The influence of user affect in online information disclosure

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ABSTRACT

Personal consumer data is the fuel for information driven programs that may differentiate a firm from its competitors and create strategic advantages. However, a tension exists between the user's desire to protect personal information and the needs of online businesses for consumer data that drive customer relationship and business intelligence applications. This study explores the roles of positive and negative affect on users' trust and privacy beliefs that relate to the online disclosure of personal information. A model is tested using the responses of 301 Internet users who visited one of two commercial websites. The results indicate that positive affect has a significant effect on users' website trust and privacy beliefs that motivate online information disclosure and this effect is more pronounced for users with high Internet security concerns. The idea that positive mood-inducing website features can motivate user behavior has the potential to guide the development of websites for effective information disclosure and data collection.

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1. Introduction

Personal consumer information is a valuable organizational resource (White, 2004) that may create a strategic advantage when firm-specific capabilities (c.f., Mata et al., 1995) are used to leverage the consumer data in information driven programs (e.g., CRM and Business Intelligence) that provide superior decision-making (Dehning and Stratopoulos, 2003; Bhatt and Grover, 2005). However, the hesitation of users to disclose personal information in e-commerce activities continues to thwart the efforts of data managers tasked with capturing customer data. While 74% of respondents in a recent survey view the online disclosure of personal information as an increasing part of modern life, 70% are concerned that it may be used by companies for purposes other than that for which it was collected (Gartner Inc., 2011). A recent global study found that 90% of respondents (up from 79% in 2010) were concerned about the security of their personally identifiable information, with only 7% willing to trust online retailers with their personal data (KPMG, 2011). Despite privacy statements and independent party privacy seals on websites, the number of users unwilling to provide personal information to online companies remains high with only 13% willing to exchange personal information for website content (e-marketer, 2010). Online consumers understand that information about their online behavior is being collected without their knowledge or permission via online registration processes, caches, cookies and logs (Joinson and Paine, 2007) which may increase their concern about voluntarily disclosing additional information. Thus, a tension exists between the user's desire to protect personal data and the need of

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Internet retailers for consumer information that drives the customer relationship process to understand preferences, meet needs, customize products and services, and market new opportunities – activities that benefit both the user and the organization.

Information system researchers have examined the privacy issue in terms of the nature of users' privacy concerns including *who* is collecting and controlling private information and users' awareness of privacy practices (Malhotra et al., 2004; Xu et al., 2010), as well as *if* and *how* online retailers sell or exchange customers' personal information (e.g., Miyazaki and Fernandez, 2000). Some businesses have found that users are more apt to disclose personal information when they have a comprehensive privacy policy in place and a trustworthy reputation (Andrade et al., 2002). Risk–benefit considerations also underlie self-disclosure behavior. For example, some online retailers encourage Internet users to self-disclose by increasing perceived benefits such as access to a website's content, coupons, gifts or other rewards and other retailers manage users' perception of risk by emphasizing privacy policies and privacy symbols (Andrade et al., 2002; Xu et al., 2010). While users' online privacy perceptions are important for retailers to understand in order to create a secure atmosphere that supports transactions and long-term relationships, it is as important to understand how the online environment can be managed to encourage the disclosure of personal information.

The purpose of this paper is to explore the roles of positive and negative affect on users' trust and privacy beliefs and clarify how affect influences online disclosure. Emotion is an important factor in decision processes since it represents a mental state of readiness for action that precedes and supports behavior activation (Bagozzi et al., 1999). Specifically, the role of affect is examined within a trust-privacy nomological network based on the framework of McKnight et al. (1998) and Malhotra et al. (2004). The present study applies Cognitive Consistency Theory as the basis for examining the differential effect of positive and negative feelings on substantive beliefs. The main research questions include: What are the roles of positive and negative affect in an online information self-disclosure model? How does affect influence a user's website trust and website privacy beliefs?

The responses of 301 visitors to two commercial websites are used to test the research model. Findings indicate that positive affect has a significant effect on website trust and privacy beliefs that influence whether personal information is likely to be disclosed on an unfamiliar website. Interestingly, positive and negative affect are influential in the formation of trusting beliefs for the user less confident in the security of the Internet, but not for the more secure user. This study contributes to theory development concerning the privacy paradox or self-disclosure paradox (Norberg et al., 2007) which states that even users with a heightened security concern will reveal personal data under the right conditions. At a practical level, the present study adds to the ongoing research regarding the significance of affective motivators in e-commerce and within the Strategic Information Systems framework (Gable, 2010) demonstrates the use of IS to support a firm's competitive strategy. Strategic IS research is evolving from primarily an *internal* stakeholder and *internal* IT management perspective to encompass the social and relational capital of *external* participants in order to leverage IT for competitive purposes (Merali et al., 2012; Galliers et al., 2012). The present study falls within this expanding scope and in general shows that organizational capabilities may be used to manage the perceptions of online users and encourage user participation (i.e., personal data disclosure) in order to leverage organizational IT (e.g., CRM, BI) for competitive positioning.

2. Background

2.1. Personal information as a commodity

Personal information is a commodity that has been bought and sold for some time as American consumers generate a mountain of data, much of it personal. The collection and sale of data is now a $300 billion dollar a year industry (CNN.com, 2012). Consumer data companies such as ChoicePoint Inc., Acxiom and Spokeo collect and sell details about consumers' financial status, shopping and recreational activities to marketers, banks, retailers, automakers, landlords and other businesses. It is estimated that by 2005, ChoicePoint maintained more than 17 billion records on individuals and businesses (Epic.org, 2005) and in 2012 Acxiom had a database of 500 million people with 1500 data points per person (digitaltrends.com, 2012). Information brokering is said to be a vital service for institutions that provide credit, assess insurance risk, and for employers to complete background checks on prospective hires. The collection and storage of consumer information is a basic business activity and that activity coupled with advanced database technologies allows consumer information to be easily commoditized.

In the retail sector, personal consumer data is a vital business resource since it fuels information driven programs that transform the data into information and knowledge for management. Online businesses often trade website content for the user's personal information revealing the demand for and value of personal information. Personal information represents a prized resource for marketers since it is unknown and/or not easily obtained from external sources (White, 2004). Information-driven customer relationships allow marketers to update consumer preferences and enhance offerings that result in customization, more cost-effective targeting and advertising, and greater customer retention (Deighton, 1996). Personal information may also take the form of online actions or behaviors. The act of clicking through webpages, loading and/or dumping shopping carts and engaging communication interfaces are actions that may be recorded and saved in a company's data systems for analysis. Business intelligence software helps retailers make sense of all their data by analyzing the trends

and patterns of consumers' behavior. "Personal information has become a basic commodity and users' online actions are no longer simply actions but rather, data that can be owned and used by others" (Joinson and Paine, 2007, p. 20).

Personal consumer information may also be considered a resource in a strategy that seeks to differentiate a firm from its competitors. The resource-based view describes the firm as a bundle of resources (Penrose, 1959) that include assets, capabilities, processes and knowledge (Barney, 1991) which may be used for competitive advantage. As a commodity, personal information, per se, may not differentiate the firm from its competitors; however, the *capability* of the firm to acquire, analyze and utilize personal information may create a firm-level advantage (c.f., Mata et al., 1995). The dynamic capabilities approach describes firm-specific capabilities as combinations of organizational, functional and technological skills that are difficult to imitate and become a source of advantage (Teece et al., 1997) because they are firm-specific, non-transferable and organizationally embedded (Dehning and Stratopoulos, 2003; Bhatt and Grover, 2005). Hence, the capability to acquire greater depth and/or breadth of personal information and leverage it in CRM and Business Intelligence systems for more effective decision-making would be a valuable and inimitable competency.

