

# Culture Matters in the Impact of E-Retailer's Reputation on Consumer's Purchasing Decision

Dr. Lili Zheng, Dr. Michel Plaisent, And Dr. Prosper Bernard

**Abstract**—This study examines how website retailer reputation influences online consumer intention to repurchase. To understand this relationship, we analyze the possible consequence of reputation as a perceived risk and its impact as an antecedent of consumer intention to repurchase. Specifically, a structural equation model is developed for hypothesized relations between the constructs of the study. An empirical research is conducted using data from 407 individual consumers in France (212) and in China (195) to test our conceptual model. The study shows that website retailer reputation determines both non-personal and personal risk negatively. The effect of reputation on perceived risk in online shopping varies across cultures. Reputation has stronger effects on both consumer non-personal and personal risk in collectivist cultures than in individualist cultures. In addition, reputation based non-personal perceived risk was found to be a significant determinant of online consumer intention to repurchase.

**Keywords**— Reputation, perceived risk, intention to repurchase, online shopping, cross-cultural comparison.

## I. INTRODUCTION

REPUTATION has been defined as the intangible asset expressing the evaluation of target market on whether the firm is substantially good or bad, and reflects the cumulative knowledge about the past and present acts of the organization” (Kanibir and Nart, 2009, p. 121). Reputation is an important organization asset, particularly in the era of e-commerce (Lin et al., 2006) and as such, researchers have been drawn to reputation issues surrounding electronic markets in recent years.

Despite the benefits of online commerce over traditional commerce, negative aspects associated with this shopping mode are also becoming critical (Ko et al., 2004). Exposure to new methods of e-commerce transactions and generalized information overload result in increased uncertainty for both new and experienced Internet users (Angriawan and Thakur, 2008; Kailani and Kumar, 2011; Nugent and Raisinghani, 2002). Consumers perceive a higher level of risk when purchasing on the Internet as compared with traditional forms of shopping.

The online reputation created by an online retailer will critically affect consumer perceived risk in a transaction (Lin

et al., 2006). The negative effect of high perceived risk is diminished by an online stores' good reputation (Zheng et al., 2012). Online retailer reputation is positively associated with an online consumer's trust in the store, which further influences the consumer's intention to buy (Javenppa et al., 2000).

However, although extensive research on reputation has been conducted (De Ruyter et al., 2001; Ewing et al., 1999; Kanibir and Nart, 2009; Lin et al., 2006; Zheng et al., 2012) the literature still suffers from a lack of empirical studies that examine whether reputation, through the lens of perceived risk, has an impact on intention to repurchase. The knowledge this current study generates is expected to contribute to the literature on e-commerce competitiveness by its research model that considers the consequences of reputation as antecedent of intention to repurchase.

Moreover, considering that online shopping has an international reach and depends on global markets for its expansion and growth, it is therefore critical to understand the impact of cross-culture on reputation-perceived risk-intention to repurchase model in internet shopping. The research questions furnishing the main impetus for this study are: Does website retailer reputation has a negative effect on consumer risk perception in online shopping? Does perceived risk negatively affect intention to repurchase? Would the inclusion of culture as an explanatory variable enrich an understanding of consumer reputation in international settings?

The paper is organized as follows. First, the literature review is presented to identify the main variables of the study. Second, we present a research model indicating the hypothesized relationships between constructs. Then, we set forth our empirical results obtained from a survey of French and Chinese online clothing product consumers. The conclusion, the study's implications and directions for future research are discussed in the final section.

## II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

### 2.1 Reputation

Reputation is generally regarded as “the impression and assessment of a social entity's esteem or desirability” (Azari, 2003, p. 251). Although a company has many different ways to build its reputation, (advertising or promotion being two methods) reputation is ultimately judged by external entities rather than by the company itself (e.g., Fombrun and Shanley,

1990; Fombrun, 1996). Despite this, reputation has the potential to generate concrete values if it is successfully created by a firm (Kanibir and Nart, 2009).

Reputation is a universal topic across many academic fields (Lin et al., 2006). According to Lin et al. (2006) in business and marketing strategy studies, a firm's reputation resides in its brand name that carries the image of the firm. For example, in business-to-consumer electronic markets, Internet buyers are found to favor websites that sell familiar products manufactured by familiar merchants (Quelch and Klein, 1996).

It should be noted that the resources that build competitiveness are not only related to production and technical processes such as R&D and cost, but are also related to managing consumer emotion towards the firm in the marketplace (Kanibir and Nart, 2009). Therefore, a good reputation can be considered as a psychological antecedent in consumer decision-making processes that affects future short-term and long-term marketing success (Clark and Montgomery, 1998). Regarding the buyer-seller relationship, firm reputation has the power to influence consumer reactions (Kanibir and Nart, 2009). More precisely, a company with a good reputation signals to clients that long-term investment of attention to customer relationship building has been taken into consideration by the company (Kanibir and Nart, 2009). The seller's reputation has a positive effect on buyer's long-term orientation with the seller (Ganesan, 1994).

