

# CROSS-CULTURAL DIFFERENCES IN PERCEIVED RISK OF ONLINE SHOPPING

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**ABSTRACT:** This study investigates the perceived risk that has been considered as influencing the consumer purchase decision process during online shopping. For the purpose of this study, perceived risk is defined as the potential for loss in pursuing a desired outcome from online shopping. Specifically, this research investigates the differences in perceived risk between online shoppers and non-online shoppers, as well as online shoppers' perceived risk relating to two culturally different countries (i.e., Korea and the United States). The results indicate that the perceived risk is higher for non- (or less-experienced-) online shoppers than for frequent online shoppers, and that both Korean and US Internet users have a similar aggregated degree of perceived risk toward online shopping, though there are significant relative differences in specific risk items (i.e., social, financial, time, and psychological risk), which reflect the existence of the cultural differences in response to the specific risk factors.

There is little doubt that, in a considerably short period of time, the Internet has grown enormously in both its applications and number of users. The Internet's great degree of adaptation, coupled with its relatively unique characteristics of interactivity and personalization, increases the chances of innovative business strategies. One revolutionary change brought forth by the Internet - online shopping - has become a viable threat to traditional shopping channels, such as retail stores and catalogs in certain product areas (Lohse and Spiller, 1998). According to Ernst and Young's Annual Global Online Retailing Report (2001), online shopping will represent 10 to 12 percent of all sales in apparel, health, and beauty, and as much as 25 percent of all sales for books, music, software, and consumer electronics by 2005. While the traditional "brick-and-mortar" shopping venues are restrained by time and space, the Internet has decreased the effort and time consumers spend on shopping (Bhatnagar et al., 2000). Furthermore, the Internet makes an unlimited range of products and services accessible for consumers all around the world (Quelch and Klein, 1996). Subsequently, people can buy or sell virtually anything, at anytime, from anywhere, through online shopping. For this reason, Samiee (2001) declared the Internet to be "one of the most significant, and perhaps the greatest, marketing tools for the global marketplace" (p. 284).

Despite the significant growth and optimistic outlook for the future growth of online shopping, negative aspects are also becoming more frequently associated with this alternative shopping method. For example, consumers are worried that the Internet still has very little security with respect to using their credit cards and disclosing personal information (Pallab, 1996). Consumers are also concerned about purchasing a product from "faceless" sellers without physically examining

the products. Therefore, it is assumed that people may feel a certain degree of risk when purchasing a product through the Internet. In other words, consumers may worry about the performance of the product they are trying to purchase, the possible loss of their time or money, or even other people's judgments about their purchase, until they finally confirm the quality of the product.

Perceived risk is considered an uncertainty regarding the possible negative consequences of using a product or service. It is a combination of uncertainty with the possibility of serious of outcome (Bauer 1967). The idea of perceived risk has been captured through the use of various scales by measuring the perception of dangerous events occurring, or the presence of the attribute in service (Featherman and Pavlou, 2002). In this study, perceived risk is defined as the potential for loss in pursuing a desired outcome while engaged in online shopping. According to Tan (1999), since the 1960s, there have been numerous studies designed to understand the concept of perceived risk and its impact on consumer behavior. As a result, various types of risks in making purchase decisions have been identified from ever expanding retail alternatives (Shimp and Bearden, 1982). For instance, Cox (1967) identified two major categories of perceived risk, performance and psychosocial risks. He then classified performance risk into three types: economic, temporal, and effort, while psychosocial risk was classified into two types: psychological and social. Cunningham (1967) further typified perceived risk as having six dimensions: performance, financial, opportunity/time, safety, social, and psychological risks. Extensive literature supports the usage of these risk facets in order to understand consumer product, service, and purchase evaluation (Featherman and Pavlou, 2002).