2.2. The disclosure of personal information

While some types of data (e.g., clickstream) may be collected without customer awareness or permission, personal data that drives customized advertising and marketing, for example, is more difficult to attain as it requires consumer participation. Participation involves intentional self-disclosure which refers to the breadth and depth of personal information that one individual willingly provides to another (Jourard, 1971). Online self-disclosure can take numerous forms including the sharing of demographic-type information and/or psychographic information such as that collected on web surveys of customer attitudes and preferences. Self-disclosure may also occur during an authentication activity in which a website user must register and provide demographic and/or personal information (e.g., email address, employer name) to gain access to website content. Authentication for online purchasing may involve submitting debit or credit card information or direct banking data such as routing and account numbers. In online communities, self-disclosure refers to what users voluntarily reveal about themselves to others in the community (Clay et al., 2010).

However, Internet users may be more or less reluctant to disclose certain types of information online. For example, online shoppers understand that shipping and billing addresses are necessary disclosures to complete a purchase and receive the merchandise, but may hesitate to provide survey information about past purchases to the same website if they regard it as too private, too personal or too risky to reveal. Similarly, providing a valid e-mail address in exchange for website content may prove too risky for the user wanting to avoid a mailbox full of spam, prompting the user to surf elsewhere for content. Yet online businesses need consumer data to develop customer relationships and drive sales management programs but users are leery of the unwanted consequences that may follow information disclosure.

Researchers have segmented the undesired consequences of disclosure into two categories: the loss of privacy and the loss of face (i.e., embarrassment) (Hoffman and Novak, 1997; Dahl et al., 2001; White, 2004). Social scientists describe embarrassment as driven by the concern for what others are thinking about us (Miller and Leary, 1992), and in the retail context may occur if a purchase communicates undesired information about the purchaser (Edelmann, 1987). On the other hand, the loss of privacy is conceptualized as concerns over *who* has my personal information and *what* is going to be done with my personal information (Phelps et al., 2000). To the extent that users believe they have control over the *who* and *what*, loss of privacy is presumed to be minimized.

Furthermore, the request by a website for certain 'types' of personal information is likely to affect users' privacy and risk perceptions differently. While gender information may seem an innocuous revelation to a website, disclosing a cell phone number is likely to initiate more scrutiny and concern. Information sensitivity is discussed in the IS literature as contributing to the level of uncertainty or risk that accompanies information disclosure (Angst and Agarwal, 2009). Information relevance has also been shown to significantly influence privacy beliefs. When the information requested is perceived as irrelevant to the purpose of the exchange, users express greater privacy risk and less privacy protection (Li et al., 2011). Users associate definite costs with the disclosure of personal information and those costs may vary depending on the type of information requested.

Marketing researchers have coined the term "privacy paradox" to describe the consumer who is reluctant to provide personal information yet succumbs to organizational requests for personal data (Norberg et al., 2007). This topic is discussed extensively in prior consumer research (c.f. Sayre and Horne, 2000; Phelps et al., 2000; Han and Maclaurin, 2002). The phenomenon has been explained in terms of rational decision making processes and spontaneity (Strack et al., 2006), as well as habit (Yap et al., 2009) which is defined as consumers' automatic responses that occur without conscious thought (Verplanken and Aarts, 1999). It has been posited that consumers tend to under-discount long-term risk and loss in privacy-sensitive situations (Acquisti and Grossklags, 2004) especially when an information request produces arousal and emotions (Yap et al., 2009), such as "I might win a car," or when the behavior results in immediate gratification (O'Donoghue and Rabin, 2000).

Psychology research suggests that affect influences judgments and behaviors and when activated during the evaluation of an event (e.g., website visit) will have a long-lasting effect on decision making and behavior (Han et al., 2007; Lerner and Keltner, 2000). Recent IS research indicates that the effect of emotions in the appraisal period of new IT carries over to influence subsequent user attitudes, beliefs and behavior (Beaudry and Pinsonneault, 2010) and these emotions are based on users' beliefs about how they will be personally affected by the new IT. Similarly, the online users' appraisal of an unfamiliar website is expected to generate affect that is likely to influence his judgments, beliefs and willingness to disclose personal information to that website.

2.3. Cognitive consistency theory

Balance Theory was one of the first cognitive consistency theories developed and describes how individuals develop relationships with individuals or things in their environment (Heider, 1946, 1958). In general, Balance Theory asserts that when cognitive elements are viewed as being part of a 'system' or part of a whole, then individuals prefer to maintain a balanced state among those elements. All subsequent consistency theories including behavioral theories such as the Theory of Reasoned Action (TRA; Ajzen and Fishbein, 1980) were built around the relationships among one's thoughts or ideas. The basic premise is that individuals prefer agreement, or consistency, among their beliefs, attitudes and actions and behave in ways that maximize the internal consistency of their cognitive system. It is expected, then, that a user with heightened Internet privacy concern would also maintain a high level of concern about website privacy since it is an element of the 'system.'

Congruity Theory is a cognitive consistency theory which asserts that individuals strive to maintain consistency among their cognitions and tend to change cognitions in order to avoid incongruity (Osgood and Tannenbaum, 1955). This theory was developed to answer some of the shortcomings of Balance Theory and is oriented specifically for communication and persuasion contexts. In short, Congruity Theory contends that inconsistent attitudes are unstable. Similar to imbalance, a difference in one's attitude toward a message source and the object of the message (i.e., cognitive incongruity) is unpleasant as individuals prefer balance. In the context of e-commerce it is expected that users visiting an unfamiliar website will maintain website trust and privacy beliefs that are consistent with their Internet security beliefs. However, website cues such as friendliness, helpfulness and enjoyment are often effective in changing users' attitudes toward a website because they may influence how users feel (Wakefield et al., 2011). This suggests that altering the affective state of the user during the website encounter may produce an imbalance in which the user's Internet beliefs are no longer consistent with his website beliefs. At this point attitude change is likely and, according to TRA, the user's related actions or behaviors would be consistent with that attitude change. The result, then, is a user who may be more amenable to disclosing personal information despite having grave concerns about Internet security in general (Norberg et al., 2007). This is a plausible explanation for why some users with greater levels of Internet concern will nonetheless disclose personal information on unfamiliar websites. TRA also indicates *where* and *how* to target behavioral change attempts (Sheppard et al., 1988), such as at the point of salient user beliefs. The implication is that users' beliefs may be managed and in the context of website trust and privacy presents the opportunity for e-retailers to influence online beliefs and behaviors.

3. Research model

The research model in Fig. 1 depicts the direct relationships between Internet security, and two specific variables, website trust and website privacy. Website trust and website privacy, as well as positive and negative affect, are then modeled as direct antecedents of intentions to disclose personal information to an unfamiliar consumer website.

3.1. Hypotheses

3.1.1. Internet security and website trust and privacy

Internet security reflects the user's beliefs about his online security and is the general disposition of the user toward his safety and protection when transacting online. These security perceptions may rise from a belief that the Internet has both legal and technical structures, such as encryption, that provide a safe environment for online transactions to occur (McKnight
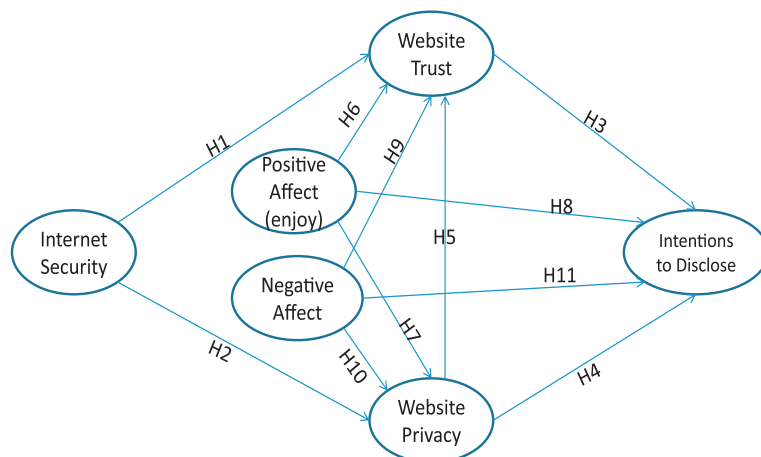

Fig. 1. Research model.

et al., 2002b). Online structural assurances increase the perception of security because the user believes these safeguards are adequate protection from harm when engaged in e-commerce. When the user feels comfortable, protected and safe transacting online, he may be relying on Internet structural assurances to provide adequate security.

