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A Study of the Impact of Culture on Trust Determinants in eCommerce: A Cross-culture Comparison Study

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ABSTRACT

The aim of this study is to examine the impact of culture on the trust determinants in e-commerce. The study adopts two broad trust building foundations (cognition- and affect-based trust) from cross-culture literature, focuses on one well-established cultural construct (i.e., individualism-collectivism) as groups of culture, develops a theoretical model of cognition-based versus affect-based e-Vendor trust, and empirically tests the model using cross-cultural data.

Keywords
Trust in e-Vendor, Cognition-based trust and affect-based trust determinants, Cross-cultural comparison

INTRODUCTION

As the origin of the Internet shopper becomes progressively more global and as the Internet is increasing at an exponential rate in terms of the number of cross-national interactions between Internet vendors (e-Vendor) and consumers, it becomes critical to understand the existence and nature of cultural differences on trust in e-commerce (Jarvenpaa et al., 1999). Furthermore, there are differences in trust in terms of level of trust perceptions, the way in which it was conceptualized and formed in the context of different cultures (Lee and Turban, 2001, Sako and Helpers, 1988). Thus, it is an important issue to investigate the effect of trust determinants across cultures. However, little research has been examined in the impact of culture on trust in e-commerce, especially cultural influences on trust determinants.

Prior research dealing with antecedents of trust in e-commerce (Kim et al., 2003, Walczuch et al., 2001, Jarvenpaa et al., 1998, Alesina and Ferrara, 2000, Gefen, 2000b, McKnight et al., 2002, Chen and Dhillon, 2003, Chang et al., 2005) identified plenty of trust determinants such as disposition to trust, familiarity, previous transaction experience, perceived security protection, perceived system reliability, privacy concern, reputation, importance of referral, word-of-mouth, third trusted party seal, information quality, and so on.

Some studies have done work in the area of culture effect on trust (Strong and Weber, 1998, Griffith et al., 2000), but most dealt with the culture effect in a non e-commerce context. Although few studies (Jarvenpaa et al., 1999) focus on the cultural influences on determinants of trust in e-commerce context, there are several limitations (i.e., limited number of determinants, biased cultural homogeneity, and no strong cultural differences in the results).

Thus, this paper addresses this gap in the research to date and tests cross-culture validation of trust determinates. Specifically, this study intends to focus on the following two key research questions. What kinds of determinants will play a significant role in explaining trust in e-commerce, depending on cultural differences? Is there a significant difference in the effect of several significant determinants of trust in e-commerce, depending on cultural differences?

LITERATURE REVIEW: CULTURAL DIFFERENCE OF TRUST

National culture influences individual and organizational trust development processes (Doney et al., 1998). Since there are hundreds of countries in the world, there must be a proper way to place hundreds of different types of cultures into some categories to allow for comparison. Hofstede (1991) revealed the five cultural dimensions: individualism/collectivism, uncertainty avoidance, power distance, masculinity/femininity, and long/short term orientation on life. Based on Hofetede's framework and using individualism/collectivism and power distance as independent variables, Strong and Weber (1998) examined the theory that trust is culturally determined and concluded that differentials in trust exist globally between cultures. Griffith et al. (2000) assigned the United States and Canada as Type 1 culture with an "individualistic-small power

distance-weak uncertainty avoidance," in contrast with Type 2 culture countries (Chile and Mexico) with "collectivistic-large power distance-strong uncertainty avoidance" characteristics. Although no significant difference in the strength of the trust-commitment relationship was found between Type 1 and Type 2 cultures, the study discovered that Type 1 culture has a higher possibility of forming a trusting relationship with other Type 1 culture countries rather than with other Type 2 culture countries.

A number of e-commerce trust studies empirically tested the effect of trust on the behavior intention (i.e., willingness to purchase) and found trust to have a significant positive impact on intention to purchase. Jarvenpaa et al. (1999) used Hofstede's dimensions to compare Internet trust in individualistic and collectivistic cultures to conduct a study on a cross-cultural validation of an Internet consumer trust model. They examined that consumers in different cultures may have differing expectations of what makes a web merchant trustworthy. Although no strong cultural effects were found regarding the antecedents of trust, their study ignited examinations of cultural differences in the antecedents of trust and the levels of trust in the e-commerce context.

McAllister (1995) differentiates between two broad foundations upon which trust is built in organizational settings: cognition and affect. Cognition-based trust is built on the knowledge of role performance, whereas affect-based trust is built on the emotional bonds between partners. Based on the contrasting role of cognition- versus affect-based trust in the two different cultures, Chen, et al. (1998) proposed that cognition-based trust is more positively related to cooperation in an individualist culture while affect-based trust will be more positively related to cooperation in a collectivist culture. Table 1 summarizes main ideas and key variables of key culture-related studies.

