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An Empirical Study of Online Trust and Consumer Behavior: Cultural Orientation, Social Norms, and Personal Innovativeness in Information Technology

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AN EMPIRICAL STUDY OF ONLINE TRUST AND CONSUMER BEHAVIOR: CULTURAL ORIENTATION, SOCIAL NORMS, AND PERSONAL INNOVATIVENESS IN INFORMATION TECHNOLOGY

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Abstract

Building online trust and understanding its relationship to online consumer behavior are important topics for e-commerce designers and human-computer interaction researchers. In this paper, the relationships between multidimensions of online trust (integrity, benevolence, and ability) and purchase intention are tested and discussed. Furthermore, the uncertainty avoidance cultural orientation, social norms, and personal innovativeness in information technology are tested as antecedents of online trust and ease of use in the model (n = 209). As expected, social norms influence all three dimensions of online trust, while uncertainty avoidance cultural orientation affects only benevolence and ability dimensions. Personal innovativeness in IT affects ease of use, and ease of use influences all three dimensions of online trust. Integrity, ability, and ease of use influence purchase intention, while benevolence shows no direct relationship to purchase intention. Theoretical and practical implications of these findings are discussed in the paper.

Keywords: Online trust, human-computer interaction, cultural orientation, social norms, personal innovativeness in IT, e-commerce

Introduction

Building online trust and understanding its relationship to online consumer behavior are important topics for e-commerce designers and human-computer interaction researchers (Gefen et al. 2003; Saeed, Hwang, and Yi 2003). Given that online sales for retailers for the 2004 holiday season increased 25 percent from the previous year, reaching 23.2 billion dollars (CNN Money 2004), online trust and consumer behavior should be investigated further as the strategic mechanism not only for pure online companies but also for hybrids (Saeed, Grover, and Hwang 2003). Even though there are a lot of research endeavors to explain online trust and consumer behavior (e.g., Ba and Pavlou 2002; Bhattacherjee 2002; Gefen 2002a, 2002b; Gefen et al. 2003; Grazoli and Jarvenpaa 2000; Jarvenpaa et al. 2000; Pavlou 2003; Pennington et al. 2004), one of the main questions is how to understand the influences of social or cultural factors and individual characteristics on online trust and consumer behavior (Saeed, Hwang, and Yi 2003). Anecdotal evidence suggests that 30 to 75 percent of customer relationship management initiatives fail because organizations roll them out without assessing their cultural readiness and social aspects (Simpson 2002). Based on the meta-analysis of online consumer behavior in 42 MIS articles published between 1995 and 2002, Saeed, Hwang, and Yi (2003) argued that social context variables and individual characteristics should be studied further to fully understand online consumer behavior. Specifically, the complex effects of individual-level culture, social norms, and personal innovativeness in information technology on multidimensional trust beliefs, such as integrity, benevolence, and ability, have not been tested in previous research. By understanding these relationships, e-commerce designers and researchers can improve website functionality based on social presence and network (Gefen and Straub 2004; Kim and Prabhakar 2002), cross-cultural issues (Jarvenpaa et al. 1999), and human-computer interaction (Zhang and von Dran 2002).

This research has three primary objectives. The first objective is to investigate the social influences on multidimensional online trust beliefs. For this purpose, this study includes individual-level cultural orientation (Dorfman and Howell 1988; McCoy, Galletta, and King 2005) and formative construct of social norms (Limayem et al. 2000) as antecedents of online trust. This is the first empirical study that tests these relationships, while the social and environmental factors on trust building are crucial issues to e-commerce (Gefen et al. 2003). The second objective is to investigate the effects of individual characteristics on multidimensional trust beliefs. For this purpose, we test the influence of personal innovativeness in IT on ease of use, and the effects of ease of use on multidimensional trust beliefs. Although Gefen et al. (2003) showed the relationship between ease of use and trust, they used the unidimensional trust construct in the model. Thus, the direct relationships between ease of use and the three dimensions of trust are unknown. The third objective of this study is to use current behavioral theories to identify the key dimensions of online trust influencing purchase intention. Specifically, the effects of ease of use and multidimensional trust beliefs on purchase intention will be tested and compared.

The presentation of this paper is as follows. The next section presents the theoretical foundations of this research model and the hypotheses. The subsequent section outlines the research methodology and measures. The fourth section describes the data analysis and results. Finally, conclusions and implications for researchers and practitioners are presented.