In contrast, website trust and website privacy beliefs are targeted perceptions about specific elements of the Internet. Website trust beliefs are defined as user perceptions about how a website keeps the best interests of the user in mind and honors its promises and commitments to the user (Jarvenpaa et al., 2000). Trust is a confidence that one won't be taken advantage of (Mayer et al., 1995) and website trust is confirmed when the user believes the information conveyed by a website (Jarvenpaa et al., 2000).

Cognitive consistency theory posits that cognitive beliefs will stay consistent with related beliefs. That is, if a user believes that the Internet environment is sufficiently safe, those beliefs are likely to remain consistent with related beliefs about components of the Internet. Hence, the user is likely to be more trusting of an unfamiliar website if the user believes that the Internet is secure for transactions. In contrast, if the user believes he is generally unsafe and unprotected with transacting online, his perception of trust toward an unfamiliar website is likely to remain congruent with his distrust for the Internet. The influence of general perceptions on salient beliefs is also supported by the Theory of Reasoned Action (TRA, Fishbein and Ajzen, 1975). Thus, it is expected that the user's overall sense of Internet security will directly influence his trusting beliefs about an unfamiliar website, leading to the following:

H1. Internet Security beliefs will be positively related to Website Trust beliefs for an unfamiliar website.

Website privacy concerns exist whenever personally identifiable information related to an individual are collected and stored in a digital format because individuals are often unaware of how their information will be used or distributed once digitized (Hoffman et al., 1999). Website privacy includes aspects of user awareness about *what* personal user information is collected, *how* it is collected, and *who* has control over that information (Malhotra et al., 2004). Compared to others, some users may have a heightened concern about the *what, when, how* and *why* of information collection and distribution such that the issue of keeping one's privacy intact becomes elevated or even essential in order for the user to share information online. Numerous situations may account for this greater sensitivity including past experiences with online companies, an influx of spam following information disclosure, publicized accounts of personal information exposure, or the experiences of others whose personal data has been used in unauthorized ways.

Based on Cognitive Consistency Theory, website privacy beliefs associated with an unfamiliar website should be congruent with users' privacy beliefs about the Internet. Users believing that personal information disclosed on the Internet is unsecured and out of the control of the user are likely to hold that belief when considering how their privacy is maintained by an unfamiliar website. It has been shown that users' general concerns about online information influence their beliefs (Malhotra et al., 2004). This leads to the following:

H2. Internet Security beliefs will be positively related to Website Privacy beliefs for an unfamiliar website.

3.1.2. Website trust, website privacy and intentions to disclose personal information

Online trust has been studied extensively in the IS literature (e.g., Hoffman et al., 1999; McKnight et al., 2002a; Shankar et al., 2002; Belanger et al., 2002; Pavlou and Gefen, 2004; Malhotra et al., 2004; Belanger and Carter, 2008; Sun, 2010). Online trust refers to the degree to which Internet users believe a company will protect the user's personal information (Gefen et al., 2003) or is honest, truthful and working in the best interest of the user regarding the safety of personal information (Malhotra et al., 2004). Website trust is similar and reflects the user's belief that the website will keep its promises and commitments, and cares for the interests of the website user (Jarvenpaa et al., 2000). Prior studies have shown the positive relationship between trusting belief and behavioral intentions online. For example, in online communities it was found that trust in the community directly influenced a member's self-disclosure in community forums whereas perceptions of risk negatively affected disclosure (Posey et al., 2010). Online shoppers with a positive perception of a website vendor's reputation are said to have a greater trust in that vendor and indicate greater intentions to share personal information with that vendor (McKnight et al., 2002b). It is reasonable that a user would be more apt to disclose personal information on a website believed to be trustworthy.

Similarly, when online privacy concerns are abated the user is more likely to purchase from the website (Tsai et al., 2011) and provide personal information in order to complete an online transaction (Dinev and Hart, 2006; Slyke et al., 2006; Dinev et al., 2008). If the user believes he is in control of the personal information he discloses and is confident that he knows *what* information is collected and how it might be dispersed, the user is more likely to disclose personal information. Based on TRA, it is reasonable that a user who believes that his personal information is adequately secured and maintained by a website would be more likely to divulge that information. The above discussion leads to the following hypotheses:

H3. Website Trust beliefs will be positively related to Intentions to Disclose Personal Information to an unfamiliar website.

H4. Website Privacy beliefs will be positively related to Intentions to Disclose Personal Information to an unfamiliar website.

The relationship between trust and information privacy has been described with mixed directionality in the literature (Smith et al., 2011; Pavlou, 2011) supporting the supposition that context matters when examining the relationship. Additionally, across the literature the constructs trust and privacy are not consistently defined. For example, trust and privacy have been described and measured as a "marketer's trustworthiness" (Belanger et al., 2002), "Internet" trust and "Internet" privacy risk (Dinev and Hart, 2006), and as a "general" privacy concern that models a user's *tendency to be concerned* about information privacy (Li et al., 2011). The present study measures privacy and trust specific to the website being viewed. In this context, website privacy is an antecedent of website trust since greater perceptions of privacy would reduce uncertainty and risk in an online transaction (Shankar et al., 2002) and should positively influence trusting beliefs. Research has shown that privacy is an influential determinant of trust for websites in which risk is high (Bart et al., 2005). It is expected that in the perusal of an unfamiliar website, users would first gain knowledge of information privacy via website indicators (privacy seals, statements etc.) and form beliefs about website privacy which would then influence the user's trusting perceptions leading to the following hypothesis:

H5. Website Privacy beliefs will be positively related to Website Trust beliefs.

3.2. Affect and website trust and website privacy

3.2.1. Positive affect: website enjoyment

Enjoyment was first described in the Motivational Model of Davis et al. (1992) as an intrinsic motivator of intentions to use technology. It was originally defined as the extent to which using a computer was enjoyable in its own right, without performance considerations. As an intrinsic motivator, enjoyment refers to the positive internal benefits derived from technology use and was identified as a motivator of intentions to use computers at work (Davis et al., 1992; Igbaria et al., 1996). Technology interactions perceived as 'enjoyable' or 'fun' create an expectation of an internal psychological reward that is sufficient to motivate sustained or extensive technology use.

The role of enjoyment in IS research has expanded to examine how game-based training interventions influence workplace technology usage intentions (Venkatesh, 1999), and the effect of enjoyment on Internet use (Atkinson and Kydd, 1997; Moon and Kim, 2001) and Internet shopping (Jarvenpaa and Todd, 1996; Koufaris et al., 2001; Van der Heijden, 2004). These prior studies concluded that enjoyment was a catalyst of greater intentions to use workplace technology, the Internet and websites. Enjoyment was also found to be a significant predictor of sellers' intentions to return to and sell things in an online marketplace (Sun, 2010), demonstrating the direct relationship between enjoyment and behavior. Research also shows that positive and negative affect (enjoyment and anxiety) are directly related to online trust (Hwang and Kim, 2007). Other research indicates that cognitive-oriented evaluations (ease of use and usefulness) mediate the influence of affect on behavior intentions to use IT (Zhang and Li, 2005) and user attitude mediates the effect of positive and negative affect on usage intentions (Djamasbi et al., 2009).

In the present study, website enjoyment is defined consistent with social psychology research as an independent conscious experience within the primary affective state termed 'pleasantness' (Harlow and Stagner, 1933). Enjoyment is characterized as positive affect or emotion and as an intangible benefit that may be experienced by a website user (Van der Heijden, 2004; Koufaris et al., 2001). A state of enjoyment during website use may be derived from experiencing positive, happy feelings that could result from some aspect of the website such as ease of navigation, game playing, ease of communication, multimedia, or information/product discovery (e.g., Atkinson and Kydd, 1997; Moon and Kim, 2001; Jarvenpaa and Todd, 1996; Koufaris et al., 2001; Van der Heijden, 2004).

