19in LCD Monitor Retail ***Free Shipping***
MFG SKU: V924
Our Price: \$269.95

Best Sellers

- Logitech Cordless Desktop MX 5000 Laser Retail ***Free Shipping***
- Seagate Barracuda 7200.9 ST3500641AS 500GB Serial ATA

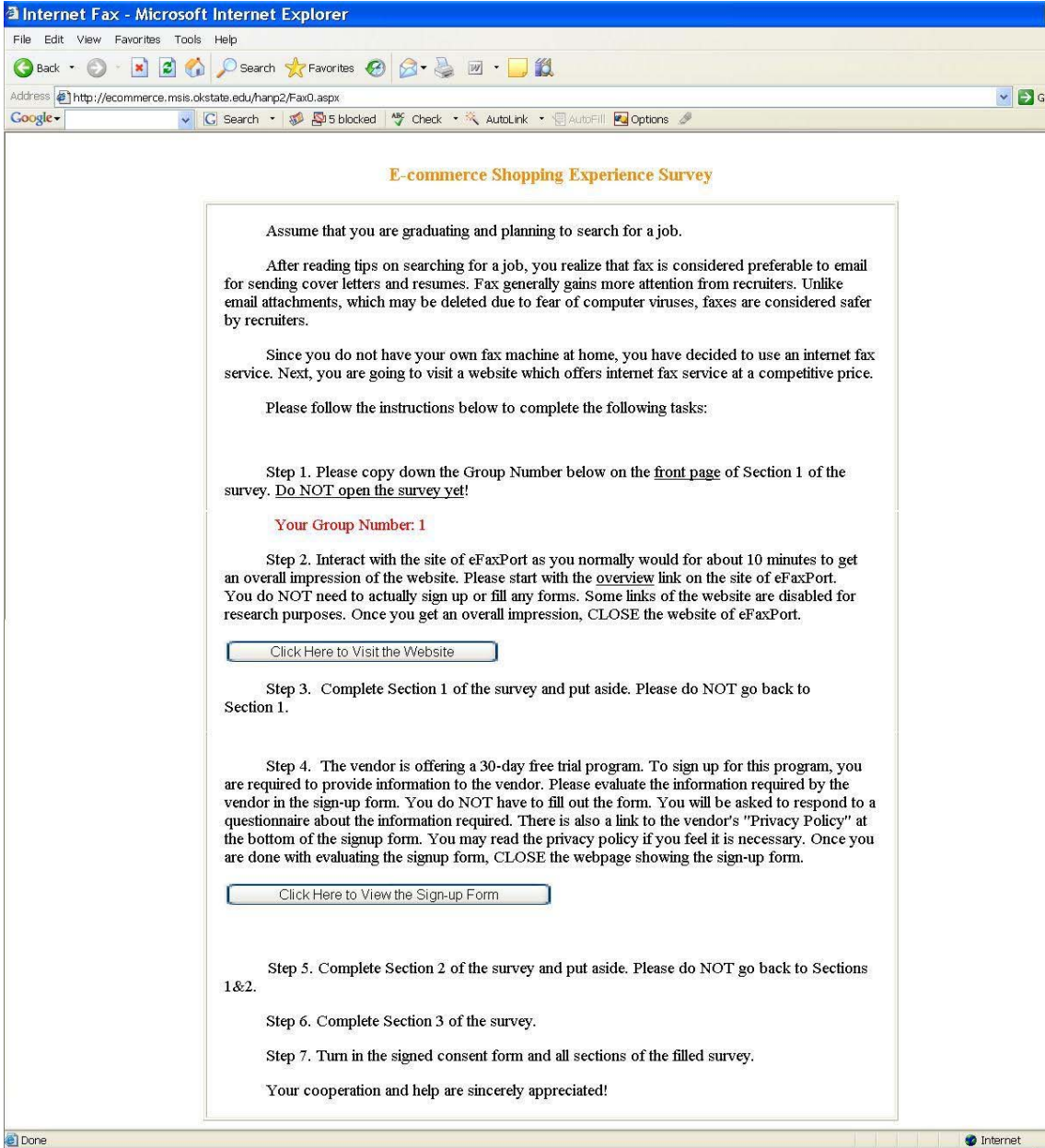
Sony DW-Q120A Internal Double Layer eVGA e-GeForce 7900 GT KO PCI Express Linksys WRT54G Wireless-G Broadband

Opening page http://www.zipzoomfly.com/jsp/home.jsp...

start InBox - Microsoft... 2 Microsoft Offi... EndNote 9 - [co... MP3 - Microsoft I... http://www.zip2... 2 Paint 5:12 PM

ESSAY-2

D.11. Task page for evaluating electronic fax service.