The majority of research on risk has been at the level of the individual. This level is also the one for which notable cross-cultural studies have been conducted on the major area of interest (McDaniels and Gregory, 1991). Nonetheless, it still seems that few studies deal with such matters in the case of online shopping, even though millions of online transactions are managed on a daily basis all around the world (Watson et al., 2000). Moreover, cross-cultural research on perceived risk in online shopping also has been an underdeveloped field of inquiry. However, it is important to be aware of the existence of cultural differences in perceived risk of online shopping as global business transactions grow at an exponential pace on the Internet. On the other hand, it is also important to identify the differences in perceived risk between online shoppers and non-online shoppers, considering that more than half of Internet users still have not made an online purchase (Teichgraber, 2001). An underlying assumption of this study is that different individuals would have different levels of perceived risk, while consumers in different cultures might have differing perceptions of what deters them from shopping online. The main objectives of this study are to better understand the risk perceptions of consumers in online shopping and to investigate the cultural differences in perceived risk between American and Korean Internet users. Moreover, this study gains insights into how certain risk relievers affect buyers' willingness to purchase a product through online shopping, based on cultural perspectives.

In this study, Korea was selected for a comparative analysis with the United States because this country provides a critical environment to do cross-cultural research regarding online shopping. According to the National Office for the Information Economy (NOIE) Index, which ranks 14 key countries across several Internet related statistical indicators, both Korea and the United States are leading countries in the world in terms of Internet access and use (Pearce, 2002). Korea ranks first with an estimated 2.1 million Internet users per ISP, compared to the US, in second place with an estimated 20,000 users per ISP. Internet connection speed is one of the Korea's strengths, with 87 percent of home Internet users having access to high speed Internet (Pearce, 2002). As the high speed Internet provides a favorable environment for use of the medium, this can increase the level of Internet usage, as well as online shopping. Based on the Business to Consumer e-commerce statistics, Korea is the second only to the United States in penetration rate of retail sales and Internet shoppers as a percentage of those of working age (OECD Report, 2001). Finally, Korea is a typical Asian culture, rich in

tradition and values that are quite different from the West. For example, according to a study by Hofstede (1991), Korea was identified as a relatively high uncertainty avoidance country, ranked 17th among the 53 countries. On the other hand, the United States was identified as one of the lowest uncertainty avoidance countries, ranking 43rd among the 53 countries. Because of this, a comparison between countries with such distinct cultural traditions (the United States and Korea) provides an even more stringent examination of cross-cultural differences (Taylor et al., 1997).

## BACKGROUND LITERATURE

### Perceived Risk

When buyers plan to purchase a product or service, they often hesitate to take action because they cannot be certain that all of their buying goals will be achieved with the purchase (Roselius, 1971). In other words, buyers may perceive a certain degree of risk in most purchase decisions (Cox and Rich, 1967). Dowling and Staelin (1994) defined the concept of perceived risk as "the consumer's perceptions of the uncertainty and adverse consequences of buying a product or service" (p.119). In attempts to identify the components of perceived risk, researchers have investigated consumers' perceived risks whenever new types of products or retail alternatives enter the stage of marketing (Tan, 1999). For instance, studies have investigated the perceived risks of telephone shopping (Cox and Rich, 1967), tangible product selection (Cunningham, 1967), services purchasing (Garner, 1986), direct marketing (Akaah and Korgaonkar, 1988), and online shopping (Tan, 1999). These studies show that risk perceptions in purchasing differ both from individual to individual and from situation to situation.

Regardless of different situations for identifying perceived risk, numerous studies have argued that the following types of risk are usually involved in purchase decisions: social, financial, physical, performance, time, and psychological risks (Jacoby and Kaplan, 1972; Kaplan et al., 1974; Shimp and Bearden, 1982; Garner, 1986; Kim and Lennon, 2000). First, social risk refers to the perception that a product purchased may result in disapproval by family or friends (Dowling and Staelin, 1994). Second, financial risk is the perception that a certain amount of money may be lost or required to make a product work properly (Garner, 1986). Third, physical risk refers to the perception that a product may be dangerous to health or safety when it does not work properly (Roselius, 1971). Fourth, performance risk is the perception that a product purchased may fail to function as originally expected (Kim and Lennon,

2000). Fifth, time risk is the perception that time, convenience, or effort may be wasted when a product purchased is repaired or replaced (Bauer, 1967). Finally, psychological risk is the perception that a negative effect on a consumer's peace of mind may be caused by a defective product (Jacoby and Kaplan, 1972). In addition, privacy risk is the potential loss of control over personal information, such as invasion of privacy.