The social psychology literature maintains that emotions influence decisions and that there is a complex interplay between emotions, cognition and decisions (Schwarz, 2000) such that individuals in a positive mood tend to overestimate the likelihood of positive outcomes or events and underestimate the probability of negative outcomes (Johnson and Tversky, 1983). This suggests that when one is in a positive frame of mind the tendency is to give the benefit of the doubt to the target. Thus, it is plausible that perceptions of risk are alleviated when a user is enjoying an unfamiliar website because the user would be positively disposed toward the website. It is also likely that greater trust for the website would arise when the user is in a positive affective state. It is expected, then, that the enjoyment of an unfamiliar website would positively influence both website trust and privacy beliefs. Furthermore, according to TRA, enjoyment would also have a direct effect on behavior such that when the user has a positive attitude toward a website the disclosure of personal information may be more forthcoming. The above discussion leads to the following hypotheses:

H6. Website Enjoyment will be positively related to Website Trust beliefs for an unfamiliar website.

H7. Website Enjoyment will be positively related to Website Privacy beliefs for an unfamiliar website.

H8. Website Enjoyment will be positively related to Intentions to Disclose Personal Information to an unfamiliar website.

3.2.2. Negative affect

Negative affect is an attitude characterized by nervousness, stress, and fearfulness that a user might experience when contemplating a transaction with an unfamiliar website (e.g., Li et al., 2011). It is likely that negative feelings arise when the user is in doubt or unsure about the outcome of a transaction with an unknown quantity and it would be reasonable for the user to have greater concern and trepidation. Will this website fulfill its commitment? How will this website protect my personal information? Emotions are characterized as relatively automatic, involuntary and rapid responses used to manage relationships (Lutz and White, 1986; Johnson-Laird and Oatley, 1992). A user with misgivings about a website is likely to exhibit lower trust and privacy beliefs as well as a lower inclination to disclose personal information to that website. IS research demonstrates a negative relationship between negative affect (fear) and users' privacy protection beliefs (Li et al., 2011). Thus, if the possibility of transacting with an unfamiliar website results in distress or fearfulness the user is likely to regard the website negatively, maintain concern for his information privacy and believe the website is less trustworthy. Researchers posit that individuals use affective responses toward a target as a basis for judgment since emotions can profoundly influence cognitive processes (Schwarz, 2000; Schwarz and Clore, 1996; Forgas, 1995), resulting in the following hypotheses:

H9. Negative Affect will be negatively related to Website Trust beliefs for an unfamiliar website.

H10. Negative Affect will be negatively related to Website Privacy beliefs for an unfamiliar website.

H11. Negative Affect will be negatively related to Intentions to Disclose Personal Information to an unfamiliar website.

3.2.3. Control variables

Additional factors related to respondent differences may influence website users' intentions to disclose personal information. To control for these unknown effects, the variables age, income, education and gender were entered into the model as antecedents of disclosure intentions. Two additional controls were also included in the model: (1) the extent of fearfulness about using the Internet to purchase the assigned product (1–7 likert scale; not at all fearful to very fearful; mean = 1.82, sd = 1.36), and (2) how frequently users believe their privacy is compromised by websites (1–7 likert scale; very infrequently to very frequently; mean = 4.44, sd = 1.48).

4. Method

4.1. Research design

A cross-sectional design was used since the main objective of the study was to examine the role of affective variables in an online trust-privacy framework and generalize the results to the larger population of Internet users. Partial Least Squares (PLS) was the analysis tool since it is considered the least restrictive of the multivariate methods when dealing with a large number of predictors in complex models.

4.2. Sample

An online marketing research firm was used to randomly distribute the survey questionnaire among adults in their national panel of several million. The potential respondents were screened prior to receiving the survey to ensure that each was responsible for making major household purchases. Those not responsible for major purchases were excluded from participation. Each qualified respondent was randomly assigned to view either an appliance website (www.appliance.com) or a pool table website (www.pooltableusa.com). These websites were selected in order to represent both a functional product and a hedonic product in order to determine if differences exist in the model according to the type of website viewed. The respondents were instructed to assume they had the money available to purchase a refrigerator or a pool table (according to website assignment) and to explore the website and examine available products before returning to complete the online survey. A total of 301 respondents completed the survey with 151 visiting the appliance website and 150 visiting the pool table website. The respondents were also queried as to prior visits to the assigned website. Nine respondents had previously visited www.appliance.com and four had visited www.pooltablesusa.com in the past.

Most respondents were female (77%) compared to male (22%), and 63% were over 35 years of age. More than 80% of the respondents indicated an education level above high school, including 56% with a college level education and 24% at the graduate level. Household incomes were below $50,000 for 45% of respondents, with 50% above $50,000 and the remaining 5% declining to answer. Overall, the respondents were predominantly female, over 35 years of age, and well-educated.

4.3. Measures

The measurement items were adapted from previously validated scales and are shown in Appendix A along with their descriptive statistics. The Internet security items were adopted from McKnight et al. (2002b) and indicate an overall

confidence that appropriate structural assurances are in place (i.e., encryption, legal structures) that allow the user to feel safe and protected while on the Internet. Website trust measures were from Jarvenpaa et al. (2000) because they specifically relate to trust in a web retailer and were easily adapted to measure website trust. Website privacy measures were adapted from Malhotra et al. (2004) and include the concerns of awareness, control and collection of personal information. Intentions to disclose personal information to the website were measured using the seven-point semantic scales of MacKenzie and Spreng (1992). Enjoyment was measured using semantic differentials anchored by enjoyable, exciting and pleasant (Igbaria et al., 1995) and the negative affect items were derived from the scales of Mano and Oliver (1993) used to measure negative affectivity in the consumption experience.

5. Data analysis

5.1. Measurement model

Prior to combining the data from the two websites and examining the measurement model, the variable responses were tested for the equivalence of means. There was no significant difference in means across the two websites for any of the model's variables except positive affect. The respondents who viewed www.pooltable.com had significantly higher positive affect than those viewing the appliance website (mean = 5.56, sd = 1.18; mean = 5.21, sd = 1.46 respectively). It may be that the hedonic nature of the pool table purchase compared to the appliance purchase contributed to the higher mean enjoyment. Since no significant differences in means were detected for the dependent variables website trust, website privacy and disclosure intentions, the data were combined for model testing. The research model was analyzed using SmartPLS 2.0 (Ringle et al., 2005) which simultaneously assesses the psychometric properties of the measurement items while estimating the causal paths of the structural model. The bootstrapping procedure using 500 re-samples of the original 301 case dataset was applied to achieve a stable set of standard error estimates.

The reliability and validity of the scales and measurement items were evaluated. The reliability of the scales is indicated by the composite reliability (CR) values and Cronbach's alpha in Table 1 and all values are above the acceptable 0.7 threshold (Nunnally, 1978). The CR values ranged from .95 to .98 and Cronbach's ranged from .92 to .97. The Average Variance Extracted (AVE) is a common measure of convergent validity and all AVE values in Table 1 are above the recommended minimum of 0.50 (Fornell and Larcker, 1981) indicating that at least 50% of measurement variance was captured by the latent construct (Chin, 1998).

Discriminant validity is supported in Table 1 where the square root of the AVE of each latent construct (on the diagonal) is greater than the inter-construct correlations in the related columns and rows. The table of loadings and cross-loadings (Table 2) also shows each item loading highest on its assigned latent construct with all loadings above the 0.7 recommendation (Nunnally, 1978). There was one high cross-loading, WebPriv1 on WebTrust (.701), but all other cross-loading differences were greater than 0.25. Exploratory Factor Analysis (EFA) was conducted to further evaluate the indicators. Six factors were extracted from the data with all indicators loading highest with their related items (Appendix B), except for WebPriv1 that loaded lower (.495) with its own indicators and higher with Factor 2 (.497). As a result, WebPriv1 was eliminated. All related indicators loaded together at 0.705 or greater, except for WebPriv2 with a .604 loading. WebPriv2 was retained as it met the recommended 0.5 minimum for practical significance (Hair et al., 1998). Each item also demonstrated sufficient convergent validity as indicated by the high t-values associated with each items' loading on its related factor in the outer model (see Appendix A). The variance inflation factor (VIF) tested for the existence of excessive multicollinearity among the latent constructs. All VIF measures were below the 5.0 recommended minimum (Kline, 1998) and the highest VIF value was 2.21.

