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Developing a Dichotomy of Information Privacy Concerns

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ABSTRACT

In the e-commerce environment, a person's concerns for information privacy (CFIP) regarding the general e-commerce environment are different from his or her specific concerns for information privacy regarding particular web sites. Such a distinction was observed in literature but received limited attention for its clarification. Importantly, how the two types of privacy concerns relate to each other and how they relate to various antecedent and consequence factors were not well studied. Drawing upon attitude theories, this research develops a dichotomy of privacy concerns, including general CFIP and specific CFIP. A research model is developed to specify the relationship between the two constructs and their relationship with antecedent and consequence factors. Potential contributions to research and practice are discussed.

Keywords

Information privacy concerns, general CFIP, specific CFIP

INTRODUCTION

In the e-commerce environment, individuals' concerns for information privacy (CFIP; Smith, Milberg and Burke, 1996) play important roles in determining their intention to use the Internet and web for online services and transactions (Son and Kim, 2008). Following the development of a measurement scale for this construct (Smith et al., 1996), studies have been conducted to analyze the antecedents of privacy concerns and the corresponding behavioral consequences (e.g., Bellman, Johnson, Koblin and Lohse, 2004; Dinev, Bellotto, Hart, Russo, Serra and Colautti, 2006; Eastlick, Lotz and Warrington, 2006; Junglas, Johnson and Spitzmuller, 2008; Milberg, Smith and Burke, 2000; Pavlou, Liang and Xue, 2007). Although the effect sizes differ in these studies, the general finding is that many antecedent factors have an impact on individuals' online information privacy concerns, which in turn affect their behavior to provide (or hide) personal information to engage in (or avoid) online services and transactions.

Studies on CFIP approach the concept from two broad perspectives: one addresses the general concerns for information privacy across e-commerce contexts (e.g., Bellman et al., 2004; Milberg et al., 2000), and the other addresses specific concerns for information privacy regarding particular web sites (e.g., Bansal, Zahedi and Gefen, 2008; Eastlick et al., 2006; Pavlou et al., 2007). For the former, the focus is on the acceptance or use of the Internet in general, and particular web sites and information requests are not concerned. For the latter, the focus is on customers' responses to information requests from particular web sites. Accordingly, different antecedents and consequences associated with the two types of privacy concerns are studied. For example, Bellman et al. (2004) and Milberg et al. (2000) show that individuals' Internet experience and cultural backgrounds have impacts on their privacy concerns regarding the general Internet environment; Bansal et al. (2008) and Eastlick et al. (2006), on the other hand, demonstrate that the reputation of a web site and personal experience with the web site influence their privacy concerns regarding that specific web site.

Although both types of privacy concerns are studied in literature, a clear distinction between the two concepts and their relationship is not presented. Few studies have examined both in the same research context. Only one study (Faja and Trimi, 2006) mentioned general concerns for information privacy and distinguished it from privacy perception regarding specific web sites; others adapted the same construct (such as CFIP) across contexts (e.g., Bansal et al., 2008; Bellman et al., 2004) without questioning the above distinction. The unspecified relationship between the two types of privacy concerns raises a couple of critical questions. First, how does each type of privacy concerns respond to the impacts of various antecedent factors, ranging from individual characteristics to organizational and cultural conditions? Second, how does each type of privacy concerns influence a person's acceptance of the Internet or a specific web site? Without a clear distinction between the two types of privacy concerns, the above relationships may not be adequately addressed.

This study develops a dichotomy of information privacy concerns to address the above issues. Drawing upon attitude theories and related literature, it analyzes the conceptual distinction between General Concerns for Information Privacy (or General CFIP) and Specific Concerns for Information Privacy (or Specific CFIP). It shows that these two types of privacy concerns are different concepts and should not be used interchangeably. A research model is then developed to test the relationship

between the two constructs and their relationship with antecedent and consequence factors. The research method for testing the model is described, and potential contributions of the research are further discussed.

THEORETICAL BASIS

Attitude theories provide a common basis for understanding human behavior, including the formation and change of attitude and its impact on behavior (Ajzen, 2001; Wood, 2000). The attitude-behavior link is at the core of a number of well-known motivation theories such as the theory of reasoned action (Ajzen and Fishbein, 1980) and the theory of planned behavior (Ajzen, 1991). The essence of the theories suggests that a person's attitude and beliefs about a particular behavior constitute the primary drivers of the behavior. Specifically, a person's volitional behavior, such as self-disclosure of information for online services, is determined by the person's intention for that behavior, and intention is driven by the attitude toward the behavior. Attitude is influenced by personal beliefs of the behavior and evaluations of the expected outcomes, such as potential benefit and risk beliefs. In terms of information privacy, a person's belief that his or her private information is at risk would raise the concern about the privacy and constrains the person from providing that information.

