Mark Lett (2015) 26:377–390
DOI 10.1007/s11002-015-9351-4

Examining the effect of cultural congruence, processing fluency, and uncertainty avoidance in online purchase decisions in the U.S. and Korea

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Published online: 12 February 2015

Abstract Our study offers a novel approach to investigating whether and when culturally customized websites are an effective way to influence consumers in their online purchase decisions. In particular, informed by extant studies on metacognitive experiences and processing fluency, we examine the underlying mechanism whereby increased cultural congruence derived from a culturally customized website may influence the subjective experience and increase willingness to pay (WTP) online. In order to address these issues, we have conducted two empirical studies that (1) identify cultural differences between the websites of Korean and U.S. travel agencies and (2) investigate the influence of culturally customized websites on WTP in these two markets. The results show that the cultural dimension of uncertainty avoidance is associated significantly with processing fluency, which mediates the consumers' WTP. In particular, culturally customized websites are more likely to be effective for Korean consumers who have high uncertainty avoidance compared with U.S. consumers who have low uncertainty avoidance. We found that when Korean consumers experience cultural incongruence, they feel a need to exert increased effort in order to process information, which mediates their WTP. However, cultural congruence does not have a significant effect on U.S. consumer WTP. The study has important implications for both academics and managers when developing and employing culturally customized websites to communicate with their consumers.

This work was partially supported by Hankuk University of Foreign Studies Research Fund

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Keywords Processing fluency · Cultural congruence · Culturally customized websites · Cultural differences

1 Introduction

As e-commerce activities often have operations in multiple countries, it is important to address the issues related to the cultural customization of web communication content and the impact of this practice on consumers' online purchase decisions (Singh et al. 2004). Specifically, further attention is needed to determine whether, why, and if so when the websites that are adapted to local cultures are more effective in influencing consumer willingness to browse and purchase online. While some previous studies report cross-cultural differences in perceptions regarding website content (e.g., Baack and Singh 2007), others suggest that culture has little impact on how consumers perceive web communication (e.g., Yang and Kang 2002). Moreover, whether the cultural congruence between a consumer's background and the website features could be more effective in the context of some cultures than others (e.g., Asian vs. Western) has received limited attention.

Our study offers a novel approach to investigating these important cross-cultural issues. In particular, we draw on the domain of processing fluency—described as the extent of metacognitive ease or effort with which people process information (Schwarz 2004; Alter and Oppenheimer 2009)—to understand the impact of higher cultural congruence derived from customized websites on the consumer's willingness to pay (WTP) online across two distinct cultural environments in the U.S. and Korea. Our findings suggest that when Korean consumers experience cultural incongruence, they feel more difficulty to process information, which mediates their WTP. However, cultural congruence does not have a significant effect on the U.S. consumer WTP.

The main contributions of this paper are twofold. First, online purchase decisions involve extensive information processing in a complex information environment (Wang et al. 2014). Compared to physical-shopping purchases, consumers' online decisions are often not only affected by the declarative information about products (e.g., product descriptions, prices, etc.) but also by how easy or difficult it is for them to process the information from a website (Bruner and Kumar 2005). Therefore, understanding the effect of processing fluency, as an individual's information processing mechanism, is particularly important in online purchase decisions. Second, it has been reported that Asian countries will be driving the global market for e-commerce for at least the next few years (Wigder et al. 2013). These countries are characterized by a particular set of cultural dimensions (Hofstede 1984). Our findings offer novel insights into how these cultural dimensions can be appropriated to explain the consumer's subjective evaluation of culturally customized websites and willingness to pay in online contexts.