5.2. Structural model

The results of the model estimation are shown in Fig. 2. There was no support for the influence of Internet security beliefs on website trust (H1; β = .007, n.s.) while Internet security had a significant positive relationship with website privacy (H2; β = .363, p < .001). Both website trust beliefs and website privacy beliefs were significantly related to intentions to dis-

Table 1
Construct correlations, consistency and reliability.

Construct	CR	A	AVE	Internet security	Website trust	Website privacy	Website enjoy	Negative affect	Intent to disclose
Internet security	.95	.93	.83	**.91**					
Website trust	.96	.95	.86	.38	**.93**				
Website privacy	.95	.92	.82	.47	.67	**.88**			
Positive affect	.95	.92	.86	.38	.52	.44	**.93**		
Negative affect	.96	.94	.85	−.35	−.38	−.28	−.54	**.92**	
Intentions to disclose	.98	.97	.91	.43	.53	.54	.47	−.37	**.95**

Bold numbers on the diagonal are the square root of the AVE.

Table 2
Loadings and cross-loadings.

	Internet security	Website trust	Website privacy	Negative affect	Website enjoy	Intentions to disclose
Isec1	**0.921**	0.331	0.458	−0.326	0.339	0.412
Isec2	**0.885**	0.329	0.484	−0.280	0.329	0.360
Isec3	**0.942**	0.371	0.430	−0.350	0.355	0.382
Isec4	**0.901**	0.371	0.423	−0.333	0.346	0.429
WebTrust1	0.319	**0.903**	0.650	−0.357	0.499	0.482
WebTrust2	0.310	**0.922**	0.604	−0.320	0.438	0.450
WebTrust3	0.384	**0.942**	0.681	−0.371	0.497	0.507
WebTrust4	0.404	**0.946**	0.699	−0.364	0.489	0.533
WebPriv2	0.326	0.567	**0.816**	−0.211	0.359	0.384
WebPriv3	0.451	0.598	**0.925**	−0.269	0.402	0.453
WebPriv4	0.422	0.577	**0.934**	−0.257	0.399	0.479
WebPriv5	0.498	0.669	**0.936**	−0.283	0.425	0.539
Neg1	−0.311	−0.337	−0.275	**0.923**	−0.514	−0.334
Neg2	−0.350	−0.351	−0.291	**0.938**	−0.482	−0.324
Neg3	−0.315	−0.377	−0.277	**0.921**	−0.566	−0.368
Neg4	−0.327	−0.341	−0.262	**0.910**	−0.447	−0.338
Enjoy1	0.359	0.516	0.450	−0.537	**0.947**	0.462
Enjoy2	0.342	0.451	0.422	−0.449	**0.905**	0.425
Enjoy3	0.345	0.477	0.420	−0.516	**0.936**	0.433
Disclose1	0.402	0.482	0.481	−0.351	0.469	**0.963**
Disclose2	0.412	0.495	0.492	−0.342	0.468	**0.970**
Disclose3	0.397	0.524	0.519	−0.338	0.442	**0.945**
Disclose4	0.449	0.534	0.553	−0.382	0.434	**0.946**

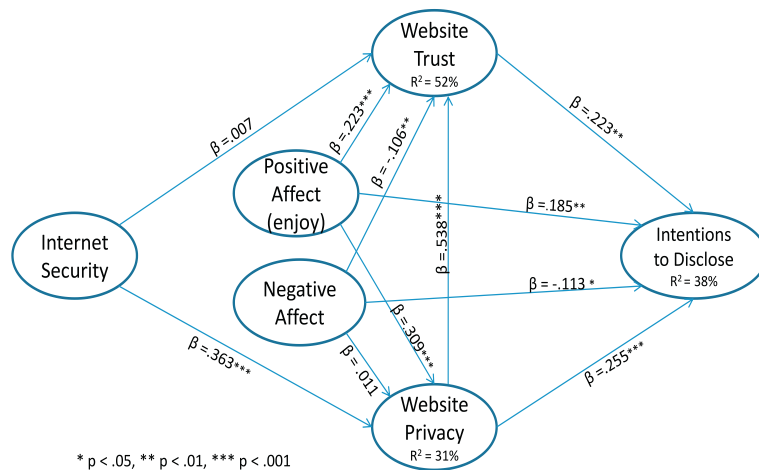* p < .05, ** p < .01, *** p < .001

Fig. 2. PLS model.

close personal information supporting H3 (β = .223, $p < .01$) and H4 (β = .255, $p < .001$). As expected, website privacy was strongly related to website trust (H5; β = .538, $p < .001$). Positive affect (enjoyment) had a significant positive relationships with website trust (H6; β = .223, $p < .001$), website privacy (H7; β = .309, $p < .001$) and intentions to disclose personal information (H8; β = .185, $p < .01$). Negative affect showed a significant negative relationship with website trust (H9; β = −.106, $p < .01$) and intentions to disclose personal information (H11; β = −.113, $p < .05$). However, there was not a significant link between negative affect and website privacy (H10; β = .011, n.s.).

The model explained 38% of the variance in respondents' intentions to reveal personal information to the websites they perused. Internet security, website privacy, positive affect and negative affect explained 52% of the variance in website trust beliefs. Thirty-one percent of the variance in website privacy beliefs was explained by Internet security beliefs and positive affect. The control variables (i.e., age, income, education, gender, fear, compromised privacy) showed no significant influence on the respondents' intentions to disclose information to the websites presented. This indicates that disclosure intentions are better explained by the independent variables in the research model than by differences among the respondents.

5.3. Ad-hoc analysis

The non-significant finding for H1 (Internet Security → Website Trust) was unexpected and further analysis was conducted. When the link between website privacy and website trust was eliminated from the model, a significant positive

Table 3
Model estimations for high and low internet security.

Relationship	High security (⩾5.0) $n = 163$	Low security (<5.0) $n = 138$
Positive Affect → Website Trust	$\beta = .071$; n.s.	$\beta = .384$; $p < .001$
Positive Affect → Disclosure Intent	$\beta = .256$; $p < .01$	$\beta = .057$; n.s.
Positive Affect → Website Privacy	$\beta = .315$; $p < .001$	$\beta = .312$; $p < .001$
Website Trust → Disclosure Intent	$\beta = .223$; $p < .01$	$\beta = .302$; $p < .01$
Negative Affect → Website Trust	$\beta = -.074$; n.s.	$\beta = -.153$; $p < .01$
Negative Affect → Disclosure Intent	$\beta = -.053$; n.s.	$\beta = -.110$; n.s.
Negative Affect → Website Privacy	$\beta = .042$; n.s.	$\beta = -.007$; n.s.
Website Privacy → Disclosure Intent	$\beta = .143$; n.s.	$\beta = .278$; $p < .001$
Disclosure intentions – R^2	27.1%	34%

relationship was found between Internet security and website trust ($\beta = .203$, $p < .001$). The approach of Baron and Kenny (1986) was used for mediation testing and resulted in the following relationships: (1) a significant relationship exists between Internet security and website trust ($\beta = .203$, $p < .001$), (2) a significant relationship exists between website privacy and website trust ($\beta = .536$, $p < .001$), and (3) when the link between Internet security and website privacy is added, the previous relationship between Internet security and website trust becomes non-significant ($\beta = .007$, n.s.). The Sobel test statistic was significant (5.106, $p < .001$) indicating significant mediation. Website privacy fully mediates the influence of Internet security on website trust, rather than via a direct relationship. This analysis shows that Internet security is a significant antecedent of website trust and it has no significant effect on website trust over the effect mediated by website privacy. The indirect effect of Internet security on website trust is .195 with a total effect of .201. The Internet safeguards associated with e-commerce influence trusting beliefs through the privacy protections specifically attributable to the website. This also supports the directionality of the website privacy to website trust relationship in H5.