Researchers have shown that each type of perceived risk could be grouped in case of a certain type of product (Garner, 1986; Stone and Gronhaug, 1993). For instance, Garner (1986) examined the differences in perceived risk between types of products. Their results revealed that financial, psychological, and social risks significantly affect buyers' purchase decisions for tangible products, while time and financial risks were considered more important in the purchase of services. With respect to the differences in perceived risk among several types of shopping channels, previous research showed that consumers fear a higher level of risk in the act of buying through non-store shopping than through "brick and mortar" stores or salespersons (Akaah and Korgaonkar, 1988). This occurs because consumers have few chances to physically inspect products prior to a purchase (Cox and Rich, 1967); it is more difficult for consumers to return faulty products with non-store shopping (Spence et al., 1970); people are much more familiar with off line shopping, having done it very often, and worry about the unfamiliarity of on-line shopping; and consumers may feel uneasy about dealing with a "faceless" retailer in considering potential deception (Darian, 1987).

**Perceived Risk of Online Shopping** Given that online shopping is a relatively new type of shopping method, significant changes must occur in order to encourage more consumers to shop online. For this to happen, consumers must recognize that they could obtain a better deal from online shopping than from traditional shopping channels (Keeney, 1999). According to Alba et al. (1997), there are four positive factors that affect consumers' decisions to shop online: vast selection, screening, reliability, and product comparisons. First, people can buy virtually anything via the Internet just by typing in what they want. Second, most online shopping sites classify their listings into categories, subcategories, and even sub-subcategories to facilitate browsing and screening a large number of options (Hunt, 1999). Third, since the Internet is regarded widely as an interactive communication medium, the ratings and reputations of a certain online retailers are publicly visible to consumers. Finally, online shopping allows consumers to compare numerous alternatives and substitute products under a certain category, thereby encouraging

greater price competition even for goods in limited supply (Rowley, 2000). In addition to the four factors, there is also the convenience factor in that people can shop at any time with no hassle and little interruption of other activities. Consequently, it is evident that online shopping is a more innovative, convenient way of shopping than traditional shopping channels (Szymanski and Hise, 2000).

However, there are also numerous factors that still make consumers uncertain about online shopping. Since online shopping incorporates many characteristics of non-store shopping, it is natural that online shopping shares some of the perceived risks of non-store shopping (Tan, 1999). For instance, the Internet, just like any type of non-store shopping, makes it difficult to examine physical goods; consumers must rely upon somewhat limited information and pictures shown on the computer screen (Jarvenpaa and Tractinsky, 1999). Moreover, there is bound to be much uncertainty regarding system security, reliability, standards, and some communication protocols (Turban et al., 1999). All these factors increase the perceived risk of online shopping so that more than half of Internet users still have not made an online purchase (Teichgraeber, 2001).

In an early attempt to identify the perceived risks of online shopping, Tan (1999) examined costs and benefits of in-store versus online shopping. The results showed that perceived risk is higher when purchasing products through the Internet than when purchasing by in-store means. However, this study did not delineate which type of perceived risk has the most affect on consumers' online shopping because only the average scores of both shopping methods were analyzed. With respect to specific types of perceived risk in online shopping, Bhatnagar et al. (2000) emphasized two types of risk in online shopping: product category risk and financial risk. Product category risk is associated with performance risk, which refers to a negative perception about the quality of a product (Kim and Lennon, 2000). Therefore, they argued that the risk is greatest when the product is technologically complex or the price is high. For example, the level of risk for buying books and music CDs was low, while the risk for electronics, computers, and cologne was high. On the other hand, financial risk includes both tangible and intangible assets of consumers. That means consumers are quite apprehensive, not only about losing certain amounts of money, but also about losing private information required in the transaction (Szymanski and Hise, 2000). Considering both benefit and risk factors of online shopping, Bhatnagar et al. (2000) said that the Internet is still considered a risky shopping channel. That means a

considerable portion of consumers perceives that risks outweigh the advantages of online shopping in their purchase decisions.