## 2.2 Perceived Risk

Perception depends not only on physical stimulus but also on the relation between the stimulus and the environment and on the consumer's internal conditions. Cunningham (1967, p. 108) distinguishes between risk and perceived risk since "the consumer can only react to the amount of risk she actually perceived and only to her subjective interpretation of that risk".

Since risk-taking behavior was introduced by Bauer (1960) as a possible measure of consumer attitude towards a purchase, perceived risk has been defined in several ways, with considerable debate surrounding the merit of each (Pires et al., 2004).

Following Bauer's (1960) propositions, the first analyses of perceived risk in the context of consumer behavior concur and define this construct as a combination of two components: the probability of loss (i.e. that which is at stake) and the subjective feeling of the importance (or unfavorable consequence) attributed to that loss (Kogan and Wallach, 1964; Cunningham, 1967; Cox, 1967). The majority of empirical research has, however, favored a definition that has two components (the probability of loss and the subjective feeling of the importance) proposed by Cunningham (1967). Consequently, the definition of perceived risk used to underpin this study contains an interdisciplinary perspective in which the probability of loss from an Internet purchase and the subjective importance of the possible consequences are similar to Cunningham's propositions (1967).

## 2.3 Perceived Risk Dimensions in the Internet Context

Cunningham (1967) defined the concept of perceived risk in terms of two basic components, uncertainty and consequences, with the latter subdivided into two dimensions, performance and psychosocial consequences. Since then, other investigators (e.g., Roselius 1971) have identified physical, time and money loss as other types of consequences. Jacoby and Kaplan (1972) indicate five types of consequences (physical, psychological, social, financial, and performance) by cross-validating these dimensions. Performance risk tends to explain more variance than does any other type of consequence. Jacoby and Kaplan's results are supported and completed by Kaplan et al. (1974) who validate the existence of financial, performance, psychological, physical, social, and time consequences. Hence, perceived risk can be conceptualized in psychological/social dimensions, or in economic/functional dimensions, or in some combination of these two dimensions (Taylor 1974).

Brooker (1984) regroups the perceived risk dimensions into two factors pertaining to use of generic food products (peaches and spaghetti) using a varimax rotation factor analysis on perceived risk scale elements to see what the factor structure looks like. He arrives at non-personal risk factors (financial, performance, physical, and time loss) and personal risk factors (psychological and social loss). Personal risks are defined as the risks that are related to self-image, self-concept or social evaluation (Brooker 1984). Following this perspective, Lee and Kim (2008) and Zheng et al. (2012) measure consumer risk perception across the purchasing modes by using a personal risk group and a non personal risk group. According to the authors, personal risk refers to psychological risk and social risk. Non-personal risk includes physical risk, convenience risk, financial risk, and functional risk.

However, the majority of past research on perceived risk has focused on traditional marketplace and purchasing situations. Several additional relevant dimensions have been proposed based on E-commerce literature for this given shopping context such as, privacy risk, security risk, and source risk (e.g., Cases, 2001; Jarvenpaa and Todd, 1996–1997; McCorkle, 1990). In addition, we should note that most previous studies were conducted on multi-product categories (CDs, books, food, furniture, etc.). Only Cases' (2001) study focuses on a one product category, a jacket. In our study, we select "a clothing product", which is more general than a jacket, but these two items have elements in common in terms of perceived risk. It should be noted that the physical risk dimension related to safety or health when using a clothing product was not identified in Cases' (2001) study. She felt it unnecessary to consider physical risk if the subjects were placed in a clothing purchase situation, generally considered a category of products not harmful to one's health or safety.

## 2.4 Reputation and Perceived Risk

Perceived reputation is defined as the extent to which consumers believe a selling company is honest and concerned about its customers (Doney and Cannon, 1997). When faced

with a questionable product, a consumer is more likely to trust other people either through social connections, referrals and reputation or through consumer himself actions over time (Kanibir and Nart, 2009). An organization with a good reputation may compensate for the perceived risk. As we argue above, online shopping is characterized by an inherently high level of perceived risk. Akaah and Korgaonkar (1988) and Zheng et al. (2012) highlight the importance attached to the manufacturer's reputation to reduce consumer perceived risk towards online shopping. Consumers are likely to perceive an e-retailer with a good reputation as being more trustworthy and credible than one with a poor reputation. Consequently, as an extrinsic cue, an e-retailer's good reputation should foster lower financial, performance, and privacy risk for online shoppers (Sweeney et al., 1999).

Therefore, we suggest that the negative effect of the high perceived risk is diminished by a good organizational reputation and posit the following hypotheses.

**H1.1:** Website retailer good reputation will have a negative effect on Chinese consumer perception of (a) non-personal risk, (b) personal risk.

**H1.2:** Website retailer good reputation will have a negative effect on French consumer perception of (a) non-personal risk, (b) personal risk.

### 2.5 Perceived Risk and Intention to Repurchase

From a managerial point of view, customer intention to repurchase has long been acknowledged as an underlying objective for strategic marketing planning since it brings about many favorable outcomes for companies. One such outcome is that it is much less expensive to retain current visitors than it is to seek new ones (Reicheld and Sasser, 1990). Thus, the intense competition generated by e-commerce results is now generating a growing concern among companies about maintaining consumer continuance intention to repurchase (Parasuraman and Grewal 2000).