The attitude theories also suggest that a person's attitude and beliefs vary across contexts (Wood, 2000), and only the attitude and beliefs that are closest to the behavior may have a significant impact on it (Ajzen, 2001). In Fishbein and Ajzen's (1975) words, the power of an attitude to predict a behavior is a function of how closely that attitude relates to the act in question: the more specific the attitude, the greater the predictive power.

Many behavioral studies based on attitude theories have examined the co-existence of general attitude/beliefs and specific attitude/beliefs, such as self-esteem (Rosenberg, Schoenbach, Schoenbach and Rosenberg, 1995), self-evaluation (Chen, Gully and Eden, 2001), attribution (Johnson, Mullick and Mulford, 2002), attachment orientation (Imamoglu and Imamoglu, 2006), and attitude on computer use (Sun and Willson, 2008). For example, studies on self-esteem (Reyna, 2000; Rosenberg et al., 1995) show that global self-esteem is different from specific (e.g., academic) self-esteem: the former measures a person's positive or negative attitude toward him or herself as a totality, and the latter measures the person's self-assessment of intelligence. Empirical studies (e.g., Rosenberg et al., 1995) show that global self-esteem is more relevant to the psychological well-being of a person while specific self-esteem is more relevant to behavior, and the effect of global self-esteem on behavioral outcome is mediated by its impact on specific self-esteem.

In the Information Systems (IS) literature, similar distinctions in personal attitude/beliefs are studied. For example, Agarwal, Sambamurthy and Stair (2000) test the impact of general computer self-efficacy and software specific self-efficacy on software training. They show that the impact of general computer self-efficacy on software learning is mediated by the specific self-efficacy belief of related software. Similarly, Thatcher and Perrewé (2002), in a study on computer acceptance, show that trait anxiety is distinct from computer anxiety, although the two are positively related. Studying a more specific type of computer application – computer mediated communication (CMC) – Brown, Fuller and Vician (2004) show that the general computer anxiety does not have a direct impact on CMC use, but CMC anxiety does. All these studies confirm Fishbein and Ajzen's (1975) assertion that the closeness of an attitude or belief to a behavior determines the extent of its impact on that behavior.

Given the distinctions between general attitude/beliefs and specific attitude/beliefs, it is important to analyze their relationship and their impact on the corresponding behavior. Although some scholars imply that specific attitude/beliefs of a behavior may have an impact on the formation and adjustment in general attitude/beliefs (Chen et al., 2004; Rosenberg et al. 1995), others suggest that it happens only if the specific beliefs are fundamentally important to the person (Reyna, 2000). For example, if a person suffers badly from an online privacy invasion, he or she may become susceptible to the whole Internet. If he or she only experiences minor privacy accidents, he or she may feel that it is due to the behavior of some dishonest merchants and in general online privacy is not a critical issue. The above studies from various research contexts support the view that general attitude/beliefs have an immediate impact on specific attitude/beliefs, which in turn influence the behavior in question (Agarwal et al., 2000; Brown et al., 2004; Rosenberg et al. 1995).

A DICHOTOMY OF INFORMATION PRIVACY CONCERNS

To clearly specify the nature of the CFIP concept and its relationship with various antecedent and consequence factors, we propose a dichotomy of two types of information privacy concerns: General CFIP regarding the overall e-commerce environment and Specific CFIP regarding a specific e-commerce web site. We suggest that these two types of privacy concerns have distinct characteristics and should not be used interchangeably: General CFIP reflects a person's overall perception, attitude, or state of concern (Faja and Trimi, 2006) about the uncertainty in the online environment due to the virtuality, limited physical facilities, and human contacts; Specific CFIP, on the other hand, is primarily caused by the uncertainty of how a particular e-commerce web site handles customers' personal information. In addition to the dichotomy,

we include another important concept, disposition to privacy (Yao, Rice and Wallis, 2007), in the framework. Distinctions between the three types of privacy perceptions are listed in Table 1 and are explained next.