**Cross-Cultural Perspectives of Perceived Risk** Culture is a term with multidimensional interpretations (Weber and Hsee, 1998). According to Hofstede (1991), the term is defined as "the collective mental programming of the mind which distinguishes the members of one group or category of people from another" (p. 5). In other words, the individual members of a group share certain ideas, values, acts, or emotions with other members of the group (Mooij, 1997). In international marketing, culture is considered one of the most influential factors that affect consumers' motives, attitudes toward choices, intentions, and purchases on a global basis (Jarvenpaa and Tractinsky, 1999). Supporting this argument, Samiee (2001) even asserted, "the single most important factor that influences international marketing on the Internet is culture" (p. 297). Therefore, an understanding of the reasons why members of different cultures differ in perceived risk of online shopping should be crucial considering the rapid globalization brought by the Internet.

In most previous cross-cultural research, cultural differences often follow national boundaries (McDaniels and Gregory, 1991), and these differences are analyzed by a number of cultural dimensions, provided by Hofstede (1991). He identified four underlying dimensions of cultural values: power distance, uncertainty avoidance, individualism/collectivism, and masculinity/femininity. Among the four major dimensions of cultural values, uncertainty avoidance was considered the most important cross-cultural perspective of perceived risk because this dimension mirrors a culture's tolerance or intolerance of uncertainty. According to Hofstede (1984), uncertain, ambiguous, risky or undefined situations are seen as threatening and to be avoided at all costs in a high uncertainty avoidance culture, while risk is considered a natural component of life that can often produce opportunity in a low uncertainty avoidance culture. In other words, cultures high in uncertainty avoidance would tend to be less risk-taking because they are motivated by a fear of failure or loss (Bontempo et al., 1997). Such an interpretation of uncertainty avoidance indicates that this cultural dimension should affect perceived risk more for people from cultures with greater scores on uncertainty avoidance. According to the classification of Hofstede (1991), Korea was identified as a relatively high uncertainty avoidance country, ranked 17th among the 53 countries. On the other hand, the United States

was identified as one of the lowest uncertainty avoidance countries, ranked 43rd among the 53 countries. Thus, it can be assumed that cross-cultural differences in the uncertainty avoidance index would affect the differences in perceived risk of online shopping between the two countries.

## RESEARCH HYPOTHESES AND QUESTIONS

This study extends previous research on measurements of perceived risk by examining how buyers' perceived risks could be differentiated according to experiences in online shopping. In addition, it takes into account differences in perceived risk between the United States and Korea.

According to Tan (1999), buyers consider a variety of risks when making a choice among several retail alternatives. In many situations, buyers do not use a certain choice of retailer unless they feel confident in fulfilling all of their buying goals through the retailer. This assumption can be applied to online shopping situations; among consumers, only those with a lower level of perceived risk for this shopping method, will be more motivated to purchase a product or service online. Therefore, it was expected that those who have already had online shopping experiences (i.e., either purchasing a product or service), would perceive different levels of perceived risk for online shopping than those who have not. In this study, online shopper was operationalized as a person who had shopped online at least once during the recent one-year period. Based on this assumption, the following research hypothesis was advanced:

**H1:** Online shoppers will show a lower level of perceived risk toward online shopping than will non-online shoppers.

This hypothesis will be tested for a combined set of samples from both countries in order to view the universal difference in online vs. non-online shoppers for the perceived risk on online shopping. Although differences in other external factors between two countries (such as Internet penetration, history of online shopping industry, laws and regulations on online shopping business, etc.) might confound our hypothesis, we assume there was no critical confounding effect in our test because Korea and the U.S. could be viewed similar in these external factors (except for the culture) according to the various recent studies (e.g., OECD Report, 2001).