E-commerce Shopping Experience Survey

Assume that you are graduating and planning to search for a job.

After reading tips on searching for a job, you realize that fax is considered preferable to email for sending cover letters and resumes. Fax generally gains more attention from recruiters. Unlike email attachments, which may be deleted due to fear of computer viruses, faxes are considered safer by recruiters.

Since you do not have your own fax machine at home, you have decided to use an internet fax service. Next, you are going to visit a website which offers internet fax service at a competitive price.

Please follow the instructions below to complete the following tasks:

Step 1. Please copy down the Group Number below on the front page of Section 1 of the survey. Do NOT open the survey yet!

Your Group Number: 1

Step 2. Interact with the site of eFaxPort as you normally would for about 10 minutes to get an overall impression of the website. Please start with the overview link on the site of eFaxPort. You do NOT need to actually sign up or fill any forms. Some links of the website are disabled for research purposes. Once you get an overall impression, **CLOSE** the website of eFaxPort.

[Click Here to Visit the Website](#)

Step 3. Complete Section 1 of the survey and put aside. Please do NOT go back to Section 1.

Step 4. The vendor is offering a 30-day free trial program. To sign up for this program, you are required to provide information to the vendor. Please evaluate the information required by the vendor in the sign-up form. You do NOT have to fill out the form. You will be asked to respond to a questionnaire about the information required. There is also a link to the vendor's "Privacy Policy" at the bottom of the sign-up form. You may read the privacy policy if you feel it is necessary. Once you are done with evaluating the sign-up form, **CLOSE** the webpage showing the sign-up form.

[Click Here to View the Sign-up Form](#)

Step 5. Complete Section 2 of the survey and put aside. Please do NOT go back to Sections 1&2.

Step 6. Complete Section 3 of the survey.

Step 7. Turn in the signed consent form and all sections of the filled survey.

Your cooperation and help are sincerely appreciated!

D.12. Homepage for the survey website

http://ecommerce.msis.okstate.edu - index - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites 5 blocked Check Autolink AutoFill Options

eFaxPort! Fax Simplified. Anytime. Anywhere

[About](#) | [Contact](#) | [Login](#)

Send and receive faxes through your email.

30-D FREE TRIAL!

SIGN UP NOW!

Simple: Internetfax. Easy as email.

Reliable: Always online. Never busy or out of paper.

Inexpensive: \$10/m includes 100 sent & 200 received pages.

Mobile: Fax by email from work, home, and on the road.

\$10 / month. No Hidden Fees.

Learn More

Personal & Small Business Faxing
Fax by email. \$10/month for a single fax number.
[Overview](#) | [Sign Up](#)

Corporate Faxing
For large, high-volume Internet fax deployments.
[Overview](#) | [Sign Up](#)

30 Day Free Trial

- Fully Functional.
- Personal non-local fax number.
- Send up to 10 pages and receive up to 50 pages.

[Sign Up Now](#)

Sign Up Now

- Just \$10 per month.
- No setup fees.*
- No hidden fees.
- Instant approval. Start faxing in minutes.

[Sign Up Now](#)

Faxing anywhere you can receive email.

[Privacy Policy](#) | [Terms and Conditions](#)

D.13. Overview page for the survey website

The screenshot shows a Microsoft Internet Explorer browser window displaying the eFaxPort website. The address bar shows the URL: <http://ecommerce.msis.okstate.edu> - eFaxPort Online Fax Service Overview - Send and Receive Fax - Microsoft Internet Explorer. The browser interface includes a menu bar (File, Edit, View, Favorites, Tools, Help), a toolbar with navigation buttons (Back, Forward, Home, Stop, Refresh, Search, Favorites, Print, Mail, Print Preview, Print), and a search bar.