Authors	Main Idea	Key Variables
Hofstede (1991)	Reveal the five cultural dimensions	Individualism/collectivism, Uncertainty avoidance, Power distance, Masculinity/femininity, and Long/short term orientation on life.
Strong and Weber (1998)	Examine the common assumption that trust is culturally determined and differentials in trust exist globally between cultures.	Level of self-interest, Power Distance
Griffith et al. (2000)	Tests the construct relationship between trust, commitment, conflict and satisfaction through manufacturer-distributor relationships.	Commitment, Type 1 culture, and Type 2 culture
Chen, et al. (1998)	Develop a culturally contingent model of cooperation	Cognition-based trust, Affect-based trust, and Cooperation

Table 1. The Summary of Key Culture-related Studies

RESEARCH MODEL AND HYPOTHESES

In this study the effects of culture is examined by focusing on one well-established cultural construct, *Individualism-Collectivism* (I-C) which refers to the degree to which a culture reinforces individual (as opposed to collective) achievement and relationships. Individualists define the self as an autonomous entity independent of groups, whereas collectivists define the self in terms of its connectedness to others in various in-groups. In *individualistic* cultures, the needs, values, and goals of individuals take precedence over those of the group whereas in *collectivistic* cultures, the needs, values, and goals of the group take precedence over those of the individual (Gudykunst, 1997). Thus, in more collective cultures, decisions are influenced by the group norm and member's opinions.

How does I-C influence trust determinates in e-commerce context? Following the propositions suggested by Chen, et al. (1998), this study adopts two broad trust building foundations (cognition- versus affect-based trust) as groups of trust determinants. *Cognition-based trust* is built by self-perception and self-interest on the cues of performance and the fact of accomplishments through direct interactions with a partner whereas *affect-based trust* is built by a social emotional bond that goes beyond a regular business or professional relationship. Cognition-based trust determinates are more valued while affect-based trust determinants are less valued in individualist cultures than in a collectivist culture. Cognition-based trust determinants are related to the features or characteristics of the trustee while affect-based trust is related to the input from others (e.g., third party) than the trustee. Drawing from the relationship between I-C and cognition-based versus affect-based trust determinants, we propose:

Proposition 1: Cognition-based trust determinants will be more positively related to consumer trust in e-Vendors in an individualist culture than in a collectivist culture.

Proposition 2: Affect-based trust determinants will be more positively related to consumer trust in e-Vendors in a collectivist culture than in an individualist culture.

In e-commerce context, the cognition-based trust determinants are associated with consumers' perception and interactions with a selling party[1]. Among the trust determinants that previous e-commerce researches have identified, perceived security protection, privacy concern and system reliability are selected as cognition-based trust determinants. The affect-based trust determinants are related to influences of other sources (e.g., recommendation, referral, and third party reviews) than the selling party itself. It is worthy to note that affect-based trust is a further development of cognitive trust (Chen et al., 1998). In this study the presence of third party seal and importance of referrals are selected as affect-based trust determinants.

Perceived security protection refers to a consumer's perception that the e-Vendor will fulfill security requirements, such as authentication, integrity, encryption, and non-repudiation. Consumers have to send confidential information to e-Vendors over the Internet to make an Internet transaction. Without an appropriate level of security protections, as the number of these transactions increases, so does the number of security attacks. Thus, online consumer's perception regarding security affects trust in the e-Vendor (Miyazaki and Fernandez, 2001).

Privacy refers to the rights of individuals and organizations to determine for themselves how, when, and to what extent information about them is to be permitted to others (Udo, 2001). Privacy issues come from concerns such as unauthorized sharing of personal information, spam from the online retailer, and disclosure of the patterns of the customer's shopping behavior (Miyazaki and Fernandez, 2001). A privacy concern is identified as a major concern when online consumers make a transaction (Udo, 2001). Concerns about privacy are likely to decrease consumer trust in e-Vendor and lower purchase intentions (Labuschagne and Eloff, 2000).

As a technical dimension to support electronic commerce, *system reliability* considers key factors such as the following: access is always fast and available, very few errors are allowed at all levels, the transaction record is correct and remains correct, and that services do not fail during a transaction. For example, a site may not totally fail but site access may become so slow that a sale is lost. This is not a hard failure, but may be classified as a soft failure. Even under soft failure, consumers' trust regarding that site may be negatively impacted.