Once the universal difference was found, risk perception difference in online shopping by cultures (i.e., between the United States and Korea) was studied to test the second hypothesis. Bontempo et al. (1997) said that a cultural

difference in uncertainty avoidance, which also means a variation in relative emphasis on risk of failure, might also result in a certain level of difference in the perception of risk. Therefore, it was also expected that people from a high uncertainty avoidance culture (like Korea) would perceive different levels of perceived risk for online shopping than those from a low uncertainty avoidance culture (like the United States). Based on this assumption, the following research hypothesis was advanced:

**H2:** American Internet users will perceive a lower level of risk for online shopping than will Korean Internet users.

### METHOD

The data for this study was collected via a self-administered questionnaire, which has been useful for analyzing perceived risk (Akaah and Korgaonkar, 1988). Prior to data collection, a pretest was conducted to set up a hypothetical purchasing situation based on Tan's (1999) study. In the pretest, twenty subjects (ten Koreans, ten Americans) evaluated a number of products (e.g., a notebook computer, scanner, music CD, and software) based on their perceived risks. From the pretest, the hypothetical situation of online shopping for this study was established as "purchasing a scanner at a reputable shopping site." The exploratory survey revealed that a scanner is a relatively medium-involved product among the subjects from both countries. The medium-level-involved product was ideal for our study because it provided non-confounded measures of risk perception on online shopping. If the product was too high or low in its involvement level, our results regarding the risk perception of online shopping might generate confounded results due to the extremity of product involvement. After setting up the hypothetical purchasing situation of online shopping, the main survey questionnaire was developed to identify the perceived risks of online shopping.

For a dependent variable in this study, multi-item scales were constructed to measure the perceived risk of online shopping. Based on the measurement method of Garner (1986), a list of six risk components was used to measure the degree of perceived risk when purchasing a product online: social, financial, physical, performance, time, and psychological risks. After data collection, an ANOVA was conducted to determine the significant differences in perceived risk between online shoppers and non-online shoppers as well as between American Internet users and Korean Internet users. In order to construct a Korean version of the questionnaire, a translation and back-translation method was adopted in this study (Brislin, 1986). Bilinguals translated the questionnaire,

originally written in English, into Korean. Then different bilinguals translated the Korean-written questionnaire into English again. Finally, the first and second versions of the English questionnaire were compared, and any discrepant questions were corrected.

**Data Source** The survey was conducted at universities in both Korea and the United States. Subjects in both countries volunteered to attend one of the experimental sessions in return for extra credit, given with permission of instructors from the corresponding courses. The sample consisted of 201 students from a large southeastern university in the US, among which 192 were usable for the analyses of this study. In addition, another survey was conducted at a large university in Korea, with a translated version of the questionnaire. A total of 167 Korean college students participated in this study, and 155 of the questionnaires were usable. For the survey sample, the college student group was considered acceptable due to the fact this group represents a significant portion of the Internet population in both countries. Respondents ranged in age from 18 to 34 in the United States, and ranged from 18 to 27 in Korea. The median age was 21 for the American subjects, and 20 for the Koreans. After gathering the data, the respondents were classified into one of two groups, online shoppers and non-online shopper. Among the total respondents, 57 (29.7%) of 192 students were classified as online shoppers in the United States and 42 (27.1%) of the 155 students in Korea. In this study, online shoppers were operationalized as those who have made at least one online purchase for any product or service during the recent one-year period. A brief description of the respondents of both countries is presented in Table 1.