The website content is as follows:

- Header:** eFaxPort! *as Simple as Email. Anywhere.*
- Navigation:** [About](#) | [Contact](#) | [Login](#)
- Breadcrumbs:** Home > Personal and Small Business Faxing > Overview
- Left Sidebar:**
 - Overview (selected)
 - Key Features
 - Pricing
 - Demo
 - FAQs

» Evaluating eFaxPort for your company? Go to our [Corporate Faxing](#) solution.

Sales Questions?
» 1-866-378-2373
» [Send an Email](#)

"I've just transferred over to eFaxPort from a traditional fax machine and it's been a pleasure."

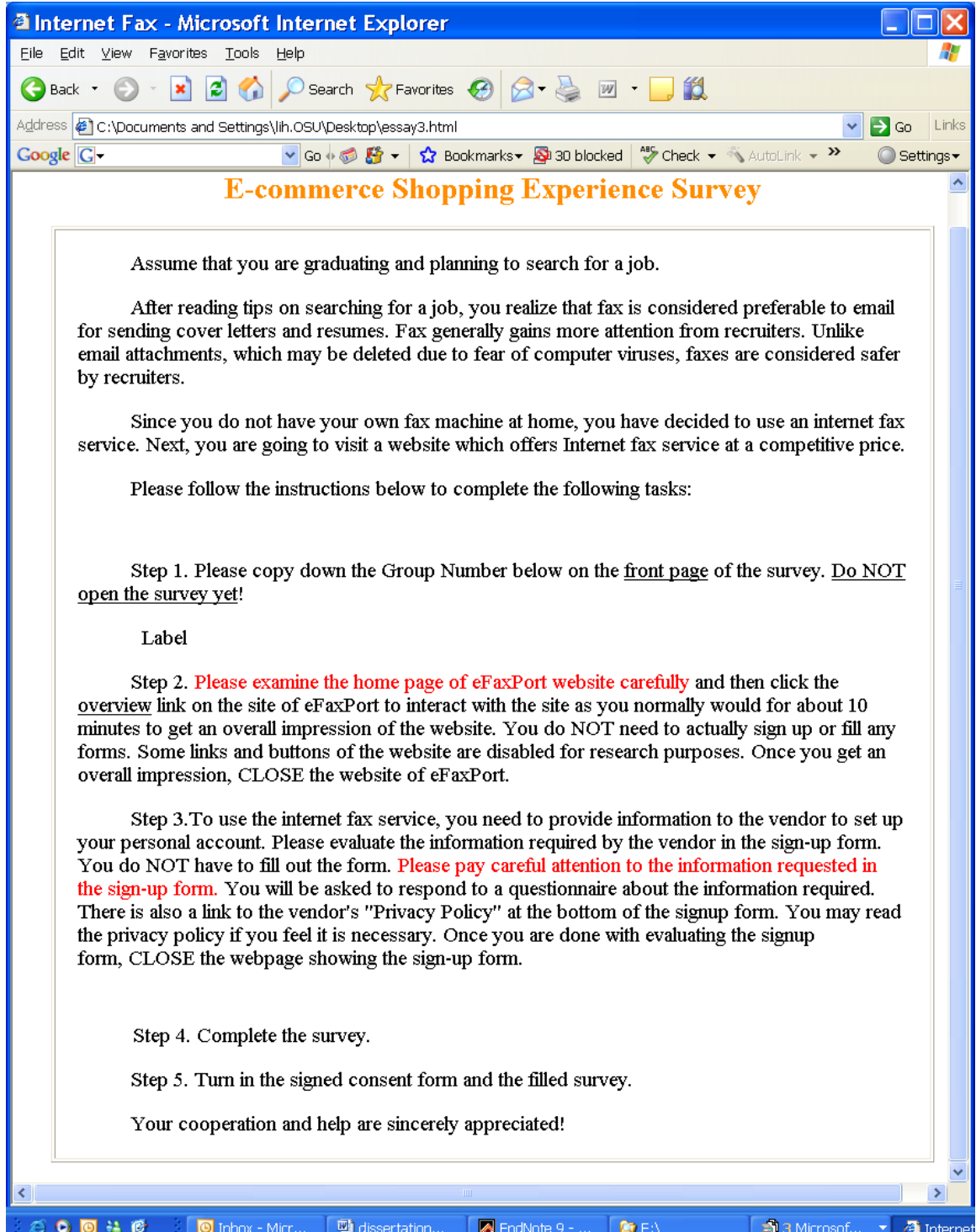
J. Goldstein, President
New Music Times, Inc.
- Main Content:**
 - eFaxPort Overview**