A major research strand on the consequences of perceived risk (PR) has examined the link between perceived risk and the post-purchase stage (Cunningham, 1967; Fosythe and Shi, 2003; Liang and Huang 1998; Liao and Cheung, 2001; Liebermann and Stashevsky, 2002; Mittal, 2001; Miyazaki and Fernandez, 2001; Samadi and Yaghoob-nejadi, 2009; Sheth and Parvatiyar, 1995; Vijayarathy and Jones, 2000).

Sheth and Parvatiyar (1995) indicate that consumers tend to remain loyal to previous brand/product choices if they have low PR in their decision making. Herrero Crespo (2009) reports in his literature review that there is empirical evidence supporting the effect of PR on transaction frequency (Miyazaki and Fernandez 2001) and intention to shop in the future (Liang and Huang 1998; Vijayarathy and Jones 2000; Liao and Cheung 2001). Fosythe and Shi contend that PR is likely to have the greatest impact on infrequent Internet shoppers, which precludes the conversion of Internet browsers into Internet shoppers. Mittal (2001) studies the relationship between the risk perceived by business travelers and their post-purchase behavior intention, and finds that PR is

relevant to consumer's satisfaction and intention to repurchase. When PR is higher, intention to repurchase in the future is lower. We thus present the following hypotheses.

**H2.1:** There will be negative effects of perception of (a) non-personal risk, (b) personal risk on the online Chinese consumer's intention to repurchase from the website retailer.

**H2.2:** There will be negative effects of perception of (a) non-personal risk, (b) personal risk on the online French consumer's intention to repurchase from the website retailer.

### 2.6 Cultural Influence on Reputation

Culture has been identified as an underlying determinant of consumer behaviour, and this extends to e-commerce (Kailani and Kumar, 2011). As Internet shopping becomes progressively more global and as the Internet share of cross-national interactions between e-vendors and consumers increases at an exponential rate, it becomes important to understand the existence and nature of cultural differences on the influence of reputation in e-commerce.

One way to study cultural differences is through identification and measurement of cultural dimensions (Dickson et al., 2003). The most widely quoted (as well as strongly criticized) cultural dimensions are undoubtedly those proposed by Hofstede (1980, 2001). He originally classified four cultural dimensions. They are individualism-collectivism; masculinity-femininity; uncertainty avoidance; and power distance. In a later work, future orientation was added as a fifth dimension. Each country in this model is characterized by a score on each of the dimensions. According to Hofstede's scores, China (20) displays a lower level of individualism than France (71).

Individualism versus collectivism refers to the degree of "the integration of individuals into primary groups" (Hofstede, 2001, p. 29). Individualists tend to be independent of groups, whereas collectivists "expect their group to care for them in exchange for unwavering loyalty" (Steenkamp et al., 1999, p. 59). A child in an individualistic society would learn to think of him- or herself as "I" instead of "we" at a very early age, whereas the converse holds true for collectivistic societies (Hofstede, 1991). 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 (Kim, 2008). A high Hofstede's IDV score indicates a culture with a more independent attitude and relatively loose bonds with others. In contrast, low IDV scores (i.e., a high collectivism ranking) indicates closer ties between individuals (Kim, 2008).

Collectivists tend to view the self relationally and situationally (Triandis 2001). Members of a collectivist culture (i.e., China) are more likely to share their opinions and attitudes (Kim, 2008). In contrast to collectivists, people in an individualistic culture (i.e., France) are more likely to seek information by themselves from direct and formal sources. They are somewhat separate from their social context (Kim, 2008). Therefore, reputation is more valued in collectivist cultures. Drawing from the cross-cultural

differences concerning reputation, we propose the following hypothesis.

**H3:** There will be a stronger positive effect of perceived importance of reputation on consumer perception of (a) non-personal risk and (b) personal risk in e-retailers in a collectivist culture (China) than in an individualist culture (France).

### III. METHODOLOGY

#### 3.1 Measurement Scales

As recommended by Bentler and Chou (1987) all constructs were measured using multi-scaled items. The items were written in the form of statements or questions. Most of the main item scales use a 7 point Likert scale, where respondents indicate their extent of agreement with a statement from a scale of 1 to 7 (1 = strongly disagree and 7 = strongly agree). The perceived risk construct does not use the same scale. It is measured by a six-point scale from very low to very high. To avoid respondents' negative answers to the degree of perceived risk, the undecided answer is excluded in the scale. Most questions are adopted from the existing literature.