**Structure of Questionnaire** There are three major sections in the questionnaire. First, respondents were asked to express their experiences about using the Internet in terms of Internet usage frequency, amount of time using the Internet, and online-shopping. Second, respondents were asked to express their level of agreement with Garner's (1986) six item statements about the perceived risks under the hypothetical purchasing situation of online shopping. Initially, each statement was derived from the aforementioned six components of perceived risk. The statements were: "If I purchase a scanner from a reputable Internet shopping site," (1) "the product might fail to perform to my satisfaction." (Performance Risk); (2) "my friends or relatives will judge my purchase." (Social Risk); (3) "I might lose my money." (Financial Risk); (4) "the product might cause danger to my health or safety." (Physical Risk); 5) "I might waste my time or effort getting the product repaired or replaced." (Time Risk);

and (6) "the purchase might have a negative effect on my peace of mind." (Psychological Risk). Finally, respondents' demographic information was requested with respect to age and gender.

Although perceived risks are different among individuals with diverse demographic and psychographic backgrounds (Roselius, 1971), these six statements were intended to cover most of the perceived risks of consumers. A seven-point scale was used ranging from 1 (strongly disagree) to 7 (strongly agree) about each statement, with 7 representing the highest perceived risk, and 1 indicating the lowest perceived risk for each risk statement. The mean of the total risk index indicated the degree of perceived risk of each respondent under the given hypothetical purchasing situation. The mean of the total perceived risk index was 4.17 (SD = .81) in the United States and 4.21 (SD = .81) in Korea. The six-item perceived risk index had a .83 internal reliability alpha coefficient in the United States and a .89 in Korea (Table 2).

The survey instrument was adapted for Korean-language respondents. A native Korean speaker translated appropriate items from the original English-language questionnaire into Korean. Working independently, a second Korean speaker, who has lived in the United States extensively, then back translated the translated items into English. The back-translation was accomplished without reference to the original English-language questionnaire. The two English-language versions (the original and the translated) were then compared. While most items survived the two translations well, some items required correction. The corrected items were once again back translated to produce the final questionnaire. This questionnaire was pre-tested with Korean-language respondents in the United States to ensure that purchasing was accurate and smooth.

## RESULTS

In order to verify the research hypotheses and question, the data was analyzed in the following stages. First, a one-way ANOVA was used to test H1 (whether any significant difference exists in the perceived risk between online shoppers and non-online shoppers). Then, H2 (differences of risk perception between the American Internet users and the Korean Internet users) were also examined.

### Perceived Risks between Online Shoppers and Non-Online shoppers

The results of the one-way ANOVA comparisons for the two groups, online shoppers and non-online shoppers in both

countries, on the perceived risks of online shopping, are presented in Table 3. In order to specify the differences as well as the similarities between the two groups, the mean scores of each of the six types of perceived risk along with the perceived risk index were also compared in this analysis. The results of the ANOVA indicated that a significant difference existed in the perceived risk index between the two groups (i.e., online and non-online shopper groups) ( $F(1,346) = 17.151, p < .001$ ). As expected, non-online shoppers viewed online shopping riskier than did online shoppers. Therefore, H1 was strongly supported by this analysis. Specifically, according to the comparison of each mean score for the six types of perceived risk between the two groups, three out of the six types of perceived risk showed statistical significance at a .01 level. Therefore, non-online shoppers perceived a higher level of perceived risk toward online shopping in terms of financial, time, and psychological risks. That means those who have not used online shopping seemed to be more concerned about the possible loss of their money, time, and peace of mind due to a bad transaction at an online shopping site than online shoppers.

### Perceived Risks between American and Korean Internet users

Hypothesis 2 was partially supported in this study. The influence of nationality on perceived risks showed no significant difference in the perceived risk index between the two countries, even though the Korean Internet users displayed a slightly higher level of perceived risk toward online shopping ( $F(1, 346) = .188, p > .05$ ). However, four out of the six types of perceived risk showed individual statistical significance at the .05 level. As shown in Table 2, Korean Internet users felt a higher level of social risk toward online shopping, while the American Internet users had a higher level of perceived risk in terms of financial, time, and psychological risk.