	Disposition to privacy	General CFIP	Specific CFIP
Domain of the construct	Concerning an individual's fundamental belief of privacy values and psychological need for privacy.	Concerning an individual's overall assessment of information privacy in the online environment.	Concerning an individual's attitudes toward information privacy regarding a particular web site.
Consistency/stability	Stable across contexts; seldom change even over time.	Stable across contexts; changing gradually overtime.	Contingent upon particular contexts; varying from site to site.
Potential antecedents	Cultural background and life experience (Rattanapongpaisan, 2001); privacy awareness and privacy social norm (Xu et al., 2008)	Subject to the impact of fundamental, context-free antecedents such as personal attributes and macro-environmental factors.	Subject to the impact of contextual factors associated with the web site and the information collection activities.
Potential consequences	Disposition to privacy determines other privacy attitudes and beliefs.	General CFIP would have a direct impact on general protective behaviors.	Specific CFIP would have a direct impact on behaviors towards particular organizations (such as information provision and transactions).
Relationship with each other	Disposition to privacy influences both General CFIP and Specific CFIP.	General CFIP influences the formation of Specific CFIP in a particular context.	The accumulation of Specific CFIP, in a long-run, will change the General CFIP; in short-term, Specific CFIP would not change General CFIP substantially.

Table 1. A comparison of the privacy concern constructs

The different domains of the two CFIP constructs determine that they have different characteristics and are linked to different antecedents and consequences. General CFIP is conceived to be more stable across e-commerce contexts while Specific CFIP is more dynamic and contingent on contexts. For the same person, General CFIP is relatively constant over time and may gradually change due to the accumulation of personal experience with the Internet. Specific CFIP, on the other hand, may differ significantly across contexts: individuals accessing popular web sites, for example, would express fewer concerns about their privacy than accessing unknown web sites (Eastlick et al., 2006).

In terms of the influence from potential antecedents, we suggest that General CFIP is subject to the influence of both individual characteristics and macro-environmental factors. These factors, from both the micro and macro levels, indicate how an individual interprets information from the environment. Individual characteristics such as personality traits determine an individual's general pattern of behavior in dealing with privacy issues (Junglas et al., 2008; Smith et al., 1996), which is not anchored to a particular e-commerce context. Macro-environmental factors such as regulatory structure (Milberg et al., 2000) give individuals general reference of how online firms are required by law to protect customers' privacy, which is also not limited to certain context. Antecedents of Specific CFIP, on the other hand, include contextual variables such as organizational attributes and information requests. Rohm and Milne (2004), for example, show that people are more concerned about their medical records when such information was used by organizations they contact less frequently. These factors differ across contexts and influence privacy concerns within the contexts.

As for the consequences, we expect that the two privacy concern constructs may engender different outcomes: General CFIP is more associated with the psychological discomfort of Internet use in general, while Specific CFIP has more direct impact on information behavior on a particular web site. In fact, many of the studies on General CFIP have analyzed the overall Internet use rather than the use of a specific web site (e.g., Dinev et al., 2006; Dinev and Hart, 2006). Studies on Specific CFIP, on the contrary, examine behaviors with regard to particular web sites (Bansal et al., 2008; Eastlick et al., 2006; Liu, Marchewka, Lu and Yu, 2005; Pavlou et al., 2007).

In terms of the relationship between the two types of privacy concerns, we suggest, based on attitude theories and the literature, that General CFIP would have a direct impact on Specific CFIP. Although a study by Faja and Trimi (2006) hypothesizes that General CFIP moderates privacy perception, the effect was not supported by the data. Instead, we suggest that General CFIP is an important, direct source of Specific CFIP, especially when a person visits a web site for the first time: past experience with the Internet or other similar web sites would be a good reference to the new site.

In addition to the two types of privacy concerns in the dichotomy, we emphasize another privacy construct in the study: disposition to privacy. Also known as the psychological need for privacy (Yao et al., 2007) and privacy disposition (Xu, Dinev, Smith and Hart, 2008), it refers to a person's tendency to desire more or less privacy in various social situations and reflects the person's inherent needs and attitudes towards maintaining a personal space. Yao et al. (2007) show that disposition to privacy influences a person's tolerance or threshold for privacy threats (i.e., concerns about privacy) in both physical and virtual environments. It also influences the person's beliefs in privacy rights: a person who has a greater dispositional desire for privacy will be more likely to express support for a right to privacy than is a person who has less need for individual privacy. The study by Xu et al. (2008), though, analyzes an indirect impact of privacy disposition on privacy concerns, which is mediated by perception of intrusion. They show that disposition to privacy is a personal characteristic that determines whether a penetration to personal space is an intrusion or not. In sum, the privacy disposition construct provides an explanation of the ultimate source of privacy concerns of individuals.