eFaxPort is an award-winning Internet fax service that lets you send and receive faxes using email, the web or handheld device.

 - » eFaxPort is just \$10 per month.
 - » eFaxPort requires no hardware or software, so anyone can get a fax number.
 - » eFaxPort is easy to setup and use, so you can get started quickly!
 - Image:** A screenshot of an email client showing a message titled "2005 Annual Report - Message (HTM)". The "To:" field contains "16132484792@efaxport.com". The "Subject:" is "2005 Annual Report". An attachment "Annual Report.doc (24 KB)" is visible.
 - Text:** eFaxPort - Easy as Email.
 - Online faxing is perfect for:**
 - Small Businesses
 - Home Offices
 - Mobile Workers
 - Job Hunters
 - Community Groups
 - Real Estate Agents
 - Consultants
 - eFaxPort Benefits**
 - » **Mobile:** Send and receive faxes anywhere you access your existing email account: from your home, office, client's office, hotel or airport.
 - » **Inexpensive:** For just \$10 per month, you will save hundreds on fax overhead: no fax machine, long-distance fax charges, and best of all, no second phone line required!
 - » **Professional:** With a toll-free eFaxPort Internet fax number (US and Canada), you can provide better service to your clients - they fax you for free, and it costs you nothing. eFaxPort gives your business a professional edge.
 - » **Private:** Faxes are sent from and received in your private email inbox - they no longer sit idly on the fax machine paper tray for others to see.

ESSAY-3

D.14. Task page for evaluating electronic fax service.



E-commerce Shopping Experience Survey

Assume that you are graduating and planning to search for a job.

After reading tips on searching for a job, you realize that fax is considered preferable to email for sending cover letters and resumes. Fax generally gains more attention from recruiters. Unlike email attachments, which may be deleted due to fear of computer viruses, faxes are considered safer by recruiters.

Since you do not have your own fax machine at home, you have decided to use an internet fax service. Next, you are going to visit a website which offers Internet fax service at a competitive price.

Please follow the instructions below to complete the following tasks:

Step 1. Please copy down the Group Number below on the front page of the survey. Do NOT open the survey yet!

Label

Step 2. Please examine the home page of eFaxPort website carefully and then click the overview link on the site of eFaxPort to interact with the site as you normally would for about 10 minutes to get an overall impression of the website. You do NOT need to actually sign up or fill any forms. Some links and buttons of the website are disabled for research purposes. Once you get an overall impression, CLOSE the website of eFaxPort.

Step 3. To use the internet fax service, you need to provide information to the vendor to set up your personal account. Please evaluate the information required by the vendor in the sign-up form. You do NOT have to fill out the form. Please pay careful attention to the information requested in the sign-up form. You will be asked to respond to a questionnaire about the information required. There is also a link to the vendor's "Privacy Policy" at the bottom of the signup form. You may read the privacy policy if you feel it is necessary. Once you are done with evaluating the signup form, CLOSE the webpage showing the sign-up form.

Step 4. Complete the survey.

Step 5. Turn in the signed consent form and the filled survey.

Your cooperation and help are sincerely appreciated!

D.15. Homepage for the survey website (no reward group)

index - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Translate

Google Go 70 blocked Translate Settings

efaxPort
Faxing Simplified, Anytime, Anywhere

>> ABOUT >> CONTACT >> LOGIN

> PERSONAL & SMALL BUSINESS FAXING > CORPORATE FAXING

\$10 / month. No Hidden Fees.

Send and receive faxes through your email.