#### 3.2 Sample and Data Collection

Students have primarily been used as samples in previous cross-cultural studies (e.g., Comegys et al., 2009; Kailani and Kumar, 2011; Ko et al., 2010; Lee and Tan, 2003; Liao et al., 2009; Ueltschy et al., 2004). Although use of student subjects has been criticized for causing a sampling bias (i.e., external validity problem and limited representativity), we believe that a student sample is the best choice for our study in terms of comparability considerations. A matched sample of respondents is critically important in a cross-cultural study (Dawar and Parker 1994). Students are more homogeneous in certain demographic characteristics, which permit more precise predictions and a stronger test of theory (Calder et al. 1981). Baerlen (1967) argues that to help ensure against alternative explanations of differences in results in cross-cultural research, the researcher should select samples in each nation that are closely comparable. The participants were asked to answer the questionnaire voluntarily. There was no financial compensation given to the participants.

The data were collected in 2012. A sample of 760 students from China and France participated in the survey. A total of 215 incomplete questionnaires (having fewer than 40% of the questions completed) were returned, and a total of 545 completed questionnaires were returned, yielding a response rate of 71.7%. A total of 195 and 221 questionnaires respectively from Chinese and French respondents were used for the analysis.

To ensure sample equivalence, we tested respondent demographic variables (e.g., gender, age, education). Table 1 provides the demographic characteristics and online shopping experience of the Chinese and French samples. It was found that the French sample characteristics are basically consistent with the Chinese sample.

### IV. DATA ANALYSIS AND RESULTS

#### 4.1 Testing the Mean Values

Independent Sample t-tests were performed for the mean values of the constructs between Chinese and French data sets to ensure the comparison of two different cultural groups (Kim, 2008). The results of the t-tests are presented in Table 2. According to the results, the mean scores of all constructs between the Chinese and French data are significantly different (sig. <0.05).

TABLE I  
DEMOGRAPHIC CHARACTERISTICS

Variable	Item	Chinese Data		French Data	
		Number of observations	Percentage	Number of observations	Percentage
Gender	Female	95	48.7	118	53.4
	Male	100	51.3	103	46.6
Age	18-22	124	63.6	137	62
	23-25	46	23.6	75	33.9
	26-29	19	9.7	7	3.2
	30-35	5	2.6	2	0.9
Education	Undergraduate	90	46.2	110	49.8
	Masters	81	41.5	105	47.5
	PhD	17	8.7	2	0.9
	Others	7	3.6	4	1.8
Online shopping years	<3 months	33	16.9	6	2.7
	3-6 months	28	14.4	6	2.7
	6-12 months	16	8.2	20	9.0
	1-2 years	51	26.2	62	28.1
	2-4 years	36	18.5	81	36.7
	>4 years	31	15.9	46	20.8
Online shopping frequencies	1-2 times	89	45.6	109	49.3
	3-5 times	59	30.3	78	35.3
	6-10 times	21	10.8	21	9.5
	>10 times	26	13.3	13	5.9

#### 4.2 Testing Validity and Reliability of the Measurement Model

To ensure the appropriateness of the instrument, it was tested for content validity, reliability, construct validity, and convergent validity of measurement model before structural model testing (Kim, 2008). Exploratory factor analysis and Cronbach's alpha test were conducted to assess the factor loadings and reliability of the constructs. After two items (LTO1 and LTO5) were eliminated, KMO (Kaiser-Meyer-Olkin test) of 0.834 and 0.785 for each Chinese and French sample attest to good correlation between the items. Bartlett's Test of Sphericity is significant. Seventy-two point forty percent of total variance is explained for the Chinese data set and 72.67% of total variance is explained for the French data set. We then looked at each construct to examine the reliability using Cronbach's alpha and to check the scales' dimensionality using factor loadings of the items (c.f. Appendix A). The reliability and validity of CVSCALE (Yoo and Donthu, 1998, 2002; Yoo and Naveen, 2005, 2011; Yoo et al., 2011) is confirmed in our study based on the Chinese and French samples.

We conducted respectively confirmatory factor analysis (CFA) for the French sample and the Chinese sample using AMOS 20 to assess the convergent and discriminant validity of all constructs. The constructs (i.e., reputation, non-personal perceived risk, personal perceived risk and intention to repurchase) were modeled as first-order correlated factors.

For convergent validity, according to the two CFA results, all of the individual item lambda coefficients are greater than

0.60 (from 0.68 to 0.93), except that of non-personal risk item delivery (0.56) in the French model which is less than 0.60. Despite the fact that after eliminating that item the model fit of the French sample improved, we decided to keep the item because it is an important dimension for non-personal risk. Each path has a significant t-statistic at the level of 0.05. Convergent validity is supported. To establish discriminant validity, the interconstruct correlations among the latent variables should be less than 0.60 (Kim, 2008). All the interconstruct correlations are <0.60, except the correlations between personal risk and non-personal risk in both the French and the Chinese samples. We ran the alternative model by combining personal risk and non-personal risk. The model fit was worse than the original model thus, we confirm the discriminant validity although the original model is not optimal. The measurement model fit the data well, as the following fit statistics indicate: For the Chinese sample, CMIN/DF=1.677, GFI=0.926, CFI=0.964, IFI=0.965, TLI=0.953, RMSEA=0.059; for the French sample, CMIN/DF=1.679, GFI=0.936, CFI=0.969, IFI=0.969, TLI=0.959, RMSEA=0.056.