Research Model and Hypotheses

Multidimensional Online Trust Beliefs

Figure 1 presents the proposed research model. Gefen (2002b) provided a multidimensional construct combining specific beliefs of online trust: integrity, benevolence, and ability. Integrity is the belief that the trusted party adheres to accepted rules of conduct, such as honesty and keeping promises (Mayer and Davis 1999). Benevolence is the belief that the trusted party, aside from wanting to make a legitimate profit, wants to do good for the customer. Ability is belief about the skills and competence of the trusted party. Gefen (2002b) developed and validated these three dimensions of online trust, and Gefen and Straub (2004) recently found that high social presence, typically in face-to-face communication, has positive effects on integrity ($\beta = .21$, $p < .01$) and benevolence ($\beta = .41$, $p < .01$), but not on ability. These findings reinforce the concept that online trust is a multidimensional construct and that further investigation, including other social variables, individual characteristics, and purchase intention, is meaningful. Thus, this study includes the uncertainty avoidance cultural orientation, social norms, personal innovativeness in IT, and ease of use as the antecedents of multidimensional trust beliefs, and investigates these complex relationships and the influences on purchase intention. Based on Limayem et al. (2000), we use the influence of family, media, and friends as formative dimensions of social norms in the model. Detailed hypotheses and supporting literature are explained in the next section.

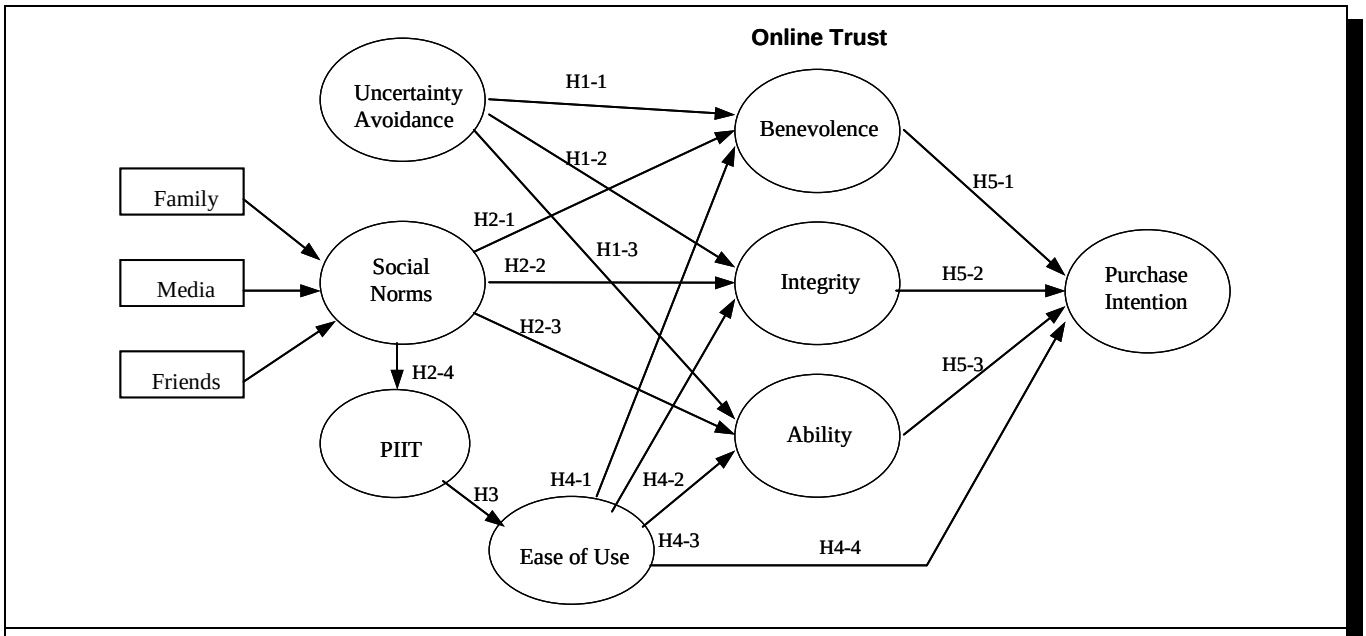

Figure 1. Proposed Research Model

Uncertainty Avoidance Cultural Orientation

Culture has been defined as "the collective programming of the mind which distinguishes the members of one human group from another" (Hofstede 1980). Culture is described as a distinctive, enduring pattern of behavior and/or personality characteristics (Clark 1990). Hall and Hall (1990) viewed culture as a system for creating, sending, and processing information, defining culture as "a system of values and norms that are shared among a group of people and that when taken together constitute a design of living." Based on Hofstede (1980), culture is the collective programming of the mind, which is based on values. Values and attitudes motivate human behavior and preferences, as trust beliefs and ease of use belief influence online consumer behavior. Thus, cultural orientation constructs can be theoretically connected to the trust beliefs and online consumer behavior.

Cultural effects on trust and consumer behavior have been investigated based on Hofstede's cultural dimension. Doney et al. (1998) clearly addressed the idea that culture influences trust beliefs based on marketing and management literature, and that the meaning, antecedents, and effects of trust are determined by culture (Fukuyama 1995; Zucker 1986). However, Doney et al. emphasized that future studies should consider individual-level culture or personal characteristics, rather than nationality categorization, when investigating the influence of culture on trust. As they argued (p. 605),

> It is important to note that the cultural boundaries between nations are becoming increasingly fuzzy with economic integration (Fukuyama 1995), and there may be significant cultural differences within countries (see Fukuyama 1995; Locke 1995). Thus, although many researchers have used nation as a surrogate for culture, we do not equate national with the geographical boundaries of nations. Nor do we mean to imply that norms and values are embraced by all groups or subgroups or are consistent across all segments of a population.