This result implies that performance and physical risk items are more related to the evaluation of product itself rather than shopping channel evaluation. In other words, people may feel three types of risks (instead of six) toward the shopping channel or method. Second, based on the fact that Korean subjects were more concerned with social risk when purchasing online, this study suggests that cultural differences in perceived risk might also be affected by the individualism/collectivism dimension because, as members of a socially-collectivist culture, Korean Internet users may care more about how family or other in-group members view their purchases. On the other hand, it was also assumed that in

individualist cultures like the United States, a person making a risky decision would be expected to personally deal with all the possibly adverse consequences of their purchase from online shopping. Therefore, American Internet users seemed to be more worried about the possible loss of their money, time, and peace of mind. In spite of the differences between the two countries, both groups showed the highest perceived risk in terms of performance risk.

## DISCUSSION

This study showed a significant difference in the perceived risk of online shopping between online shoppers and non-online shoppers. Those who had not experienced online shopping had a higher level of perceived risk than those who had purchased a product online. This study also showed that both American and Korean Internet users had a similar degree of perceived risk toward online shopping. Points of significant difference between the two countries may imply that there is a general tendency for the Internet users of the two countries to perceive risk in systematically different ways. In our study, however, Korean subjects showed higher risk perception on social risk, while Americans showed higher risk perception on other factors such as time, financial, and psychological risk. On the other hand, product-related risk factors such as performance and physical risk were not significantly different between both countries. This implies that, to maximize their effectiveness, marketers need to address these concerns country to country. Given that differences in perceived risk are affected by individual, situational, or cultural factors (Weber and Hsee, 1998), this study also contributed to better understanding of how situational differences (online shopping experience) are associated with cultural differences (nationality) in explaining the perceived risk of online shopping.

With respect to understanding consumers in regard to utilizing the Internet as an alternative shopping venue, this study showed that online shopping is still considered a risky proposition in spite of its numerous purported benefits. This implies that Internet marketers involved in an online shopping business should try to attract potential consumers by emphasizing security factors that can alleviate the anxiety of new consumers, while consistently informing existing consumers about the advantages of online shopping, such as wide selection of items, competitive prices, and convenience. However, these strategies alone are not enough to reduce the consumers' perceived risk, as long as consumers cannot physically assess a product before making a purchase from the

Internet. Therefore, it is suggested that Internet marketers also present more thorough information about their products or services by maximizing the effects of Internet resources such as graphics, videos, and customer interactions. For instance, virtual views of 3D images to illustrate product features, enhanced speed of presenting video or audio presentations, and more interactive consumer services by online shopping sites can allay a significant portion of consumers' perceived risk of online shopping. However, marketers should also take into account their consumers' technological level regarding Internet usage (e.g., use of high-speed internet connection) when developing complicated and highly attractive sites. If the manner in which information is presented in cyberspace begins to approach the way consumers experience the traditional brick-and-mortar shopping venues, consumer's perceived risk will be reduced, and their intent to purchase from online shopping sites will improve.

On the other hand, as Taylor et al. (1997) suggested, this study also showed that cultural differences led to differences in Internet usage, especially relating to online shopping. Consistent with previous cross-cultural advertising research, the cultural dimensions were regarded as an efficient tool to explain differences in reactions to online shopping between the two cultures. Considering that past cross-cultural advertising studies mainly examined traditional mass media, this study showed that people from different cultural backgrounds would also act differently under online circumstances. In other words, it is also expected that people from different cultures would have different motivations for shopping online and show different preferences for a certain product at an online store. Therefore, it is suggested that, through their global marketing Web sites, Internet marketers should consider cultural differences when dealing with consumers from all around the world.