#### 4.3 Testing Measurement Invariance Using Amos Multi-Group Analysis

Measurement invariance refers to whether items and factorial structure of a survey instrument are equivalent across different cultural groups. It is crucial to establish measurement invariance because items may have different meaning for different population groups, and thus the factorial structure of the measurement instrument might not hold across groups (Steenkamp and Baumgartner, 1998). When a measurement instrument is not equivalent in a cross-cultural study, the validity of research findings are problematic and need further investigation. Multi-group invariance in this study was tested using Amos Graphics.

##### Step 1: The baseline model

As a prerequisite to testing for factorial invariance, it is customary to consider a baseline model, which is estimated for each group separately. This baseline model represents one that best fits the data from the perspectives of both parsimony and substantive meaningfulness (Byrne, 2004).

Step 2: Testing for the validity of the Hypothesized Model across France and China.

As a preliminary step in testing for invariance across groups, we test for the validity of the hypothesized model. Parameters are estimated for two groups simultaneously (Byrne, 2004). Goodness-of-fit statistics related to this two-group unconstrained model are reported in Table 3. The chi-square value of 203.242, with 118 *df*, provides the baseline value against which subsequent tests for invariance may be compared. Comparative fit index (CFI) and root mean squared error of approximation (RMSEA) values of 0.964 and 0.042 respectively, indicate that the hypothesized model represents a relatively good fit across China and France.

Step 3: Testing for Invariance of the Fully Constrained Model across France and China.

Prior to testing for the equality of sets of parameters, it is worthwhile testing for the possibility that a fully constrained model is invariant across groups (Byrne, 2004). All factor loadings are constrained equal across France and China. Goodness-of-fit statistics related to this constrained two-group model are presented as the second entry in Table 1. In testing for the invariance of this constrained model, we compare its chi-square value with that for the initial model (Model 1). Since the measurement weights model (fully constrained model) was nested with the unconstrained model, the chi-square difference value of 27.965 with 17 *df*, which is statistically significant ( $p < 0.05$ ), indicate that some equality constraints do not hold across France and China. The instrument used in this study is the one with partial measurement invariance. The next step is to identify factor loadings of items that are equivalent and that are non-equivalent across groups.

##### Step 4: Partial Measurement Invariance.

Given findings of non-invariance at the level of all factor loadings, we then proceed to test for the invariance of all factor loadings in each subscale (i.e., all loadings related to the one particular factor), separately. Given evidence of non-invariance at the subscale level, we then test for the invariance of each factor loading (related to the factor in question) separately. Compared with the unconstrained model, the chi-square difference of REPUT, NPSLR, PSLR and IOP indicated that factor loadings associated with NPSLR ( $p = 0.96$ ), PSLR ( $p = 0.982$ ) and IOP ( $p = 0.229$ ) have been found to be group invariant, whereas factor loadings related to REPUT are invariant. The step followed at this point, is to pinpoint these non-invariant items. The item REPUT 3 ( $p < 0.05$ ) was indicated as not invariant across France and China (c.f. model 9).

Step 5: Testing for Invariance of Structure Model across France and China.

First we test for invariance of all structural paths (c.f. table 4). Given evidence of inequality on all corresponding structural paths across groups ( $p < 0.05$ ), one or more regression weights of the paths in the structure model are different between France and China. We then test for the invariance of each structural path separately to pinpoint the non-invariance regression paths (Kim, 2008). To pinpoint these different regression paths, the orderly process of testing for the invariance of regression weight parameters is continued until all hypothesized parameters are found to be equivalent across groups, their specified equality constraints are retained (cumulatively) throughout the remainder of the invariance-testing process (Byrne, 2004). The results from this series of tests indicate that the effects of NPSLR to IOP, PSLR to IOP, and REPUT to IOP are not invariant across France and China.

#### 4.4 Structural Model Comparison

We employed the structural equation model with the maximum likelihood estimation method to test all the hypothesized relationships. Figure 1 and 2 present the results

of the structural model testing. The minimum was achieved with adequate model fit.

As shown in Figure 1, Reputation in the Chinese model has significant negative effects on both consumer non-personal risk and personal risk perception of an e-retailer, with path coefficients of -0.390 ( $p<0.001$ ), and -0.288 ( $p<0.001$ ) respectively. The more online clients perceive an e-retailer as having a good reputation, the less they perceive risk. H1.1a and H1.1b are confirmed. This finding confirms that of Sweeney et al. (1999). Non-personal perceived risk has a significant negative impact on intention to repurchase ( $\text{Beta}=-0.593, p<0.01$ ). Thus, our data supports H2.1a.

On the other hand, for the French model, it was found that reputation also has negative effects on consumer perception of non-personal risk and personal risk with path coefficients of -0.201 ( $p<0.001$ ) and -0.275 ( $p<0.01$ ) respectively. Thus, H1.2a and H1.2b are confirmed. There is a negative relation between non-personal risk and intention to repurchase ( $\text{Beta}=-0.539, p<0.001$ ). H2.2a is confirmed.