Doney et al. argued that individual personality and individual-level culture surely affect trust formation, but these issues are beyond the scope of their study. They asked other researchers to examine if the direct or indirect effects of individual-level culture on trust exist (p. 618).

McCoy, Galletta, and King (2005) recently advised that Hofstede's cultural dimension with nationality categorization should not be directly applied to technology adoption research at the individual level, since culture itself changed rapidly after Hofstede's categorization in 1980. Furthermore, even in the same country, McCoy (2002) found that there are differences of cultural dimension among individuals based on the analysis of 4,434 responses. McCoy, Galletta, and King (p.2 14) argued, "Because people from the same country can score differently on cultural dimensions, a trait-based approach that assesses each individual's score might explain more variance in culture studies." Data collected in the United States and Uruguay (McCoy, Everard, and Jones 2005) also supports this argument. Thus, McCoy, Galletta, and King advised that individual-level measures of culture, such as Dorfman and Howell's (1988) cultural orientation, should be used to test the relationship with individual's beliefs, specifically if it should be generalized and applied to the global environment outside of the United States. Dorfman and Howell provided a reliable and valid measure of culture at an individual level, which can be applicable to an individual's perception on cultural membership. It will be based on the individual's perception of whether he or she belongs to certain social groups together with some personal emotional and value significance of this group membership. Thus, an individual's nationality is not a direct determinant of this cultural orientation. Hofstede's original four dimensions of culture—uncertainty avoidance, power distance, collectivism, and masculinity—are adapted and revised as an individual-level cultural orientation by Dorfman and Howell. Venkatesh et al. (2003) also emphasized subjective culture in specific social situations as an antecedent of user acceptance of IT. Given this advice and the importance of cultural issues on trust and online consumer behavior, this study used Dorfman and Howell's measure as a cultural dimension.

In this study, the uncertainty avoidance cultural dimension, supported by Hofstede and by Dorfman and Howell, is directly linked to multidimensional trust beliefs to investigate the relationships among them. Doney et al. showed that uncertainty avoidance is the dimension of culture that positively related to all of trust building processes, while individualism and power distance have mixed relationships. Most perspectives on trust recognize that risk is required for trust to influence choice and behavior (Doney et al. 1998; Lewis and Weigert 1985; Schlenker et al. 1973). Uncertainty avoidance addresses the concepts of risk, risk aversion, and reliance on risk-reducing strategies. High uncertainty avoidance is related to prediction, intentionality, capability, and transference (Hofstede 1980). In MIS research domains, there are many studies regarding the relationships between uncertainty (risk or security) and online consumer behavior. Liang and Huang (1998) found that experienced shoppers are more concerned about uncertainty in electronic shopping, which subsequently increased transaction cost and reduced acceptance of electronic channels. Wired lifestyle or culture along with security and risk issues were found to be the most important predictors of online purchase behavior (Bellman et al. 1999). Grazioli and Jarvenpaa (2000) found that perceived risk and trust determine the consumer's attitude toward online purchase, which subsequently affected willingness to purchase and actual purchase behavior.

Size and reputation of Internet stores were found to influence consumer assessments of trustworthiness, perceived risk, and willingness to patronize the store (Jarvenpaa et al. 2000). Consumer risk perceptions (trust and security) were found to be the main predictors of online purchase behavior (Vellido et al. 2000), and concerns about transaction security negatively impact online purchase intention (Liao and Cheung 2001). Ba and Pavlou (2002) also found that trust mitigates information asymmetry by reducing transaction-specific risks, which eventually generated price premiums for reputable sellers.

Based on the national-level cultural investigation, Doney et al. showed that targets in low uncertainty avoidance cultures may engage in opportunistic behavior, even if doing so risks damaging the relationship. People in low uncertainty avoidance cultures do not fear the future and tolerate risk easily (e.g., Hofstede 1980; Kale 1991; Kale and Barnes 1992; Nakata and Sivakumar 1996; Ueno and Sekaran 1992). They are willing to sever existing relationships and enter into opportunistic behavior because of the low cost of such behavior. This low uncertainty avoidance would undermine the integrity dimension in trust building. On the other hand, people in high uncertainty avoidance cultures would frown on conflict and value compromise, providing further evidence that targets have benevolent intentions (Doney et al. 1998). People in high uncertainty avoidance cultures would also seek to mitigate uncertainty and be likely to establish trust based on evidence of a target's expertise, ability, or competence (Doney et al. 1998). Thus, individuals with a high uncertainty avoidance cultural orientation would show high online trust based on this logic. We hypothesize that

H1-1: Uncertainty avoidance cultural orientation will positively influence benevolence of online trust.
H1-2: Uncertainty avoidance cultural orientation will positively influence integrity of online trust.
H1-3: Uncertainty avoidance cultural orientation will positively influence ability of online trust.