In order to survive in today's competitive market, online sellers continuously upgrade to the latest technologies. The main reason is to present to their consumers a steady and reliable system where every bit of pertinent information will be available to the consumer, just a click away. This also generates an impression about the competency of the seller, and consequently consumers tend to trust the seller. Thus, perceived system reliability refers to the consumer's perception that a Web vendor system is always available and fast, that it makes few errors at all levels, that the transaction record is correct, and that services will not fail during a transaction.

The presence of a *third party seal* refers to the assurance of Internet vendors by third party certifying bodies (e.g. banks, accountants, consumer unions, and computer companies). Recently, a wide variety of third party seals were introduced to help create trust in electronic commerce. The basic idea is that when Internet customers see the seal on a given site, it creates extra trust in that Website. The purpose of seals is to provide assurance to consumers that a Website discloses and follows its operating practices, that it handles payments in a secure and reliable way, that it has certain return policies, or that it complies with a privacy policy that says what it can and cannot do with the collected personal data (Castelfranchi and Tan, 2001, Koreto, 1997, Shapiro, 1987). Thus, when an ordinary consumer finds a third party seals on an e-Vendor's site, he or she can recognize the e-Vendor has openly agreed to disclose their information gathering and dissemination practices, and that their disclosure is backed by credible third-party assurance (Benassi 1999), which will affect the consumer trust in e-Vendor so that the consumer feels comfortable completing the transaction.

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[1] A selling party or entity in this study refers to the firm as well as the website as a whole, because it is through the website that all transactions with the firm are consummated.

Referral or recommendation from third party sources (e.g., friends, professional margins, and reviewers, etc) is another important determinant influencing a consumer's trust in e-Vendor. The empirical evidence of the effect of referrals including word of mouth has been presented in diverse purchase situations (Ardnt, 1967). According to a word-of-mouth referral study conducted by Money et al. (Money et al., 1998) in cross-national setting (the United States vs. Japan), collectivistic cultural (i.e., Japanese) companies use more word of mouth referral sources than individualistic cultural (American) companies do. Figure 1 illustrates the research model on the relationships between trust determinants and trust in e-Vendor.
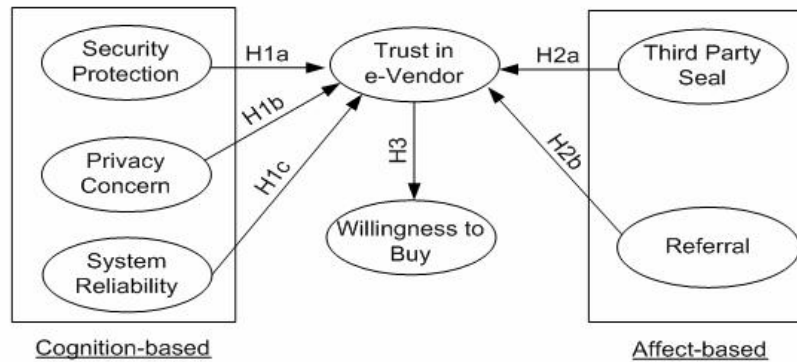

Figure 1. The research model

RESEARCH METHODOLOGY AND DATA COLLECTION

For the cross-culture validation of the model and testing the proposed hypotheses in cross-cultural setting (i.e., individualistic and collectivistic), a set of data were collected from a group of students at public universities in the Northeastern United States and South Korea. The choice of the United States and Korea as the two samples can be justified that the two countries are similarly positioned in terms of the maturity of e-commerce and they are representative of two typical cultures. The United States is retranslated as an individualist society, while Korea has a collectivist cultural type characterized as strong and intimate social relationships among the member of society (Griffith et al., 2000).

As recommended by Bentler and Chou (1987), each construct was measured by at least three observable indicators. All constructs were measured using multi-scales items. The items were written in the form of statements or questions. Most of the scales used 7-point Likert scales with end points such as strongly disagree/strongly agree, extremely unlikely/extremely likely, and not at all confident/completely confident (measurement items are available on request).

EXPECTED CONTRIBUTION

This study is expected to show that the impact of some determinants of trust will be influenced by cultural differences. By comparing two different cultural environments, we may better understand the influences of cultural differences on trust in the e-Vendor in e-commerce. This research is also expected to provide both theoretical explanations and empirical validations of the impact of cultural differences on trust in e-Vendors. The result of this study would be used in following research that aims to expand our understanding of the effect of each antecedent of trust in e-commerce, based on distinct culture environments. This study also provides important insights for multi-national online business managers about their understanding of what kinds of determinants –based on cultural characteristics—should be highlighted relatively more seriously in establishing trust in different cultures.

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