The results of multi-group analysis and structural model comparison confirm that there are differences in the effect of reputation on both non-personal risk and personal risk perception between the online consumers in a collectivist culture (China) and those in an individualist culture (France). There is a stronger positive effect of perceived importance of reputation on consumer non-personal perceived risk with e-retailers in China ( $\text{Beta}=-0.390, p<0.001$ ) than in France ( $\text{Beta}=-0.201, p<0.001$ ). Thus, H3a is confirmed. On the other hand, we found that personal perceived risk for Chinese consumers is also influenced more strongly by reputation ( $\text{Beta}=-0.288, p<0.001$ ) than for French consumers ( $\text{Beta}=-0.275, p<0.01$ ). The data supports H3b.

V. DISCUSSION

First, regarding the T-test scores of perceived non-personal risk and personal risk for the French and Chinese samples, it is interesting to note that both the Chinese and French.

TABLE II  
RESULTS OF INDEPENDENT SAMPLE T-TESTS

	Chinese sample			French sample			Mean Differences	Std. Error Difference	t	Sig.
	Mean	Std. Deviation	Std. Error Mean	Mean	Std. Deviation	Std. Error Mean				
Reputation (REPUTAT)	5.4694	1.18178	0.08463	5.9029	1.11468	0.07498	-0.43347	0.11265	-3.848	0.000
Non-personal perceived Risk (NPSLR)	2.8928	1.04029	0.07450	2.2411	0.88309	0.5940	0.65174	0.09528	6.840	0.000
Personal Perceived Risk (PSLR)	2.7230	1.12702	0.08071	2.2963	1.21531	0.08175	0.42672	0.11542	-4.116	0.000
Intention to repurchase (IOP)	5.3428	1.20185	0.08607	5.8091	1.10870	0.07458	-0.46634	0.11331	-4.116	0.000

TABLE III  
GOODNESS-OF-FIT STATISTICS FOR TESTS OF MEASUREMENT INVARIANCE ACROSS FRANCE AND CHINA

Model Description	X <sup>2</sup>	df	ΔX <sup>2</sup>	Δdf	P-value	RMSEA	NFI	CFI
1. Unconstrained model	198.027	118	-	-	-	0.040	0.923	0.967
2. Fully factor loadings constrained equal model	225.646	131	27.619	13	p<0.05	0.042	0.912	0.961
3. Model 2 with factor loadings of Item REPUT constrained equal	211.760	121	13.733	3	p<0.05	0.043	0.917	0.962
4. Model 2 with factor loadings of Item REPUT1 constrained equal	218.684	129	20.657	11	p<0.05	0.041	0.914	0.963
5. Model 2 with factor loadings of Item REPUT2 constrained equal	213.962	129	15.935	11	ns	0.040	0.916	0.965
6. Model 2 with factor loadings of Item REPUT2 and Item REPUT3 constrained equal	212.022	129	13.995	11	ns	0.039	0.917	0.965
7. Model 2 with factor loadings of NPSLR constrained equal	207.520	123	9.493	5	ns	0.041	0.919	0.965
8. Model 2 with factor loadings of PSLR constrained equal	198.085	120	0.057	2	ns	0.040	0.922	0.967
9. Model 2 with factor loadings of IOP constrained equal	202.214	121	4.187	3	ns	0.040	0.921	0.966

Notes: 1. ΔX<sup>2</sup> = difference in chi-square values; Δdf = difference in degrees of freedom; ns = not significant  
2. All models compared with Model 1.

TABLE IV  
GOODNESS-OF-FIT STATISTICS FOR TESTS OF STRUCTURE INVARIANCE ACROSS FRANCE AND CHINA

Model Description	X <sup>2</sup>	df	ΔX <sup>2</sup>	Δdf	p-value	RMSEA	NFI	CFI
1. Unconstrained model	309.302	122	-	-	-	0.061	0.879	0.922
2. Fully structural paths constrained equal	350.661	135	41.359	13	p<0.05	0.062	0.863	0.910
3. Model 2 with REPUT towards NPSLR structural path constrained equal	340.825	134	34.301	10	ns	0.061	0.867	0.914
4. Model 2 with REPUT towards PSLR structural path constrained equal	348.040	134	27.552	10	p<0.05	0.062	0.864	0.911
5. Model 2 with NPSLR towards IOP structural path constrained equal	350.049	134	26.662	10	p<0.05	0.062	0.863	0.910
6. Model 2 with PSLR towards IOP structural path constrained equal	349.403	134	27.237	10	p<0.05	0.062	0.863	0.910

Notes: 1. ΔX<sup>2</sup> = difference in chi-square values; Δdf = difference in degrees of freedom; ns = not significant  
2. All models compared with Model 1.