Additional analysis was performed by separating the respondents into two groups based on Internet security beliefs. The objective was to determine *if* and *how* affect influenced respondents' website beliefs and intentions based on high versus low perceptions of Internet security. The Internet security items were summed and the mean used to group the respondents into a High Security group (⩾5.0, $n = 163$) and a Low Security group (<5.0, $n = 138$). The High Security group represents respondents with stronger beliefs in the structural and technical safeguards provided by the Internet that make it a safe environment for e-commerce. The research model was then estimated for each group and the results are in Table 3. In both groups, positive affect is a significant antecedent of website privacy (High: $\beta = .315$; $p < .001$, Low: $\beta = .312$; $p < .001$). However, in the High Security group, positive affect is significantly related to disclosure intent ($\beta = .256$; $p < .01$) but not to website trust, while in the low security group positive affect is related to website trust ($\beta = .384$; $p < .01$) and not disclosure intent. Furthermore, in the low security group negative affect is an antecedent of website trust ($\beta = -.153$; $p < .01$) and website privacy is important for information disclosure ($\beta = .278$; $p < .001$).

6. Discussion

This research contributes to both practice and theory in the examination of how affective variables are related to online information disclosure. The study captures the respondents' cognitive and affective beliefs upon exposure to an unfamiliar commercial website in order to clarify *how* the exchange of personal information might typically occur. In contrast to Internet intention models that predict intentions *to use* a website, a model in which self-disclosure intentions is measured may be more informative of user behavior if the latent factors are more salient. For example, *revealing* information on a website compared to *using* a website would represent a stronger stimulus that is expected to require a more intensive evaluation of the antecedents (e.g., trust, privacy, enjoyment) since using a website does not necessarily entail purposeful self-disclosure. This study of the motivators of online disclosure advances the role of affect in the formation of beliefs surrounding technology use (c.f., Davis et al., 1992).

6.1. Theoretical contributions

Some of the theoretical underpinnings for the development of 'online trust' revolve around both institution-based trust and cognition-based trust concepts (Meyerson et al., 1996). Institution-based trust posits that one will form trusting beliefs based on guarantees and safety nets in the environment such as regulations or legal recourse (Shapiro, 1987). However, without prior knowledge of the other party, trust in the online environment may be based on the general disposition of the party to trust or other trust cues (McKnight et al., 1998). Trust may be gained by cognitive cues or first impressions (Meyerson et al., 1996) that lead the user to develop a confidence (or trust) in the target. In the present study, feelings (i.e., positive and negative affect) may act as cues which influence the user's beliefs and behaviors. Without prior knowledge of or familiarity with a commercial website, the user has limited information on which to base an action, such as transacting with the website. Psychology researchers suggest that affective responses toward a target are often used in decisions and these responses have a strong influence on one's cognitive processes (Schwarz, 2000; Schwarz and Clore, 1996; Forgas, 1995).

Thus, with limited information the behavior of the user is likely to be motivated by feelings. If the user 'feels good' about what he has experienced he may be more inclined to leave his contact information when prompted or complete a transaction compared to a user who has doubts or 'bad feelings' about a website. Since emotions, cognition and decisions are complex and intertwined (Schwarz, 2000), the influence of feelings on users' beliefs and intentions in the online environment is an important direction to further the development of a theory for online trust.

The research model demonstrates that positive and negative affect have a significant effect on users' trust beliefs and positive affect influences users' privacy beliefs. The magnitude of the affective influences shows that positive affect has a greater effect on both website trust (β = .223) and privacy (β = .309) compared to the effect of negative affect (β = −.106 and β = .011, respectively). Positive affect also has a larger direct effect (β = .185) on disclosure intentions compared to negative affect (β = −.113). Additionally, the total effect of positive affect on disclosure intentions (β = .313) is substantively greater than that of negative affect (β = −.139). These results have interesting practical implications that will be discussed below. Theoretically, our study suggests that an information disclosure model should include user affect because behavior is not void of the influence of feelings on cognitive processes.

The application of Social Exchange Theory (SET) to the information disclosure model might be an interesting direction for this research stream. SET (Blau, 1964) posits that relationships result from subjective cost-benefit considerations and the comparison of alternatives. SET has been used to explain the exchange of information products between employees in the organization (Jarvenpaa and Staples, 2001), explain why individuals contribute to electronic networks of practice (Wasko and Faraj, 2005) and to identify cost and benefit factors that influence the use of electronic knowledge repositories by knowledge contributors (Kankanhalli et al., 2005) and the use of online communities (Posey et al., 2010). Similarly, SET underlies users' participation in online customer forums suggesting that pro-social behavior and expectation of rewards shape customer contributions to the forum (Nambisan and Baron, 2010). Interorganizational outsourcing partnerships are described as relationships formed from social learning experiences based on interactions or social exchanges over time that lead to IS outsourcing success (Lee and Young-Gul, 1999). The research above also emphasizes the prominence of trust in SET since social exchange does not generally involve explicit contractual agreements between parties and rewards or benefits are not guaranteed.

SET includes the reciprocity concept that in the online context implies that a website which provides value to the user creates an obligation for which the user feels compelled to discharge. Even in the absence of social acquaintance, researchers found that users continued to contribute in peer-to-peer sharing networks because of benefits they received as well as the perceived value of their contributions to the network (Mu et al., 2012). In the current study it is plausible that website enjoyment (or positive affect) could be perceived as a gain or benefit that obligates the user to reciprocate. Thus, a user may be more inclined to acquiesce to the information requests of a website if a perceived benefit (i.e., enjoyment) has been derived from the site. The norm of reciprocity obliges the return of favorable or positive treatment (Gouldner, 1960) and the benefits exchanged may include tangible assets or intangibles such as information or socioemotional resources (e.g., Altman and Taylor, 1973; Batson, 1993). Hence, a positive affective state within the context of social exchange and reciprocity may further explain incongruity between user's trust and privacy beliefs and online self-disclosure behavior. For example, nearly 72% of respondents under age 35 believe that social networking websites are a form of entertainment (Edelmandigital.com, 2010), and the vast number of social media users implies a willingness to trade personal information (e.g., name, e-mail) for access to those sites. Researchers also found that when the online experience is entertaining, Internet users are more willing to share even very personal information (Berendt et al., 2005). Understanding *how* and *when* disclosure results from a positive mind-frame or out of a sense of obligation would be an important contribution to online disclosure models.

The anecdotes and research discussed above also lend credence to the notion that reciprocity may help explain the privacy paradox in some contexts. For example, when an online exchange is entertaining and appropriate benefits are offered for information then privacy concerns are often dismissed (Berendt et al., 2005). Additional research is needed to understand whether entertainment (or enjoyment) alone is regarded as a benefit that creates an obligation, or whether positive affect produces a spontaneous behavior resulting from immediate gratification in which decisions occur without a lot of reflection (O'Donoghue and Rabin, 2000; Strack et al., 2006).

6.2. Practical implications

Two actual commercial websites were used to gather website perception data from the respondents. The significant influence of positive affect on website trusting beliefs (β = .223, p < .001) and privacy beliefs (β = .309, p < .001) along with a relatively large total effect on disclosure intentions (β = .350) shows that privacy concerns were abated and trusting perceptions increased when the user had an enjoyable initial contact with an unknown website. A website designed to generate positive user feelings may be a powerful means to gain both the user's trust and personal information. It is reasonable that factors which reduce the user's privacy concern and increase user's website trust would enhance the user's confidence in dealings with that site. The respondents in this study evaluated unfamiliar websites, yet the results indicate that their trust and privacy perceptions are malleable. Online businesses should take note that generating positive affect could jump-start relationships with users.