DEVELOPMENT OF A RESEARCH MODEL

In this section, we develop a model to test the privacy dichotomy and their relationship with certain antecedent and consequence factors. The purpose is not to build a comprehensive model with all possible variables; instead, we focus on the examination of the validity of the dichotomy, and illustrate its roles in information privacy research. A reference model for this study is the trust typology developed by McKnight and colleagues (McKnight, Cummings and Chervany, 1998; McKnight and Chervany, 2002; McKnight, Choudhury and Kacmar, 2002). The typology shows that individuals' trust in e-commerce environment is a multi-level construct comprising institution-based trust (i.e., trust beliefs of the overall structure and environment of e-commerce) and web vendor-specific trust (i.e., a person's faith that the web vendor is honest, reliable, and dependable). Institution-based trust influences web vendor-specific trust, and the latter is the direct antecedent of trusting intention and behavior regarding the web vendor. A common antecedent of the two trust beliefs is disposition to trust, an invariant personality trait. Based on this reference model and the above discussion of the privacy dichotomy, we develop a research model as shown in Figure 1. The dependent variable is a person's behavioral intention to use the web site for services and transactions. The hypotheses in the model are developed in the next sections.

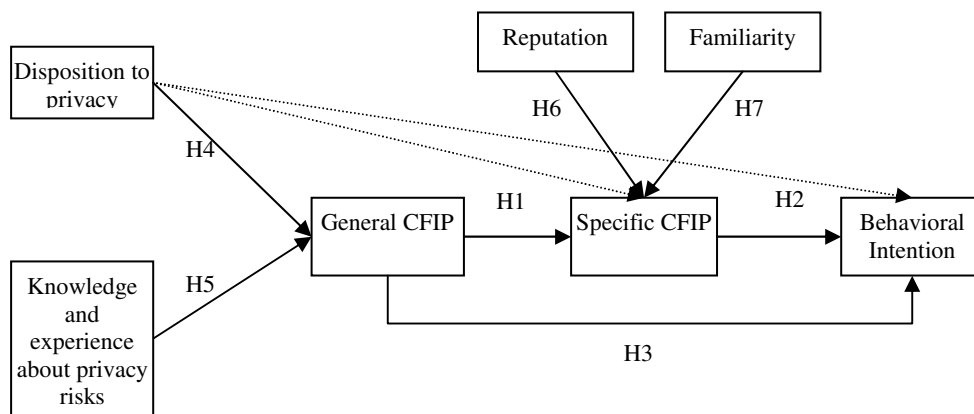


Figure 1. Research model

First of all, we examine the relationship between the two CFIP constructs and their associations with behavioral intention. Based on attitude theories, the literature, and the above discussion, we suggest that a person's General CFIP would have a positive impact on his or her Specific CFIP: a person who is worried about the overall Internet environment would be very cautious about information requests from a particular web site. Subsequently, Specific CFIP regarding the web site would have a direct, negative impact on the behavioral intention to use that web site for services and transactions. Although Specific CFIP mediates the impact of General CFIP on behavior, the study by Faja and Trimi (2006) shows that General CFIP still has a direct impact on behavioral intention, implying a partial mediating effect. Therefore, in addition to the direct impact of Specific CFIP, we also expect a direct impact of General CFIP on behavioral intention. We hypothesize that:

H1: A person's General CFIP regarding the Internet and web use is positively related to his or her Specific CFIP regarding a particular web site.

H2: A person's Specific CFIP regarding a particular web site is negatively related to his or her behavioral intention to use the web site.

H3: A person's General CFIP regarding the Internet and web use is negatively related to his or her behavioral intention to use a particular web site.

As mentioned above, individual and macro-environmental factors both have a potential impact on General CFIP. In this research we focus on individual-level factors. First, we expect that a person's disposition to privacy would have a direct impact on General CFIP. People with different cultural backgrounds and life experiences may have different needs for privacy, and such needs or dispositions to privacy influences how much people are concerned about their privacy across contexts (Yao et al., 2007; Xu et al., 2008). Although the reference model of trust beliefs suggests a possible impact of individual disposition on both general and specific beliefs, we suggest that this impact is best ascribed to empirical evidence. We hypothesize that:

H4: An individual's disposition to privacy is positively related to his or her General CFIP regarding the Internet and web use.

If a person's disposition to privacy constitutes the affective aspect of privacy attitude, the person's knowledge and experience about Internet privacy risks may comprise the cognitive aspect of the attitude. Privacy-related knowledge and experience is a primary source of information about privacy concerns: the more knowledge and experience a person has about privacy issues, the more he or she would be worried about future privacy loss, and therefore would be more sensitive to information requests (Bellman et al., 2004; Dinev and Hart, 2005; Smith et al., 1996). Therefore,

H5: An individual's knowledge and experience about Internet privacy risks is positively related to his or her General CFIP regarding the Internet and web use.