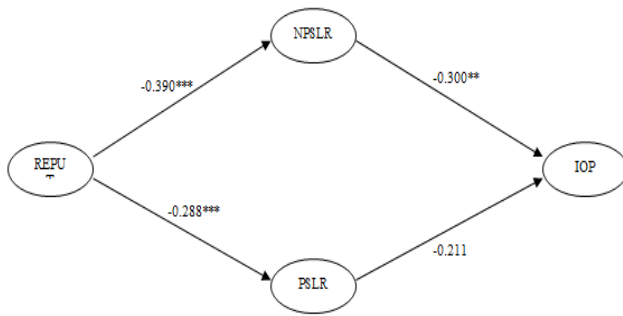
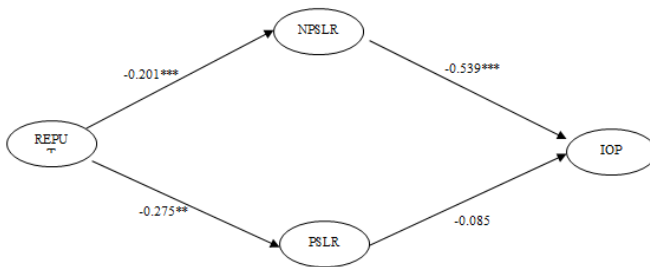


Fig. 1. Standardized Structural Equation Parameter Estimates For The Chinese Sample

Notes:

$\chi^2 = 155.755$ ,  $df = 61$ ,  $p = 0.000$ ,  $RMSEA = 0.089$ ,  $GFI = 0.892$ ,  $CFI = 0.915$ ,  $NFI = 0.870$ ,  $AGFI = 0.839$ ;  
 \*  $p = 0.05$ , \*\*  $p = 0.01$ , \*\*\*  $p = 0.001$ ;  
 Reputation=REPUT; Perceived Non-Personal Risk=NPSLR; Perceived Personal Risk=PSLR; Intention to Repurchase=IOP;



Notes:

$\chi^2 = 153.540$ ,  $df = 61$ ,  $p = 0.000$ ,  $RMSEA = 0.083$ ,  $GFI = 0.908$ ,  $CFI = 0.928$ ,  $NFI = 0.887$ ,  $AGFI = 0.863$ ;  
 \*  $p = 0.05$ , \*\*  $p = 0.01$ , \*\*\*  $p = 0.001$ ;  
 Reputation=REPUT; Perceived Non-Personal Risk=NPSLR; Perceived Personal Risk=PSLR; Intention to Repurchase=IOP;

respondents perceive low levels of non-personal and personal risk regarding their online clothing purchases (the scores of both samples < 3), but the Chinese respondents perceive higher non-personal risk (M=2.8928) than the French respondents (M=2.2411) and higher personal risk (M=2.7230) than the French respondents (M=2.2963). The phenomenon that the participants from both countries have a low level of risk may be explained by the development of e-commerce in both countries and that all of the participants have a relatively high level of online clothing shopping experience.

For the different scores of perceived risk between the two samples, we find that Chinese online shopping consumers perceive both higher non-personal risk and personal risk than do French consumers. This difference may be explained by the cultural differences between China and France. Previous studies have demonstrated that culture greatly influences individual decision making, attitude formation, judgment, and other cognitive processes (e.g., McCort and Malhotra 1993; Radford et al. 1993). Culture affects not only how people respond to risk but also how they perceive and evaluate it (Choi and Geistfeld, 2004; Javenpaa and Tractinsky, 1999; Ueltschy et al., 2004).

Uncertainty avoidance is considered the most important cross-cultural perspective of perceived risk because this dimension mirrors a culture's tolerance or intolerance of uncertainty. Uncertainty avoidance refers to "the level of stress in a society in the face of an unknown future" (Hofstede, 2001, p. 29). In a country with weaker uncertainty avoidance, "not only familiar but also unfamiliar risks are accepted, such as changing jobs and starting activities for which there are no rules" (Hofstede 2001, p. 148). According to Hofstede (2001), low-uncertainty avoidance cultures are characterized by "more risk taking" (p. 132) and "preference for tasks with uncertain outcomes and calculated risks" (p. 169). In contrast, cultures high in uncertainty avoidance should tend to be less risk-taking because they are motivated by fear of failure or loss (Bontempo et al., 1997). Hofstede's (1984) study demonstrated that China was a low uncertainty avoidance culture; whereas France was a high uncertainty avoidance culture. However, we noted in our previous study that both China and France have high scores of Uncertainty Avoidance. China (M=5.8755) has even higher scores than France (M=5.2756) in fact. Wu (2006) also found that both the Taiwanese participants (M=5.47) and the U.S. participants (M=5.57) have high scores on uncertainty avoidance. This cultural change can be explained by dramatic societal and economical changes in the past two decades in China.

The second key finding is that the role of reputation on perceived risk in online shopping varies across cultures. Depending on cultural differences, reputation has different effects on both consumer perception of non-personal risk and personal risk. Members of a collectivist culture (i.e., China) are more likely to share their opinions and attitudes (Kim, 2008). In contrast to collectivists, people in an individualistic culture (i.e., France) are more likely to seek information by themselves from direct and formal sources. Members of an individualist culture are somewhat separate from social context (Kim, 2008). Therefore, reputation is more valued in collectivist cultures.