Prior research has shown that some e-commerce users do not behave congruently with their privacy preferences and under the right circumstances will divulge personal information (Berendt et al., 2005). Berendt et al. (2005) submit that when the shopping context is such that the user anticipates benefits from self-disclosure, then privacy concerns have little impact

on behavior. In the online shopping context, when a user peruses an unfamiliar website the user may not anticipate gaining anything from the website. It is possible that a website which moves the user into a more positive state creates cognitive incongruity between the user's overall Internet security concerns and his trust and privacy beliefs about the website. Thus, a user that initially doubts the veracity of an e-retailer may be put at ease by an enjoyable, pleasant website encounter that was unanticipated. This unexpected, mood altering experience may convince the user that the website does have his best interests at heart, thus positively influencing the user's website trust and privacy beliefs. The user, then, is likely to be more inclined to disclose personal information on the website when prompted.

The privacy paradox suggests that user beliefs are changeable and e-retailers should avail themselves of the means to positively influence the user. We suspect that the affective response to the website at the time of decision is the basis for judgment, which supports the immediacy effect of emotion on online decisions since emotions can profoundly impact cognitive processes (Clore et al., 1994; Forgas, 1995), positive feelings lead one to evaluate a target more positively (Bower, 1981; Isen et al., 1978) and a positive affective state may signal a benign environment (Schwarz, 2000). The implications for managing user affect on commercial websites and gathering data for customer relationship purposes are numerous.

Furthermore, negative affect shows relatively less influence on website trust beliefs ($\beta = -.106$; $p < .01$) compared to the influence of positive affect on trust beliefs ($\beta = .223$; $p < .001$). This suggests that e-retailers might profit more by focusing web design and communication efforts on making the user feel 'good' rather than on managing user insecurities and fears. It would be advantageous for e-retailers with new websites to test features that stimulate positive feelings in visitors to their sites.

In the Low security group, the respondents use both positive and negative affect in the formation of website trust beliefs whereas this is not the case for the more secure respondents. Feelings play an important role in trust formation for less secure website users that represent about 46% of the sample in our study. Whether this proportion of users is less secure in the online population is unknown, yet the study implies that a significant number of users may respond positively and engage in disclosure behavior with websites perceived as more enjoyable. Interestingly, secure users are more apt to directly disclose information without the need to be 'guided' to that outcome through the website trust and privacy assurances needed by less secure users. Less secure users may be more prone to influence by a website's positive influences or cues as suggested by the significant effect of positive affect on website trust beliefs ($\beta = .384$, $p < .001$).

Additionally, for the less secure user, positive affect is not directly related to information disclosure intentions ($\beta = .057$; n.s.) but is fully mediated by website trust in its influence on information disclosure. When website trust is removed from the model, the direct relationship between positive affect and disclosure intentions is significant ($\beta = .174$; $p < .05$). Website trust helps explain how positive affect has an influential effect on disclosure intentions for users with doubts about the security of the Internet. For the less secure user, trust is the controlling mechanism through which the user's personal information may be obtained and moving the user to a state of positive affect is a means to achieve that end.

The psychology literature summarizes the most common methods for inducing positive affect in neutral affect participants of experimental research (c.f., Ashby et al., 1999). Positive affect refers to a mild increase in positive feelings brought about by common place events. Effective approaches include giving the participant a small unanticipated gift under $1 in value, showing the participant a comedic film, having him read funny cartoons, or allowing him to experience success at some small task. The simplicity of these methods implies that relatively small things are effective in readily prompting positive affect. The source of the affect in our respondents was not identified; however, future experimental research might find it profitable to manipulate positive affect in degree and source to determine its differential influence on website privacy, trust beliefs and disclosure intentions. Nonetheless, the psychology literature suggests that positive affect can be easily and effectively propagated. This coupled with the significant influence of positive affect on self-disclosure should motivate the online retailer to incorporate effective affect-inducing methods and stimuli on their websites and in their relationships with users.

There is little in IS research that relates website design specifically to users' emotional responses although research suggests that mood-relevant cues, such as visual appeal, may alter the user's enjoyment when browsing a website (Parboteeah et al., 2009) and website aesthetics was considered related to an overall enjoyable experience (Tarasewich, 2003). Cyber banking interfaces composed of lower wavelength or cooler colors were perceived as more trustworthy (Kim and Moon, 1998) and visitors to an online textbook website associated the predominately blue website with greater trust compared to the green website (Lee and Rao, 2010). However, apart from user trust it is unknown whether website design also influences user affect. Advertising in the traditional context has shown how consumer mood may be altered using cues such as pictures and music to influence the purchase decision (e.g., Bagozzi and Moore, 2002); however, further research is needed to understand if such cues operate similarly in the online environment in the information disclosure decision.

It is critical for those involved in e-commerce to understand the importance of managing user trust and privacy beliefs related to websites because these factors impact the ability to gather customer data. Data fuels the engine of customer relationship management programs and make it possible to implement applications that benefit the online consumer as well as e-commerce. Research that examines different types of positive affect (e.g., love, delight, gratification) and/or the effectiveness of various channels (e.g., audio, visual, text) for delivering positive affect would further the understanding of online information disclosure. Furthermore, companies that develop the capabilities to more effectively gather and analyze consumer data will create a competitive advantage.

7. Limitations and future research

There are several limitations to this study that should be noted. First, the context of the study is the 'first-time' website visitor, therefore the extent to which the model holds for repeat visitors and loyal customers of a website is unknown. Evaluating the model over time with established customers would be an informative extension of the study to determine the influence of positive affect. Nevertheless, the present model offers insight into the decision processes of first-time website visitors which is applicable to any website. The websites used in the study were limited to pool tables and appliances, and while these sites were intentionally selected to represent products of higher value in order to engage the user at a deeper level, it is unknown how the model results would differ with websites offering other types of goods and services. Given the complex nature of online privacy and trust, this study builds upon the use of positive affect in online contexts and extends the literature on information disclosure intentions which is critical for e-retailers seeking to promote product lines and services.

Another limitation is that actual user behavior was not studied. The IS literature has customarily relied on intentions as a predictor of actual behavior, but future researchers could measure actual disclosure behavior by website users to validate the posited relationships as well as delve further into the privacy paradox. It has been noted that consumers with greater concerns about sharing personal information with online companies may be more likely to read a website's online privacy notice (Milne and Culnan, 2004). Our study did not measure or account for how such website elements may influence users' disclosure intentions. Further research is necessary to determine how such factors may influence positive affect, website trust and information disclosure.

The potential for common method bias to contribute as a statistical artifact is a possibility since the data are self-reported and the independent and dependent variables were collected simultaneously. This may result in detecting significant relationships among the variables that originate from systematic bias among the respondents. One remedy was included in the questionnaire design which did not group each construct's items together, but dispersed them randomly throughout the questionnaire. Additionally, Harman's single-factor test was also applied as a diagnostic indicator to test whether a single factor accounts for a majority of the covariance among the measures (Podsakoff et al., 2003). The results of exploratory factor analysis show 6 factors extracted accounting for 81% of the variance with the first factor accounting for 40%. This suggests that common method variance is limited since multiple factors emerged and no single factor accounts for a majority of the covariance. An additional test was performed in which a common method factor that included all the principal constructs' indicators was included in the PLS model following Podsakoff et al. (2003). Each indicator's variance that was explained by the principal construct and the common method factor was determined as shown in Appendix C (Liang et al., 2007). The results show that the average percentage of indicator variance explained by the substantive constructs is .864 compared to .003 average indicator variance attributed to the method. On the basis of the small magnitude and insignificance of most of the common method factor loadings, it is likely that common method bias is not a serious concern. However, the possibility of common method bias cannot be overlooked when generalizing or replicating the results and future studies should incorporate additional remedies.

Future researchers might find it profitable to examine the 'types' of information that users are willing to disclose to a website following a positive encounter with the site. For example, users may be less willing to reveal identifiable demographic or location-based information but more willing to indicate their thoughts and preferences according to the level of positive affect generated in the user. Experiments that manipulate the extent or depth of information disclosure as well as the level of 'entertainment' or positive affect would clarify the effort websites should take to design and implement positive user experiences.