2 Conceptual framework and hypothesis development

2.1 Processing fluency and cultural congruence

A large number of theories adopted in the study of consumer behavior assume that people form judgments on the basis of declarative knowledge stored as stable

associative networks of factual information. However, Schwarz (2004: 322) noted that our thought processes are accompanied by metacognitive experiences, "such as the ease or difficulty with which some information can be brought to mind or the fluency with which new information can be processed," and that these experiences are informative in their own right. Specifically, previous studies found that high fluency is associated with more positive evaluations, such as judgments of truth and low perceived risk (Reber et al. 2004; Song and Schwarz 2008). Accordingly, it is suggested that a cognitive task can range from being perceived as effortless to being seen as highly effortful and result in different levels of the corresponding metacognitive experience of processing fluency (Schwarz 2004; Alter and Oppenheimer 2009).

Thus, processing fluency is conceived as the extent of metacognitive ease or effort with which people process information (Schwarz 2004; Alter and Oppenheimer 2009). Accordingly, in this study, processing fluency refers to the perceived effort experienced by an individual in processing information from the website; and we explore how the subjective experience of increased processing fluency derived from the congruence between an individual's cultural background and the features of a culturally customized website may influence the individual's online purchase decisions.

Previous studies suggest that people will more easily process stimuli that are congruent with their previously learned semantic knowledge structures and stimulus regularities (Schwarz 2004). For instance, consumers may more positively evaluate a product after reading a semantically related advertisement, or they may find it easier to answer questions related to a given domain of knowledge if they were previously primed with the terms associated with this domain (Alter and Oppenheimer 2009). In the online context, Wang et al. (2014) offer an example where individuals who are exposed to the insurance web ad would be more likely to choose the hotel offering a luggage lock, as the insurance stimulus could activate the concept of security.

One of the key marketing implications of this process is that it offers an informative mechanism which can be used to theorize why consumers may prefer stimuli that are more congruent with their cultural backgrounds. More specifically, it is suggested that we evaluate culturally adapted messages positively because we experience higher levels of processing fluency associated with these messages, due to our previously learned semantic structures of information processing. For instance, Reber et al. (2004) suggested that repeated exposure to the traditional music of a given culture can result in more fluent processing (and, therefore, more positive judgments) of familiar musical elements it employs.

The rationale behind designing culturally customized websites is that consumers in different national markets may possess cultural differences in their perceptual judgments of websites' contents (e.g., Baack and Singh 2007). From the perspective of processing fluency, these differences may result from consumers' previous exposure to websites that are congruent with the specific semantic knowledge structures associated with their respective cultures. Thus, culturally congruent websites should be more familiar and require less effort to process. Accordingly, we can expect that consumers will experience higher levels of processing fluency when they browse and purchase from websites that are perceived to be culturally congruent:

H1a Cultural congruence is associated positively with processing fluency in online purchase decisions.

2.2 Processing fluency and willingness to pay

Processing fluency has been found to have a number of implications for consumer judgments (Alter and Oppenheimer 2009). In this study, we are interested in the effects of processing fluency on WTP online. As was discussed, online purchase decisions involve extensive information processing in a complex information environment (Wang et al. 2014). Accordingly, processing fluency is more likely to be incorporated into judgment formation and decision making in the context of online purchases than in physical stores. Previous literature provides some evidence supporting this relationship.

Thompson and Hamilton (2006) found that higher levels of processing fluency can stimulate purchase intention derived from advertising messages that require high levels of information processing. Moreover, the findings of Song and Schwarz's (2009: 138) experiments show that people perceive less fluently processed stimuli as being riskier than more fluently processed stimuli, asserting that processing fluency may "offer a promising avenue for the management of perceived risk". Since perceived risk is one of the key considerations for online purchase decisions (Chang and Chen 2008), this suggests that increased processing fluency may positively influence WTP online. Therefore, based on this previous research, we propose that processing fluency can mediate the effect of cultural congruence on WTP when consumers experience difficulties in processing information:

H1b Processing fluency will mediate the effect of cultural congruence on WTP in online purchase decisions.