Finally, as seen in figures 1 and 2, for both the Chinese and the French sample, non-personal perceived risk has a significant effect on intention to repurchase. The less personal risk is perceived by online consumers, the greater their intention to repurchase on that site.

#### VI. THEORETICAL AND MANAGERIAL IMPLICATIONS

From a practical standpoint, this study provides important insights for multinational online business managers. First, it is important for international managers and marketers to be aware that reputation is a critical factor that influences consumer online repurchase intention. In addition, online perceived risk is an important issue in e-commerce. Our research, conducted in China and France, demonstrates the influence of reputation on intention to repurchase on the Internet, taking into consideration perceived risk. In light of our findings, e-marketers and e-retailers should be encouraged to address reputation issues and minimize risks. Second, the growth of information technology, rapid

globalization, and the liberalization of e-commerce have intensified competition among e-retailers. Increasingly, firms are expanding their business operations beyond their domestic markets. Therefore, it is imperative that firms understand and cope with cultural differences (Keh and Sun, 2008). In light of the findings from this study, multinational Internet business managers should put special emphasis on reputation as viewed from the perspective of the cultural background of their target consumers.

In addition to managerial implications, our study contributes to theoretical developments by providing a multi-group model explaining key psychological processes of the influence of reputation on intention to repurchase online via perceived risk. In addition, repetition of purchase is critical for e-commerce and the risk remains after the initial purchase (Keh and Sun, 2008), thus, from a theoretical perspective, it is useful to better understand post-purchase risk.

With increasing globalization of firms, the need for a clearer comprehension of cultural influences on personal and non-personal risks cannot be overemphasized. We combined the national culture dimensions from Hofstede's studies in our models. This study identifies two national cultural types: individualistic and collectivist. The study also empirically tests the model using cross-cultural data collected from two countries typically representing individualistic and collectivistic cultures. The results of the study not only show that reputation plays an important role in business-to-consumer e-commerce transactions via perceived risk across cultures but also clearly support the theoretical argument that culture affects the influence of reputation. The findings of the study improve our understanding of reputation across cultures.

Furthermore, in terms of the measurement equivalence and the data analysis methodology, this study employed a multi-group SEM analysis using AMOS in the IS research area. This is a road less traveled, according to Byrne (2004, p. 272). In cross-group research, measurement equivalence issues (i.e., whether measurement accuracy, reliability and validity are achieved across samples) are critical (Byrne, 2004). Thus, multiple group SEM analysis has been suggested as a reliable method for determining measurement equivalence if a grouping variable (i.e., culture in this study) affects a structural equation model across groups (Steenkamp and Baumgartner, 1998; Kim, 2008). However, the use of this analysis is limited in the IS area. To our knowledge, there are very few papers published using multi-group SEM analysis in IS journals.

#### VII. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

This research has some limitations associated with generalizing its findings. First, random sampling was not employed consistently throughout the research. This study used a non-probability sampling technique. The study was based on students between 20 and 35 years of age. Although it was found that the sample was representative for the target population, the generalization of the results should be treated with caution beyond the scope of this sample. Future

empirical work is needed to demonstrate that these findings are not unique to this particular sample.

Second, our research is limited to using a single product category: a clothing product. A future study is needed to collect data from other product categories to replicate the findings.

Finally, given that the main instrument used to measure the constructs in this research is self-reported, the respondents' answers to their attitudes might be biased by their limited memory. Future research can develop more objective measures, such as an analysis of consumers' actual purchase on a real e-commerce site.

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### Appendix A. Reliability and Factor loadings of the Main Constructs Used in the Research

	Chinese Sample		French Sample	
	Factor Loadings	Cronbach's alpha	Factor Loadings	Cronbach's alpha
<b>Perceived Non-Personal Risk (NPSL)</b>		0.843		0.811
1. The clothes have a negative effect on the body (quality, material).	0.689		0.735	
2. Loss of money (potential loss of the current cost as well as additional charges in the future, if the credit card information is hacked).	0.701		0.786	
3. False or fraudulent online information has the result that the clothing product purchased online doesn't meet expectations.	0.813		0.783	
4. Not receiving the product on time, long delivery time, or product being damaged during delivery.	0.739		0.668	
5. Time wasted researching information and purchasing when ultimately making a bad purchasing decision.	0.763		0.704	
<b>Perceived Personal Risk (PSLR)</b>		0.745		0.642
1. The pressure from friends or family if the online clothing purchase fails.	0.793		0.767	
2. Loss of self-esteem, or disappointment from frustration of not achieving a buying goal.	0.825		0.841	
<b>Reputation (REPUTAT)</b>		0.845		0.902
1. This website is well known.	0.811		0.880	
2. This website has a good reputation	0.870		0.929	
3. This website is known to be concerned about customers.	0.841		0.917	
<b>Intention to Repurchase (IOP)</b>		0.846		0.887
1. If I were to buy the same product again, I would likely buy it from this website.	0.897		0.880	
2. I am likely to return to this website for my next purchase.	0.853		0.896	
3. I will recommend this website to friends.	0.822		0.891	

\* The items are deleted after the confirmatory factor analysis.