- > **Simple:** Internetfax. Easy as email.
- > **Reliable:** Always online. Never busy or out of paper.
- > **Inexpensive:** \$10/m includes 100 sent & 200 received pages.
- > **Mobile:** Fax by email from work, home, and on the road.

Learn More

Personal & Small Business Faxing
Fax by email. \$10/month for a single fax number.
[Overview](#) | [Sign Up](#)

Corporate Faxing
For large, high-volume Internet fax deployments.
[Overview](#) | [Sign Up](#)

Take a Test Drive

Yes, I'd like to see what an Internet fax looks like.

Send me an Internet fax to this email address:

Go!

Sign Up Now

- > Just \$10 per month.
- > No setup fees.*
- > No hidden fees.
- > Instant approval. Start faxing in minutes.

Sign Up Now

Faxing anywhere you can receive email.

[Privacy Policy](#) | [Terms and Conditions](#)

Done My Computer

D.16. Homepage for the survey website (reward group)



D.17. Overview page for the survey website

The screenshot shows a Microsoft Internet Explorer browser window displaying the eFaxPort website. The browser's address bar shows the URL: <http://ecommerce.msis.okstate.edu/harp2/efaxport1/overview.asp-bt=p.htm>. The website header includes the eFaxPort logo with the tagline "Faxing Simplified, Anytime, Anywhere" and navigation links for "ABOUT", "CONTACT", and "LOGIN". Below the logo are two main categories: "PERSONAL & SMALL BUSINESS FAXING" and "CORPORATE FAXING".

The main content area is titled "eFaxPort Overview" and includes the following sections:

- Overview**: A sidebar menu with links to Key Features, Pricing, Demo, and FAQs.
- Key Features**: A list of features including "Evaluating eFaxPort for your company? Go to our Corporate Faxing solution."
- Sales Questions?**: A section with a photo of a woman and contact information: "1-866-378-2373" and "Send an Email".
- Testimonial**: A quote from J. Goldstein, President of New Music Times, Inc., stating: "I've just transferred over to eFaxPort from a traditional fax machine and it's been a pleasure."
- 2005 Annual Report - Message (HTML)**: A screenshot of an email interface showing a "Send" button, a recipient address "16132484792@efaxport.com", a subject "2005 Annual Report", and an attachment "Annual Report.doc (24 KB)".
- Online faxing is perfect for:** A list of target markets: Small Businesses, Home Offices, Mobile Workers, Job Hunters, Community Groups, Real Estate Agents, and Consultants.
- eFaxPort Benefits**: A list of benefits:
 - Mobile**: Send and receive faxes anywhere you access your existing email account: from your home, office, client's office, hotel or airport.
 - Inexpensive**: For just \$10 per month, you will save hundreds on fax overhead: no fax machine, long-distance fax charges, and best of all, no second phone line required!
 - Professional**: With a toll-free eFaxPort Internet fax number (US and Canada), you can provide better service to your clients - they fax you for free, and it costs you nothing. eFaxPort gives your business a professional edge.

The browser's status bar at the bottom shows "Done" and "Internet".

APPENDIX E

THE PRIVACY POLICY OF THE EXPERIMENTAL WEB SITE – ESSAY-2

Privacy Policy

eFaxPort values you and respect your privacy and is dedicated to establishing a trusting relationship with you. We collect information to support our relationship with you, improving our service offering and to communicate about services on our site. We promise to handle your personal information carefully and sensibly. We will not share your information with other third parties without your prior permission or prior notification. We believe that our privacy policy should give you confidence whenever you use eFaxPort.

What information does eFaxPort collect and why?

We collect information you provide when you register with us, place an order, send and receive a fax, or send us an email or call us.

Registration

In order to use eFaxPort services at any level, a user must first complete the registration form. During registration a user is required to give contact information (such as name and email address). We use this information to contact the user about services on our site for which the user has expressed interest.

Order

When a user orders a faxing service, we request information from the user on our order form. A user must provide contact information (such as name, email, and billing address) and financial information (such as credit card number, expiration date). This information is used for billing purposes and to fill customer's orders. If we have trouble processing an order, the information is used to contact the user.