2.3 Cultural dimensions and processing fluency

Cultural dimensions can influence a wide range of consumer perceptions and attitudes, including color perceptions, consumption symbols, and self-concepts (e.g., Markus and Kitayama 1991; Aaker and Schmitt 2001). Hofstede (1984) provided the following differentiating dimensions of cultures: individualism/collectivism, femininity/masculinity, power distance, and uncertainty avoidance. Individualism/collectivism express the degree to which a society is orientated toward individual responsibility or group integration; power distance evaluates the extent to which less powerful members of a society expect equality or accept differences in power and control by more influential members of the society; masculinity/femininity addresses gender roles, ranging from assertive masculine roles to more caring feminine roles; finally, uncertainty avoidance is described as the extent to which members of a culture attempt to cope with anxiety by minimizing uncertainty and risks (Hofstede 1984).

Based on these cultural dimensions, we hypothesize that uncertainty avoidance will influence the effect of processing fluency on WTP. In particular, when there is an incongruence between an individual's cultural background and a website, consumers from the cultures characterized with high uncertainty avoidance (such as Korea) are likely to perceive more effort (i.e., lower processing fluency) being associated with online purchase decisions relative to their counterparts from the cultures associated with low uncertainty avoidance (e.g., the U.S.). This is because consumers with a high level of uncertainty avoidance will feel that there is a greater threat to their status quo

associated with the low processing fluency derived from the mismatch between their cultural identity and the features of a website.

On the other hand, we expect other three cultural dimensions to be less relevant to the effects of processing fluency on WTP. This is because when online purchases are specifically related to the issues concerning these cultural dimensions (e.g., purchases of status goods could be related to power distance), they may, indeed, produce contextual stimuli that are able to activate the associated concepts (Wang et al. 2014), whereby the activated cultural dimensions could moderate the effects of processing fluency. However, in more general conditions, only the cultural dimension of uncertainty avoidance has an overarching theoretical justification to mediate the effect of processing fluency on WTP. As discussed, this is due to the consumers with high uncertainty avoidance requiring more effort to process information and perceiving greater risk to their status quo in the context of making online purchase decisions when there is cultural incongruence.

According to Hofstede and Hofstede (2004), Korea is one of the highest uncertainty avoidance cultures. This is because Koreans have an inner urge to be busy, work hard and, therefore, they prefer less disruptions and security to their status quo. On the other hand, the U.S. customers tend to be more tolerant of new ideas and innovative products. Thus, this leads to the following hypotheses:

H2a Uncertainty avoidance will influence consumers' processing fluency required in the process of online purchase decisions.

H2b Korean customers, who have a high level of uncertainty avoidance, will feel greater difficulties in processing culturally incongruent websites than will U.S. customers.

3 Pretest study. Do websites reflect the cultural norms of their target markets?

We started our analysis by testing whether the culture in a given market is reflected by the websites targeting that market. Singh and Matsuo (2004) conducted a content analysis for 45 Japanese and 48 U.S. multinationals' websites and classified the web context based on Hofstede's (1984) cultural dimensions. Using these criteria suggested by Singh and Matsuo (2004), we evaluated the top ten travel agency websites in Korea and the U.S.

3.1 Method

This study was carried out by four coders: two American and two Korean graduate students. All of the evaluators had taken graduate-level marketing classes and had prior experience in website evaluation. The two American coders evaluated the top ten U.S. travel agency websites, and the two Korean coders evaluated the top ten Korean travel agency websites. In order to minimize cultural effects on the coders' evaluations, we developed 108 questions based on the original criteria suggested by Singh and Matsuo (2004). Questions were consisted of binary "yes" or "no" questions and numerically based questions. In the binary questions, two or more questions were proposed for one

variable in order to identify the importance of each variable on the Korean and the U.S. travel agencies' websites. The numerical questions were used to evaluate more specific characteristics of the websites. The intra-class correlations between the two coders from each country were 0.963 for the U.S. and 0.980 for the Korean. Discrepancies between the coders were resolved through discussions.