A primary source of distrust and privacy concerns regarding specific web sites is the lack of information about the privacy practice of the web sites. To alleviate customers' concerns, efforts are needed from the web sites, the customers, and some third-parties. Here we focus on the first two, which are the main stakeholders in privacy issues. We particularly address how a web site's effort of enhancing its reputation, and how a user's effort of getting familiar with the web site, may change the user's Specific CFIP.

For an e-commerce web site, mechanisms are needed to deliver a fair information practice through the use of multiple interventions such as privacy policies, social presence with web users, improved information about products and services, and web site design (Bansal et al., 2008; Faja and Trimi, 2006; Pavlou et al., 2007). Each of these interventions helps to establish the reputation of the web site and reduce the privacy concerns of individual users. In other words, the reputation of a web site serves as the cornerstone of multiple privacy-enhancing interventions. Studies show that a high reputation of a web site has a negative impact on individuals' privacy concerns about the web site (Casalo, Flavian and Guinaliu, 2007; Eastlick et al., 2006). Therefore, we hypothesized:

H6: The reputation of a web site has a negative impact on an individual's Specific CFIP regarding the web site.

Meanwhile, individual web users have their responsibilities in gauging the privacy practice of a particular web site. An individual-level factor, personal familiarity with a web site has been studied in prior e-commerce research (Gefen, 2000). It refers to the overall understanding of a web site based on a person's previous interactions, experiences, and learning of what the web site does with users' private information (Awad and Krishnan, 2006). A person who is familiar with a web site is more willing to provide information than another person who is unfamiliar with the web site. It is therefore hypothesized:

H7: An individual's personal familiarity with a web site has a negative impact on his or her Specific CFIP regarding the web site.

DISCUSSION

In this research, a dichotomy is developed to distinguish two types of online information privacy concerns observed but insufficiently addressed in literature: General CFIP and Specific CFIP. It shows that General CFIP is related to the overall assessment of privacy risks in online environment, and Specific CFIP is about the privacy risk perception regarding particular web sites. A research model is developed to illustrate the relationship in the dichotomy and its relationship with antecedent and consequence factors.

While the validity of the research model is subject to empirical tests, the potential contributions of the study can be recognized. First, the proposition of the two types of privacy concern constructs enables scholars to clearly theorize and measure online users' privacy perceptions within and across contexts. This has been less sufficiently addressed in literature. Second, the framework shows the impacts of various antecedents on each type of privacy concerns, enabling researchers to correctly study the antecedents in research. For example, organizational factors should be used to study Specific CFIP only, and individual traits, if studied within specific context, should be used as a control variable since they primarily influence

General CFIP. The third, most important contribution of the study is the specification of the relationship between the two CFIP constructs and their associations with behavioral intention. While studies on general Internet use proliferate, it is also important to study how a particular web site may reduce the privacy concerns of its customers and entice their information disclosure in order to improve products and services. Providing privacy statements alone would not achieve the goal; the key is to recognize what particular factors concern the customers and how to address their concerns accordingly.

This study has potential implications for practice. It suggests that companies should be aware that a customer's general concern for information privacy, although important, is not directly associated with privacy response but is mediated by the specific concern. Therefore, companies should focus on factors that have direct impact on Specific CFIP. It shows that reputation and customer familiarity may be two key determinants of privacy concerns regarding a specific web site. This implies that online firms should focus on the two factors to effectively and efficiently address privacy issues.

This study has a number of limitations. First, the study presents a dichotomous view of CFIP, ignoring other privacy concerns that may fall between General CFIP and Specific CFIP. For example, Pavlou et al.'s (2007) study examines online users' privacy concerns regarding a single web site and a class of web sites; the study, however, does not show significant difference in the causal relationships in the research model across the levels. Of course, other classes of web sites could be studied to provide further evidence. People use to believe that profit maximization and unethical behaviors of bad managers are responsible for privacy risks. Non-profit web sites, such as government web sites, church web sites, and public library web sites, etc., may also contain privacy issues. For example, Hoy and Phelps (2003) show that unlike their commercial counterparts, church web sites often post personal identifying information of their members and site visitors, which poses potential threats to both consumer privacy and security. Privacy concerns regarding these classes of web sites should also be considered.

Another limitation of the research deals with the number of antecedents included in the study. For illustration purposes, we did not include many other antecedents in the research model, which may substantially limit the explanation power of the study. Further research is needed to expand the scope of antecedents and include other factors studied in literature.

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