This study has some limitations that need to be considered. First, because college students participated in this study, it might be argued that the effects of relatively younger age or higher education may reduce cultural differences between the two countries. Additionally, the use of student participants is not fully representative of general consumers, as students tend to be more cosmopolitan than the population at large. Second, this study set up a hypothetical purchasing situation of online shopping. Thus, the hypothetically assumed situation might be different from real-world situations. Third, this study is possibly limited by the use of a single product category, likely to be familiar to techno-savvy consumers, and using several different categories could provide a more useful result. Finally,

this study measured cross-cultural differences based on national boundaries. Although using a country as a surrogate for culture was common in previous cultural studies (Jarvenpaa and Tractinsky, 1999), it might ignore the possibility that within-country cultural differences may indeed be greater than across-country cultural differences. Therefore, future research needs to consider the consequences or effects of such variations possibly caused by the above limitations.

In spite of its limitations, this study provides an exploratory attempt to examine some differences in perceived risk between the two consumer and two cultural groups. The Internet simply widens the transactions between merchants and consumers to a global scale without any physical boundaries (Samiee, 2001). Therefore, it is suggested that more research is required in order to understand the cross-cultural differences in online consumer behavior as well as to identify appropriate Internet roles to address the differences. A growing understanding of cultural differences and perceived risk will hopefully serve to make the Internet a more friendly, easily understood, and viable global shopping medium in the future.

**APPENDICES**

Table 1. Description of the Respondents

	United States	Korea
Total Respondents	192	155
Range of Age	18-34	18-27
Mean Age	22.07 (SD=3.57)	20.27 (SD=1.92)
Median Age	21	20
Gender Distribution	Male (50.0%) / Female (50.0%)	Male (49.7%) / Female (50.3%)
Online Shoppers	57 (29.7%)	42 (27.1%)
Non-Online Shoppers	135 (70.3%)	113 (72.9%)

Table 2. Perceived Risk of Online Shopping between the American and the Korean Internet users

	Total Respondents (N: 347)	American Respondents (N: 192)	Korean Respondents (N: 135)	Overall F	Sig.
	Mean	Mean	Mean		
Perceived Risk Index	4.19	4.17	4.21	.188	n.s
Performance Risk	5.96	6.01	5.91	.585	n.s
Social Risk	3.35	2.45	4.45	165.984	.000
Financial Risk	5.39	5.56	5.19	5.829	.016
Physical Risk	2.54	2.43	2.68	2.549	n.s
Time Risk	4.76	5.04	4.41	13.191	.000
Psychological Risk	3.13	3.55	2.62	29.389	.000

Note: A seven-point scale was used ranging from 1 (strongly disagree) to 7 (strongly agree) concerning each statement, with 7 representing the highest perceived risk, and 1 indicating the lowest perceived risk for each risk.

Table 3. Perceived Risk of Online Shopping between Online Shoppers and Non-Shoppers

	Total Respondents (N: 347)	Online Shoppers (N: 99)	Non-Shoppers (N: 248)	Overall F	Sig.
	Mean	Mean	Mean		
Perceived Risk Index	4.19	4.30	3.91	17.151	.000
Performance Risk	5.96	5.87	6.00	.912	n.s
Social Risk	3.35	3.26	3.38	.314	n.s
Financial Risk	5.39	5.06	5.53	7.997	.005
Physical Risk	2.54	2.43	2.59	.788	n.s
Time Risk	4.76	4.11	5.02	22.676	.000
Psychological Risk	3.13	2.73	3.29	8.559	.004

Note: A seven-point scale was used ranging from 1 (strongly disagree) to 7 (strongly agree) concerning each statement, with 7 representing the highest perceived risk, and 1 indicating the lowest perceived risk for each risk.

Table 4. Means and Standard Deviations for Each Cell on the Perceived Risk Index

	Online shopping experience	
	Online Shoppers	Non-online shoppers
American Internet Users	3.76 (.97)	4.35 (.66)
Korean Internet Users	4.12 (.85)	4.24 (.80)

\* Standard deviations are in parentheses.

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