3.2 Results

In order to investigate the cultural features reflected on the U.S. and Korean travel agencies' websites, confirmatory factor analysis (CFA) was used. The extracted results show the relations between the evaluation variables and the cultural dimensions. The variables used in this study were selected based on the theoretical background. CFA was used in order to obtain factor scores for each of the cultural dimensions—collectivism, uncertainty avoidance, femininity, and power distance. Factor scores make it possible to identify outliers of the four dimensions. In order to analyze the cultural differences between the two countries' websites, the mean factor scores of each of the four dimensions were compared between Korean and U.S. data. In line with approaches used in previous literature, a one-way ANOVA was conducted, and the results in Fig. 1 show the main effect of the cultural differences between the two countries. The Korean data exhibited a stronger relation to the dimensions of collectivism ($M_{Korea\_collectivism}$= 0.479 vs. $M_{US\_collectivism}$=−0.479, $F(1, 38)=23.59$, $p<0.05$), uncertainty avoidance ($M_{Korea\_uncertainty\ avoidance}$=0.396 vs. $M_{US\_uncertainty\ avoidance}$=−0.396, $F(1, 38)=14.71$, $p<0.05$), power distance ($M_{Korea\_power\ distance}$=0.581 vs. $M_{US\_power\ distance}$=−0.581, $F(1, 38)=404$, $p<0.01$), and femininity ($M_{Korea\_femininity}$=0.482 vs. $M_{US\_femininity}$=−0.482, $F(1, 38)=23.75$, $p<0.01$), compared to the U.S. results.

The findings of pretest study provide insight into the cultural effects of designing websites consistent with the research stream, which suggests that cultures are reflected by their websites (e.g., Singh et al. 2004, Baack and Singh 2007). As Hofstede (1984) proposed, Korean culture can be said to have a high level of uncertainty avoidance, collectivism, power distance, and femininity when compared with the U.S. culture. This study shows that these cultural characteristics are reflected in the design of websites.

4 Main study. The effect of cultural congruence on purchasing decisions

The findings of pretest study show how culture is associated with the website designs in Korea and the U.S. However, there has been a great deal of debate regarding whether culturally customized websites in fact influence the consumer decision-making process (Yang and Kang 2002). Thus, in order to investigate the effectiveness of culturally customized websites in online purchase decisions, the main study employs a novel approach based on the consumers' metacognitive experiences and processing fluency.

4.1 Method

In order to test the proposed hypotheses, we recruited Korean participants from a university in Korea, and the U.S. participants were recruited from an online panel

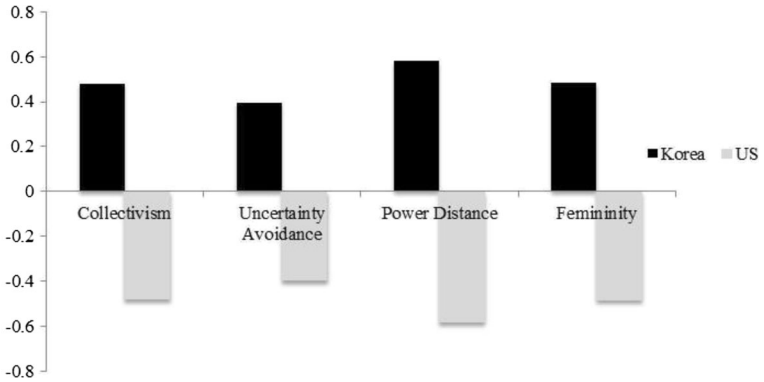

Fig. 1 Cultural differences between Korean and the U.S. online travel agencies

(Amazon Mechanical Turk). Participants were assigned randomly to culturally congruent or incongruent conditions (congruence vs. incongruence), resulting in a two country (Korea vs. the U.S.) × 2 congruence conditions (cultural congruence vs. incongruence) design. This experiment consisted of two phases—(1) control of cultural congruence and (2) buying scenarios. After the participants agreed to take part in the experiment, they were shown a snapshot of a fictitious online travel agency website homepage, entitled "World Travel". In order to control for the potential impact of language differences, snapshots of each top page were cross-translated into both Korean and English. In addition, in order to control for cultural congruence, the most popular online travel agencies from Korea and the U.S. respectively, were selected from the list of companies used in a pretest study. For example, Korean participants who were assigned to a culturally congruent condition were given a snapshot of a Korean online travel agency with a fictitious company name. On the other hand, participants who were assigned to a culturally incongruent condition found the translated homepage of the top U.S. travel agency website with a fictitious name. In the same manner, participants from the U.S. were shown a fictitious snapshot of a homepage, which was designed in accordance with either the original U.S. or a translated Korean travel agency website, depending upon their assigned conditions. After participants had had enough time to review the assigned online travel agency snapshots, they were taken through a series of scenarios that involved booking five-star hotels in downtown Melbourne, Australia, and Auckland, New Zealand. These two destinations were selected to control for the familiarity of geographical locations.