Social Norms

Online consumer behavior is a voluntary individual behavior that can be explained by the theory of reasoned action (TRA) proposed by Fishbein and Ajzen (1975). The TRA argues that behavior is preceded by intentions and that intentions are determined by the individual's attitude toward the behavior and the individual's social norms. Several MIS studies focus on social norms or environmental influence on online consumer behavior. Limayem et al. (2000), using formative construct of social norms (family, media, and friends influences) in online consumer behavior, found that social norms influence purchase intention (β = .17, $p < .001$). However, they did not include an important construct in online consumer behavior in their model, online trust. Kraut et al. (1999) highlight that other family members' Internet usage is an important factor influencing an individual's Web usage. Pathasarathy and Bhattacherjee (1998) found that external influence, interpersonal influence, and network externality are the distinguishing factors between discontinuing and continuing consumers. Expectation of e-commerce usefulness was negatively impacted by social disturbance (Han and Noh 2000). Van Slyke et al. (2002) found that women viewed online shopping as a social activity rather than as technology adoption. Saeed, Hwang, and Grover (2003) also found that media influence is an important factor to the enhancement of customer value. Recently, Venkatesh et al. (2003) revealed that social influence in voluntary contexts, such as e-commerce, operates by influencing perceptions about the technology based on internalization and identification processes. The impact of social influence (social norms) on purchase intention can be mediated by trust beliefs as internalization and identification processes.

In the previous studies, three sub-dimensions of online trust (Gefen 2002b) have not been tested with social norms, and it is unknown how these social norms influence the separate dimensions of trust beliefs. This study tests the effects of the social norms with formative construct (family, media, and friends influences), based on Limayem et al. (2000), on integrity, benevolence, and ability dimensions of trust. This study hypothesizes that

H2-1: Social norms will positively influence benevolence of online trust.
H2-2: Social norms will positively influence integrity of online trust.
H2-3: Social norms will positively influence ability of online trust.

Personal Innovativeness in IT

Rogers (1983) stated that diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system. An innovation is a special type of communication, in that the messages are concerned with new ideas (Rogers 1983). Moore and Benbasat (1991) extended the set of perceptions proposed by Rogers to include seven perceived characteristics of an innovation as predictors of IT adoption behavior. Agarwal and Prasad (1998) provided personal innovativeness in IT (PIIT), the willingness of an individual to try out any new information technology, as a trait and a relatively

stable predictor of individuals that is invariant across situational considerations. They provided the valid measures of PIIT and showed that PIIT has a moderating effect between perceptions about new IT (relative advantage, ease of use and compatibility) and intention to use new IT.

Limayem et al. argued that shopping on the Internet is an innovative behavior that is more likely to be adopted by innovators than noninnovators. Thus, it is important to include this construct in order to account for individual differences. Limayem et al. included personal innovativeness and social norms in the model of online consumer behavior, and found positive relationships with purchase intention ($p < .001$). Personal innovativeness in their model is a global innovativeness construct based on Rogers' innovation diffusion theory rather than domain-specific innovativeness. While innovativeness has received attention as a determinant of innovation adoption behavior, marketing research notes that it is important to conceptually and operationally draw a distinction between global innovativeness and domain-specific innovativeness (Agarwal and Prasad 1998; Flynn and Goldsmith 1993). Global innovativeness, such as personal innovativeness in Limayem et al.'s study, exhibits low predictive power when applied to any specific innovation adoption decision (Goldsmith and Hofacker 1991, Leonard-Barton and Deschamps 1988). Domain-specific innovativeness, such as PIIT (Agarwal and Prasad 1998), is posited to exhibit a significant effect on behaviors within a narrow domain of activity (Goldsmith and Hofacker 1991), and it has been suggested that this trait also be measured directly via self-report, in a manner similar to the measure of attitudes and other personalities (Flynn and Goldsmith 1993).

Limayem et al. did not test the relationship between social norms and innovativeness in the model. The influence of social norms on PIIT has not been tested in the previous research, while there are possibilities to build innovativeness in the domain of IT with strong influences from family, media, and friends. Innovation diffusion theory (Rogers 1983) clearly shows that there are external and internal sources of innovation diffusion. External sources were defined as including mass media, advertising, and other marketing-related sources, and internal sources were defined as word-of-mouth influence from friends, family, and others (Lekvall and Wahlbin 1973; Pathasarathy and Battacherjee 1998; Rogers 1983). Thus, this study hypothesizes that

H2-4: Social norms will positively influence personal innovativeness in IT.

Perceived Ease of Use

Perceived ease of use is an indicator of the cognitive effort needed to learn and to utilize the new IT (Davis et al. 1989). Kegerreis et al. (1970) showed that innovative individuals tend to demonstrate higher self-confidence when performing new tasks. Thatcher and Perrewe (2002) also found a direct positive effect ($p < .01$) of PIIT on computer self-efficacy, which is an antecedent to perceived ease of use. A recent study by Lewis et al (2003) supported the direct positive effects of PIIT on perceived ease of use. This study hypothesizes that PIIT will have a positive effect on perceived ease of use. If a person is more innovative, he or she will try out the new system with an increased belief about his or her ability with technology and ease of use perception. Thus, this study hypothesizes that

H3: Personal innovativeness in IT will positively influence perceived ease of use.