Information Use

eFaxPort acts as a passive conduit for the distribution and receipt of its user's fax, voice and e-mail communications and therefore will not monitor, edit, or disclose the contents of a user's private communications unless eFaxPort in good faith believes that such action is necessary to: (1) conform to the edicts of the law or comply with legal process served on eFaxPort; (2) protect and defend the rights or property of eFaxPort; or (3) act under exigent circumstances to protect the personal safety of its users or the public. Users should also be aware (and hereby agree) that certain technical processing of and access to fax, voice and email messages and their content may be required to: (a) route the messages; (b) conform to connecting networks' technical requirements; (c) prevent or minimize disruptions to eFaxPort' services; or (d) conform to other similar requirements.

Subject to the legal exceptions listed in the Privacy Policy, eFaxPort will not disclose to third parties the fax numbers uploaded to our Web sites by our users for the purpose of using eFaxPort products or services.

Cookie

A cookie is a piece of data stored on the user's computer tied to information about the user. We use cookies to enhance your experience on our site. By setting a cookie on our site, users would not have to log in a password more than once, thereby saving time while on our site. If users reject the cookie, they may still use our site. The only drawback to this is that the user will be limited in some areas of our site.

s

Does eFaxPort share information it receives?

TeFaxPort will always contact you and ask for permission before releasing any of your personal data. We will never share your personal information with any third parties unless we have your permission or you have been notified. We may share aggregated demographic information with our partners. This is not linked to any personally identifiable information.

eFaxPort reserves the right to disclose your personal information when required by law wherein we have a good-faith belief that such action is necessary to comply with a current judicial proceeding, a court order or legal process served on our Web site.

We use an outside trustworthy credit card processing company to bill users for goods and services. The company does not retain share, store or use personally identifiable information for any secondary purposes.

How do I access and make changes to my personal information?

You can modify your personal information anytime. Simply log into your account and update any of your personal information.

How secure is the information that I provide to eFaxPort?

eFaxPort takes every precaution to protect its user's information. When users submit sensitive information via eFaxPort's Web sites, their information is protected both online and off-line.

When our registration/order forms ask users to enter sensitive information (such as credit card number), that information is encrypted and is protected with the best encryption software in the industry - SSL.

While we use SSL encryption to protect sensitive information online, we also employ security measures to protect user-information off-line. All of our users' information, not just the sensitive information mentioned above, is restricted in our offices. Only employees who need the information to perform a specific job (for example, our billing clerks or a customer service representative) are granted access to personally identifiable information. Finally, the servers that store personally identifiable information are in a secure environment.

How will I know when eFaxPort changes its privacy policy?

Our privacy is regularly reviewed to make sure we continue to serve the privacy interests of eFaxPort users. If our information practices change materially, we will post those changes in this privacy statement. We will use information in accordance with the privacy policy under which the information was collected.

If, however, we are going to use users' personally identifiable information in a manner different from that stated at the time of collection we will notify users via email. Users will have a choice as to whether or not we use their information in this different manner. However, if users have opted out of all communication with the site, or deleted/deactivated their account, then they will not be contacted, nor will their personal information be used in this new manner.

Contact Information

If you have any questions or suggestions regarding our privacy policy, please email support@efaxport.com or or call us Toll-Free 1 (866) 563-9212.