We then assessed the respondents' processing fluency by identifying the effort they were perceived to need to look up the information (Schwarz 2004) through the assigned online travel agency website, which was measured by asking participants to estimate the time that was needed to complete the task (in minutes, open-ended). Consistent with previous studies (Song and Schwarz 2008), the perceived time was deemed to be an appropriate measure for processing fluency because consumers use a mental simulation of their behaviors, whereby the effort is deduced from fluency of the simulation, and it is reflected in the estimation of time that a task requires to complete (see Song and Schwarz 2008; Thomas et al. 2003). We also asked them about their WTP with respect to the travel agency. Finally, we asked them demographic questions and measured their individual levels of the cultural characteristics of uncertainty avoidance, power distance, collectivism, and femininity (Yoo and Donthu 2002).

4.2 Results

Among 126 completed responses, three were excluded from the analysis because their responses were three or more standard-deviation points away from the mean (Ruan et al. 2005). Therefore, 123 responses were used for the analysis. Among 56 Korean subjects, 33 were assigned to the culturally congruent condition and 23 were assigned to the culturally incongruent condition. For the U.S. consumers, 35 were assigned to each of the congruent and incongruent conditions, respectively.

4.2.1 The effect of cultural congruence on consumers' willingness to pay

In order to investigate the effect of cultural congruence on WTP between the U.S. and Korean consumers, the repeated measures of customers' WTP were analyzed. A 2(country) × 2 (cultural congruence) between-subjects repeated ANOVA on WTP (Fig. 2) demonstrated a significant main effect of each country ($F(1, 241)=10.1$, $p<0.01$), as well as the cultural congruence ($F(1, 241)=22.7$, $p\leq0.01$), and the two-way interaction between the country and cultural congruence ($F(1, 241)=19.18$, $p<0.01$). The main effect of cultural congruence supports H1a hypothesis that cultural congruence is positively associated with processing fluency in online purchase decisions. A culturally congruent condition increases consumers' WTP, when compared with culturally incongruent conditions.

However, the key focus of this analysis is the two-way interaction between the congruence and the country. The significant results suggest that there are possible cultural differences in the consumers' WTP. Interestingly, while culturally customized websites do not show significant influences with the U.S. consumers' WTP ($M_{US\_congruent}=219.12$ vs. $M_{US\_incongruent}=197.47$, $F(1, 132)=0.144$, $p>0.1$), Korean consumers' WTP decreases significantly in culturally incongruent conditions when compared with culturally congruent conditions ($M_{Korea\_incongruent}=99.42$ vs. $M_{Korea\_congruent}=190.98$, $F(1, 109)=31.97$, $p<0.01$). In this analysis, we subjected the log-transformed prices for two destinations with country and cultural congruence and the destinations (i.e., Auckland and Melbourne)