Ease of use perception is mainly based on the cognitive effort the user needs to invest to utilize the system (Gefen et al. 2003). If the user perceives the website as easy to use, affected by PIIT, it will positively affect the perception of online trust in that the vendor can reduce the cognitive load of the user by the vendor's ability, integrity, and benevolence. Thus, the perception of little cognitive effort will be related to the perception that the vendor be able to support these needs by its online trust beliefs. Although there are several studies that support the relationship between ease of use and unidimensional online trust (e.g., Gefen et al. 2003; Pavlou 2003), the direct relationships of ease of use to the multidimensional online trust beliefs were not tested. This study hypothesizes that

H4-1: Perceived ease of use will positively influence benevolence of online trust.
H4-2: Perceived ease of use will positively influence integrity of online trust.
H4-3: Perceived ease of use will positively influence ability of online trust.

The technology acceptance model (TAM) posits that behavioral intention is a determinant of actual system use, and that behavioral intention is determined by two salient beliefs: perceived usefulness and perceived ease of use (Davis et al. 1989; Yi and Hwang 2003). The relationship between perceived ease of use and online purchase intention has been examined and supported by many prior studies based on TAM (e.g., Bhattacherjee 2002; Gefen 2002b; Gefen et al. 2003). Thus, this study hypothesizes that

H4-4: Perceived ease of use will positively influence purchase intention.

Purchase Intention

Based on TAM and TRA, purchase intention would be an important predictor of online purchasing behavior. Several MIS studies used purchase intention as a surrogate of actual purchase behavior. Gefen et al. (2003) found the direct positive relationship between unidimensional trust belief and purchase intention ($\beta = .26$, $p < .01$). Gefen (2002b) also found that beliefs about the vendor's integrity and benevolence affect overall trust and purchase intention, while beliefs about the ability of vendor directly affect window-shopping intentions. This study tests the direct relationships between multidimensional trust beliefs and purchase intention. Thus, we hypothesize that

H5-1: Benevolence of online trust will positively influence purchase intention.
H5-2: Integrity of online trust will positively influence purchase intention.
H5-3: Ability of online trust will positively influence purchase intention.

Method and Measures

The online survey with undergraduate business students in the Northern region of the United States was implemented with 209 students who voluntarily participated in the experiment. The experiment was conducted in an Internet classroom as suggested by Gefen (2002b). Students were approached in an Internet-connected classroom, where each student had his/her own PC. The students were asked to navigate to **www.amazon.com**, and go through the procedure of purchasing a book without actually submitting the purchase transaction. Next, the students were asked to complete the experimental instrument of an online survey based on their experiences with the website. The main objective of this experiment was to refresh the participants' memory without manipulating the participants or creating trust. We developed the online survey website and posted this URL to the class management system for the students to access, and 209 students voluntarily participated in the study. The average age of participants was 22 years, and 56 percent were female. Fully 92 percent of participants reported having used an e-commerce website to buy products previously. Asked about Internet usage, 66 percent reported having used the Internet 4 to 20 hours in a week, 20 percent reported more than 20 hours of use, and 15 percent replied that they used Internet less than 3 hours in a week.

Most of the measurement items are adapted and revised from the previous research on online trust, TRA, TAM, PIIT, and individual-level cultural orientation as we explained in the hypotheses section (see Appendix A for the detailed items). All questionnaire items used a five-point Likert-type scale where 1 = completely disagree, 3 = neither agree nor disagree, and 5 = completely agree. The online trust beliefs were adapted from Gefen (2002b), including benevolence, integrity, and ability. The uncertainty avoidance cultural orientation was operationalized with four items based on Dorfman and Howell (1988). Social norms were measured by three formative items adapted from Limayem et al. (2000). PIIT was adapted from Agarwal and Prasad (1998) using three out of the original four items, based on the reliability of the pilot test. Perceived ease of use was measured by four items adopted from the instrument developed by Davis et al. (1989). Purchase intention was measured by two items developed by Gefen (2002b) and Gefen et al. (2003).