APPENDIX F

EXCERPT OF ANSWERS TO THE OPEN-ENDED SURVEY QUESTION – ESSAY 1

1	For some reason, I felt since the website didn't look professional enough, my private information would not be under protection enough.
2	It looked like a website some teenager would make. It didn't appear professional.
3	Top page design
4	Poorly designed, makes me wonder if a kid, or someone with a more malicious intent designed the website. Horrible and Unprofessional.
5	This website looked like the Best Buy website. I have dealt with best buy a lot over the internet and they do good business.
6	The tacky pink background and cheesy are would lead me to believe this wasn't the most well run website.
7	The overall appearance and layout was not very comforting, and did not feel secure in my opinion.
8	The color of the website makes the impression that this seller is not serious or risky
9	It did not look user-friendly.
10	I did not feel comfortable using this site. The website was not appealing.
11	The website was designed in very old styled formats and seems to appear out of date and unappealing to the end-user. The interface was horrible to navigate and unpleasing to the eyes.
12	The pictures seemed to be cheaply-made. Overall things just looked sketchy.
13	The dark background mixed with the neon colors felt intrusive and patronizing. Plus, any marketer who feels the need to underline and capitalize that much seems shady.
14	I simply fell in LOVE with the condo.
15	The website seemed credible, and it was very visually appealing and informational.
16	The site looked VERY boring!!!!
17	I was frustrated by the vendor's website because my menu bar was not visible. I felt "trapped" in the website.
18	1. Terrible font! I have good eyesight but not everyone else does. Clarity is key....especially for older users. Good layout on the homepage. However, "searching" for available condos is tedious and unclear. There are no instructions on how to search and clicking anywhere on the calendar to the left results with the page reloading with NO changes.
19	I found the reservation search extremely poor. I did not see a way to search by rates, so I would give up and go to another vendor.
20	The website was poorly built. Trying to do a search for the product returned no results. No manufacturers were listed.
21	The site seemed very shady. I had a hard to finding exactly what i was looking for.
22	Very friendly and easy to navigate.

VITA

Han Li

Candidate for the Degree of

Doctor of Philosophy

Thesis: ESSAYS ON PRIVACY PERCEPTIONS AND PRIVACY BEHAVIORS OF
ONLINE SHOPPERS

Major Field: Business Administration — Management Information Systems

Biographical:

Education: Received Bachelor of Engineering degree in Geology from Sinkiang Petroleum Institute, P. R. China 1993; received Master of Science in Geology at Oklahoma State University in 2000; received Master of Science degree in Telecommunications Management at Oklahoma State University in May, 2002; Completed the requirements of a Doctor of Philosophy, Oklahoma State University, Stillwater, OK in July 2007.

Experience: Research and Teaching Assistant, Management Science and Information Systems, William S. Spears School of Business, Oklahoma State University, August 2000 to present; Research and Teaching Assistant, School of Geology, Oklahoma State University, August 1997 to May 2001.

Professional Memberships: The Honor Society of Phi Kappa Phi, Decision Science Institute, Associate for Information Systems, INFORMS.

Name: Han Li

Date of Degree: July, 2007

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: ESSAYS ON PRIVACY PERCEPTIONS AND PRIVACY
BEHAVIORS OF ONLINE SHOPPERS

Pages in Study: 146

Candidate for the Degree of Doctor of Philosophy

Major Field: Business Administration

Scope and Method of Study: Information privacy in e-commerce is tied to concrete situations of information exchange. Current studies on information privacy in e-commerce primarily focus on the impact of privacy concern as a general personal trait, ignoring the potential influence of various situational factors such as emotions, Web site design, and information requested, among others. This dissertation investigates the impacts of such situation-specific factors on online shoppers' privacy perceptions and privacy behaviors when they are interacting with unfamiliar Web sites. These impacts are viewed through two different lenses; an affect-based lens and a cognition-based lens.

Findings and Conclusions: The results of this dissertation suggest that situational factors are more important than general privacy concern in shaping salient privacy beliefs and privacy decisions when consumers are immersed in interactions with Web sites. Specifically, we found that initial emotions formed based on overall Web site impression have a lasting coloring effect on later stage cognitive processing of information exchange. During information exchange, online shoppers conduct a cost-benefit tradeoff analysis. The information disclosure is found to be the result of competing influences of exchange benefits and two types of privacy beliefs (privacy protection belief and privacy risk belief). The attractiveness of the products or services, together with high privacy protection belief could override the influence of privacy risks and result in high behavioral intention to disclose personal information. Additionally, the cost-benefit tradeoff analysis is further adjusted by the exchange fairness. Fairness-based levers (relevance of information collected and privacy policy) could enhance privacy protection belief and reduce privacy risk belief. The effect of monetary awards is also dependent upon the exchange fairness (relevance of information collected), which could undermine information disclosure when information collected has low relevance to the purpose of the transaction. Future studies on information privacy may need to consider these situation-specific factors. Social contract theory provides a useful theoretical foundation to study information disclosure in the conventional e-commerce marketplace.

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