Finally, while multiple websites were used to increase the generalizability of the findings other methods should be used to extend this research stream. For example, the concept of positive and negative affect can be extended experimentally by using different methods (e.g., text, audio, video) of mood-induction across the same website. The observed effects on website trust and disclosure behavior would serve to guide businesses in web development and data collection. The identification of other important factors influencing the dependent variables would also provide valuable insight.

8. Conclusion

Positive user feelings toward a website result in user responses that are advantageous to the e-retailer and e-commerce. While this may seem intuitive, the idea that websites should be actively involved in creating positive mood-inducing features to counter users' Internet security concerns is a unique approach to data collection efforts. Researchers have called for studies that consider the salient beliefs and contextual differences at specific levels in order to understand the complexities that surround the privacy phenomenon (Malhotra et al., 2004). This study contributes to that endeavor by enlarging the understanding of *how* positive and negative user feelings influence factors (i.e., trust, privacy) that are significant in online intentions models. The role of affect in IS research has progressed from traditional TRA (Fishbein and Ajzen, 1975) models that explain usage intentions for game-based training interventions (Venkatesh, 1999), Internet use (Atkinson and Kydd, 1997; Moon and Kim, 2001; Van der Heijden, 2004) and Internet shopping (Jarvenpaa and Todd, 1996; Koufaris et al., 2001) to now include online information disclosure. IS researchers are encouraged to continue the study of information disclosure to further unravel the complexities related to cognitive and affective beliefs in e-commerce.

Appendix A. Constructs, items and descriptive statistics

Construct	Source/items	Mean	SD	Outer model T-value loading	
Internet security	McKnight et al. (2002b)				
ISec1	The Internet has enough safeguards to make me feel comfortable using it to make purchases	4.92	1.41	76.6	.921
ISec2	I feel assured that legal and technological structures adequately protect me from problems on the Internet	4.52	1.49	61.9	.884
ISec3	I feel confident that encryption and other technological advances on the Internet make it safe for me to make purchases	4.90	1.40	93.1	.943
ISec4	In general, the Internet is a safe environment in which to make purchases	4.98	1.38	62.1	.902
Website Trust	Jarvenpaa et al. (2000)				
WebTrust1	This website appears to be one that would keep promises and commitments	5.17	1.26	71.8	.903
WebTrust2	I believe the information given to me by this website	5.37	1.20	90.4	.922
WebTrust3	I would trust this website to keep my best interests in mind	5.07	1.29	118.9	.941
WebTrust4	This website is trustworthy	5.03	1.23	144.7	.946
Website Privacy	Malhotra et al. (2004)				
WebPriv1	This website protects my privacy	4.94	1.21 Dropped		
WebPriv2	I am aware of the nature of the information that will be collected during a transaction with this website	5.00	1.53	28.2	.816
WebPriv3	I believe I have control over how my information will be used by this website	4.47	1.57	78.3	.925
WebPriv4	I am confident that I know all the parties that would collect information if I transact with this website	4.34	1.65	92.8	.935
WebPriv5	I believe this website will keep my personal information private	4.66	1.52	125.5	.936
Negative Affect	Mano and Oliver (1993) Please indicate your feelings toward using this website:				
Neg1	Not at all distressed… very distressed	2.05	1.42	70.1	.923
Neg2	Not at all nervous… very nervous	2.15	1.46	81.6	.938
Neg3	Not at all upset… very upset	1.83	1.25	55.9	.921
Neg4	Not at all fearful… very fearful	2.08	1.45	60.7	.910
Positive Affect	Igbaria et al. (1995) I think I would find using this website…				
Enjoy1	Disgusting… Enjoyable	5.58	1.37	112.9	.947
Enjoy2	Dull… Exciting	5.05	1.49	61.9	.905
Enjoy3	Unpleasant… Pleasant	5.54	1.47	85.8	.936
Intent to Disclose	MacKenzie and Spreng (1992) Please specify the extent to which you would reveal personal information to this website				
Disclose1	Unlikely… Likely	4.37	1.62	147.7	.963
Disclose2	Not probable… Probable	4.35	1.58	179.7	.970
Disclose3	Impossible… Possible	4.59	1.53	107.5	.945
Disclose4	Unwilling… Willing	4.35	1.58	85.5	.945

Appendix B. Exploratory factor analysis

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Enjoy1	.188	.241	−.311	.161	.141	**.795**
Enjoy2	.203	.182	−.248	.188	.138	**.705**
Enjoy3	.184	.204	−.291	.142	.141	**.802**
WebTrust1	.202	**.723**	−.164	.307	.091	.221
WebTrust2	.178	**.828**	−.131	.224	.103	.150
WebTrust3	.214	**.793**	−.171	.324	.149	.166
WebTrust4	.244	**.794**	−.159	.332	.167	.148
WebPriv1	.200	.497	−.078	**.495**	.233	.182
WebPriv2	.147	.337	−.036	**.604**	.138	.148
WebPriv3	.171	.272	−.101	**.805**	.215	.121
WebPriv4	.211	.230	−.094	**.849**	.182	.115
WebPriv5	.248	.349	−.084	**.765**	.262	.122
Isec1	.184	.082	−.144	.202	**.813**	.095
Isec2	.122	.079	−.110	.282	**.761**	.103
Isec3	.123	.156	−.166	.119	**.900**	.106
Isec4	.200	.158	−.140	.111	**.822**	.104
Neg1	−.123	−.113	**.791**	−.064	−.126	−.244
Neg2	−.097	−.107	**.923**	−.110	−.158	−.132
Neg3	−.151	−.162	**.758**	−.036	−.121	−.282
Neg4	−.132	−.115	**.882**	−.075	−.143	−.108
Disclose1	**.898**	.171	−.139	.167	.166	.181
Disclose2	**.906**	.185	−.136	.167	.176	.169
Disclose3	**.806**	.234	−.130	.214	.164	.157
Disclose4	**.790**	.232	−.182	.242	.218	.110

Appendix C. Common method bias analysis

Construct	Indicator	Substantive factor loading (R1)	$R1^2$	Common method factor loading (R2)	$R2^2$
Enjoy	Enj1	0.931**	0.867	0.015	0.000
	Enj2	0.905**	0.819	0.010	0.000
	Enj3	0.951**	0.904	−0.024	0.001
Security	Sec1	0.923**	0.852	−0.003	0.000
	Sec2	0.865**	0.748	0.030	0.001
	Sec3	0.971**	0.943	−0.043	0.002
	Sec4	0.890**	0.792	0.014	0.000
Negative affect	Neg1	0.922**	0.850	0.005	0.000
	Neg2	0.946**	0.895	0.008	0.000
	Neg3	0.904**	0.817	−0.031	0.001
	Neg4	0.920**	0.846	0.014	0.000
Trust	Trust1	0.907**	0.823	−0.004	0.000
	Trust2	1.014**	1.028	−0.114**	0.013
	Trust3	0.915**	0.837	0.033	0.001
	Trust4	0.881**	0.776	0.080*	0.006
Privacy	Priv2	0.908**	0.824	−0.104	0.011
	Priv3	0.963**	0.927	−0.059	0.003

Common method bias analysis (*continued*)

Construct	Indicator	Substantive factor loading (R1)	$R1^2$	Common method factor loading (R2)	$R2^2$
	Priv4	0.983[**]	0.966	−0.075	0.006
	Priv5	0.836[**]	0.699	0.112[*]	0.013
Reveal	Reveal1	1.002[**]	1.004	−0.048[*]	0.002
	Reveal2	0.992[**]	0.984	−0.026	0.001
	Reveal3	0.928[**]	0.861	0.020	0.000
	Reveal4	0.900[**]	0.810	0.056	0.003
Average		**0.929**	**0.864**	**−0.006**	**0.003**

[*] $p < .05$.
[**] $p < .01$.

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