Data Analysis and Results

The proposed model and hypothesis testing was conducted using partial least squares (PLS) version 3.0. The PLS approach (Barclay et al. 1995; Chin 1998; Falk and Miller 1992), like other structural equation modeling (SEM) techniques such as LISREL (Jöreskog and Sörbom 1993) and EQS (Bentler 1985), allows researchers to simultaneously assess measurement model parameters and structural path coefficients. Whereas covariance-based SEM techniques, such as LISREL and EQS, use a maximum likelihood function to obtain estimators in models, the component-based PLS uses a least squares estimation procedure. PLS avoids many of the restrictive assumptions underlying covariance-based SEM techniques such as multivariate normality and large sample size (Falk and Miller 1992; Fornell and Bookstein 1982). Furthermore, PLS enables both formative and reflective constructs to be tested together in the model (Chin 1998). Thus, this study, which includes both formative and reflective constructs, used PLS rather than the other SEM techniques in data analysis. Chin (1998, p. 311) advises that "if one were to use a regression heuristic of 10 cases per indicator," the sample size requirement would be 10 times (1) the largest number of formative indicators or (2) the largest number of independent variables impacting a dependent variable, whichever is the greater. In our model, all items are modeled as reflective indicators because they are viewed as effects (not causes) of latent variables (Bollen and Lennox 1991) except for social norms that have formative indicators. The largest number of independent variables

estimated for a dependent variable is four, and the social norms' formative indicators are three items. Thus, our sample size of 209 is more than adequate for the PLS estimation procedures.

The measurement model in PLS is assessed by examining internal consistency, convergent validity, and discriminant validity (Barclay et al. 1995). Internal consistencies (similar to Cronbach's alpha) of .7 or higher are considered adequate (Barclay et al. 1995; Fornell and Larcker 1981). Convergent and discriminant validity are assessed by applying two criteria: (1) the square root of the average variance extracted (AVE) by a construct from its indicators should be at least .707 (i.e., AVE > .50) and should be greater than that construct's correlation with other constructs (Barclay et al. 1995; Chin 1998; Fornell and Larcker 1981), and (2) item loadings (similar to loadings in principal components) should be at least .707, and an item should load more highly on the construct it is intended to measure than it does on another construct. The structural model and hypotheses are assessed by examining the significance of the path coefficients (similar to standardized beta weights in a regression analysis) and the variance accounted for by the antecedent constructs.

Table 1 shows the internal consistency reliabilities and correlations among constructs. As recommended, the internal consistency reliabilities were all higher than .7 without exception, and the diagonal elements (square root of the variance shared between the constructs and their measures) were all higher than .707 and also higher than correlations between target constructs and other constructs without exception. Table 2 presents the factor structure matrix of the study variables. Demonstrating strong convergent and discriminant validity, all items exhibited high loadings (> .707) on their respective constructs except for the first item of uncertainty avoidance, and no item loaded higher on other constructs than the one it was intended to measure without exception. We kept all of the uncertainty avoidance items based on the high reliability results. Collectively, the psychometric properties of the constructs were considered excellent.

Figure 2 provides the results of hypothesis testing. As recommended (Chin 1998), bootstrapping (with 500 subsamples) was performed to test the statistical significance of each path coefficient using t-tests. All of the hypotheses are supported, except for the relationship between uncertainty avoidance and integrity and between benevolence and purchase intention. All three formative indicators were significant factors to social norms. The model explained substantial variance in purchase intention (R^2 = .35), ability (R^2 = .25), and integrity (R^2 = .20), and modest variance in benevolence (R^2 = .16), ease of use (R^2 = .15), and PIIT (R^2 = .12). Overall, all of the hypotheses are well supported by the empirical test results except for H1-2 and H5-1.

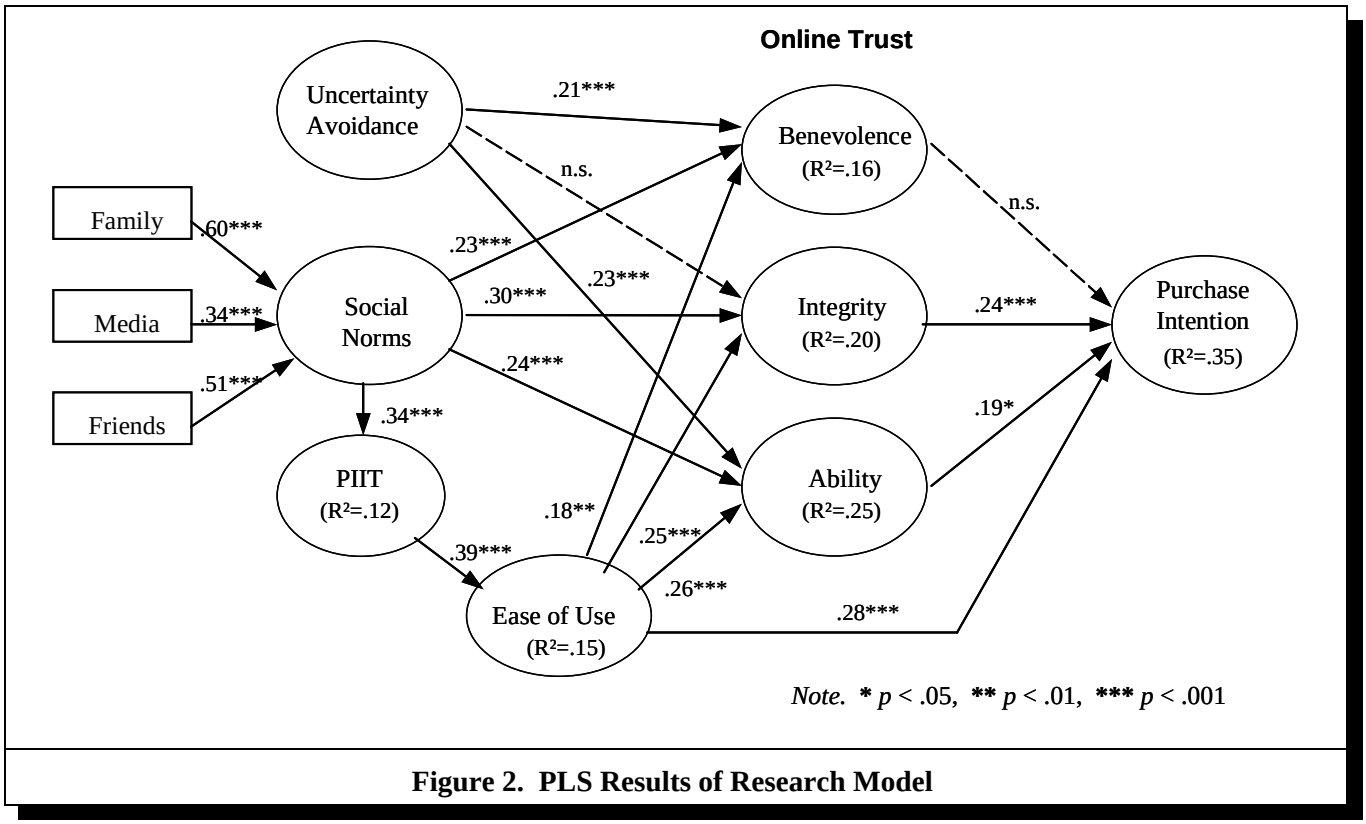

Figure 2. PLS Results of Research Model

Table 1. Internal Consistencies and Correlations of Constructs

Construct	ICR	UA	Integrity	Benevolence	Ability	PIIT	PEOU	PI
Uncertainty Avoidance	**.87**	**.79**						
Integrity	**.89**	.20	**.85**					
Benevolence	**.91**	.29	.59	**.87**				
Ability	**.89**	.33	.50	.38	**.86**			
PIIT	**.88**	.10	.16	.09	.20	**.85**		
Ease of Use	**.93**	.34	.33	.29	.38	.39	**.88**	
Purchase Intention	**.86**	.35	.47	.37	.45	.20	.45	**.87**

Note: ICR = Internal Consistency Reliability. All constructs are on a scale of 1 (negative) to 5 (positive).

Table 2. Factor Structure Matrix of Loadings and Cross-Loadings

Scale Items	UA	Benevolence	Integrity	Ability	PIIT	PEOU	PI
UA1	***0.673****	0.124	0.187	0.264	-0.075	0.215	0.222
UA2	***0.812****	0.265	0.110	0.276	0.079	0.283	0.222
UA3	***0.822****	0.219	0.171	0.245	0.141	0.275	0.318
UA4	***0.852****	0.281	0.176	0.274	0.118	0.308	0.354
Benevolence1	0.350	***0.894****	0.551	0.302	0.106	0.293	0.347
Benevolence2	0.131	***0.808****	0.444	0.324	0.048	0.190	0.250
Benevolence3	0.234	***0.911****	0.535	0.376	0.066	0.251	0.345
Integrity1	0.183	0.433	***0.875****	0.432	0.139	0.300	0.427
Integrity2	0.113	0.501	***0.851****	0.438	0.173	0.288	0.366
Integrity3	0.220	0.581	***0.838****	0.415	0.090	0.264	0.413
Ability1	0.362	0.312	0.424	***0.868****	0.194	0.392	0.391
Ability2	0.307	0.299	0.410	***0.881****	0.083	0.287	0.371
Ability3	0.178	0.374	0.461	***0.827****	0.236	0.290	0.388
PIIT1	0.057	0.084	0.182	0.183	***0.859****	0.310	0.149
PIIT2	-0.010	-0.003	0.111	0.093	***0.795****	0.289	0.178
PIIT3	0.159	0.123	0.104	0.212	***0.883****	0.384	0.189
PEOU1	0.272	0.184	0.229	0.296	0.345	***0.841****	0.328
PEOU2	0.290	0.276	0.305	0.301	0.297	***0.883****	0.446
PEOU3	0.295	0.254	0.338	0.358	0.377	***0.908****	0.390
PEOU4	0.351	0.286	0.294	0.377	0.358	***0.896****	0.414
PI1	0.333	0.306	0.419	0.404	0.104	0.428	***0.884****
PI2	0.282	0.332	0.400	0.370	0.256	0.350	***0.855****

Notes: UA: Uncertainty Avoidance PIIT: Personal Innovativeness in IT
PEOU: Perceived Ease of Use PI: Purchase Intention (*** $p < .001$)

Discussion and Conclusion

There are several limitations in this study. First, the model did not include other important variables in the technology acceptance research, such as perceived usefulness or perceived enjoyment. However, the proposed model in this study focuses on the direct influence of online trust on purchase intention rather than the other mediating constructs. The other social and individual factors are positioned as antecedents of trust beliefs in the model. Future study should include the other variables based on the findings of this study. Second, this study used only one popular website, Amazon.com, rather than including multiple websites or new websites unfamiliar to the consumers. This can hamper the generalizability of the findings. However, we carefully followed the experiment design in other studies, such as Gefen (2002b), to reduce the generalizability concerns and to design the natural experiment settings in the test. Future study should test the model with the other types of e-commerce websites, such as online auctions, to enhance our knowledge in different domains. Third, we used only two items in the purchase intention construct. However, these two items showed the valid reliability in the analysis and were consistently used in the previous studies (e.g., Gefen 2002b; Gefen et al. 2003).

The result of the data analysis points out the three primary objectives of this research. First, social norms influence all three dimensions of online trust beliefs, as expected. However, uncertainty avoidance cultural orientation influences only benevolence and ability dimensions of e-trust. To increase integrity dimension of e-trust, the designers should emphasize the social aspects of website rather than reducing procedural uncertainty. Social norms also strongly influence PIIT, an important individual characteristic affecting IT adoption. Second, the effects of PIIT on trust beliefs are mediated by ease of use belief. Ease of use shows strong effects on all three dimensions of online trust. Third, ease of use has the highest influence on purchase intention, followed by integrity and ability. In previous studies (Gefen 2002b; Gefen and Straub 2004), integrity showed the strongest effect on purchase intention among the three trust beliefs. This study also shows that integrity was the strongest determinant of purchase intention among the three trust beliefs, while its effect is less than ease of use. Benevolence shows the lowest R square (16 percent) and insignificant relationship to purchase intention. As Gefen (2002b) argued, benevolence is the most complex dimension of trust beliefs, and it is more likely to be related to interpersonal trust rather than online trust and consumer behavior. In developing social norms, internal influences (family and friends) are more important than external influences (media).

There are several academic implications of this study. First, individual-level cultural orientation is successfully integrated to the online trust and consumer behavior model. Given the importance of individual-level culture and its connection to trust beliefs (Doney et al. 1998), this study opens the door to investigate further the relationships of other cultural dimensions, such as power distance and collectivism, to online trust. Second, TRA, TAM, and innovation diffusion theory are integrated into the comprehensive model to explain online trust and consumer behavior. By doing that, we can respond to the call to investigate online consumer behavior with the integrative view (Saeed, Hwang, and Yi 2003). Finally, the model provides the empirical support of the importance of social and individual characteristics in explaining online consumer behavior. Further investigation in this direction would be beneficial to completely understand these phenomena and apply this knowledge to the enhancement of human computer interaction.

Practitioners such as website designers can find interesting implications from this study. Specifically, social aspects of a website should be carefully designed and implemented to ensure visitors purchase products or services based on this study's results. For example, Lands' End tries to enhance the customers' shopping experience on its website through services such as "Shop with a Friend," which enables two shoppers to access, browse, and shop on the Web together. Warner Brothers conducted a study on how customers with different styles and characteristics navigate on the website differently. Saeed, Grover, and Hwang (2003) also showed that these customer service enhancement efforts result in profitability for the company. Thus, this study would be beneficial to all of these endeavors for successful e-commerce design and implementation with the social and cultural issues of online trust and consumer behavior.

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Appendix A
Instrument Items

Benevolence:
I expect that Amazon.com have good intentions toward me.
I expect that Amazon.com intentions are benevolent.
I expect that Amazon.com are well meaning.

Integrity:
Promises made by Amazon.com are likely to be reliable.
I do not doubt the honesty of Amazon.com.
I expect that Amazon.com will keep promises they make.

Ability:
Amazon.com understand the market they work in.
Amazon.com know about products.
Amazon.com know how to provide excellent service.

Uncertainty Avoidance Cultural Orientation:
It is important to have purchase instructions spelled out in detail so that buyers always know what they expected to do.
Rules and regulations are important because they inform buyers what the sellers do.
Standard operating procedures are helpful to buyers on the purchase behavior.
Instructions for operations are important for buyers on the purchase behavior.

Social Norm:
The members of my family (e.g., parents) think that I should make purchases through the web.
The media frequently suggest to us to make purchases through the Web.
My friends think that I should make purchases through the Web.

Personal Innovativeness in IT:
If I heard about a new information technology, I would look for ways to experience with it.
Among my peers, I am usually the first to try out new information technologies.
I like to experiment with new information technology.

Perceived Ease of Use:
Learning to use the Amazon.com is easy for me.
I find it easy to get Amazon.com to do what I want it to do.
My interaction with Amazon.com is clear and understandable.
I find Amazon.com easy to use.

Purchase Intention:
I would use my credit card to purchase from Amazon.com.
I am very likely to buy products from Amazon.com.