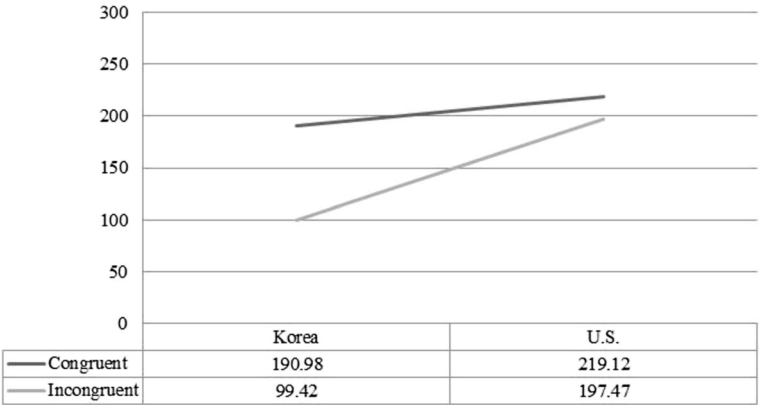

Fig. 2 WTP difference between Korean and U.S. participants

as the repeated measure. When we separate the destinations two countries show the same patterns of WTP ($M_{US\_incongruent\_Melbourne}$=197.47 vs. $M_{US\_congruent\_Melbourne}$=193.83, $t(65)=-0.12$, $p>0.1$; $M_{US\_incongruent\_Auckland}$=184.68 vs. $M_{US\_congruent\_Auckland}$=201.18, $t(65)=0.612$, $p>0.1$; $M_{Korea\_incongruent\_Melbourne}$=102.03 vs. $M_{Korea\_congruent\_Melbourne}$=219.64, $t(54)=4.24$, $p<0.001$; $M_{Korea\_incongruent\_Auckland}$=96.89 vs. $M_{Korea\_congruent\_Auckland}$=224.15, $t(54)=3.83$, $p<0.001$). These patterns in WTP between the two countries imply a cultural effect on the decision-making process.

In order to investigate the mechanism underlying these differences in WTP, the processing fluency (the perceived effort) was employed as a mediator for the separate analyses of the Korean and U.S. consumers. Regarding Korean consumers, a bootstrap analysis (based on five thousand bootstrap samples) indicated that the total effect of cultural congruence is significant ($B=-0.45$, $t=-2.36$, $t<0.05$) when perceived effort is included in the model. Furthermore, the indirect effect of perceived effort was found to be marginally significant, with a point estimate of 0.72 and a 95 % confidence interval of 0.01 to 0.22. These results indicate that processing fluency mediates the effect of cultural congruence on WTP. In terms of the U.S. consumers, the processing fluency does not mediate the effect of cultural congruence on consumers' WTP. The total effect of cultural congruence is insignificant ($B=-0.23$, $t=1.34$, $t>0.10$) when the processing fluency is included in the model (see Table 1). Our meditation analysis, therefore, supports H1b, that processing fluency will mediate the effect of cultural congruence on WTP, but only for Korean consumers' online purchase decisions.

4.2.2 The effect of culture on processing fluency

The analysis of WTP and mediation suggests that culturally customized websites are more closely associated with Korean consumers' WTP, compared with that of the U.S. consumers. The following logical question is then—why do Korean consumers perceive that more effort will be required to search for information through culturally incongruent online travel agencies than culturally congruent ones? As a possible underlying mechanism, we hypothesize that the cultural dimension of uncertainty avoidance influences consumers' processing fluency.

The main purpose of this study is to examine how the individuals' processing fluency varies between Korea and the U.S. with different levels of cultural congruence. To do so, we employed a hierarchical linear model (HLM; Raudenbush and Bryk 2002), which allows us to investigate the individual-level dependent variables in multiple levels. In the current study, the reported WTP information at the individual level is nested within country-level effect and cultural congruence conditions. More specifically, at "level 1", we included individual-level measures of cultural characteristics, such as collectivism, power distance, femininity and uncertainty avoidance as independent variables, and demographic variables such as age, gender, and knowledge about destinations as control variables. At "level 2", group (country) effects that assess the role of the higher order variables (Korea vs. the U.S.), along with culturally congruent/incongruent conditions, are investigated.

Table 1 Indirect analysis: mediation test for U.S. and Korean consumers

	Regression analysis		Bootstrap analysis	
Effect	*b*	*t*	Indirect effect	95 % CI
US consumers (*N*=134)				
A	−0.23	1.34	a×b=−0.01	−0.01, 0.11
B	0.17	3.22**		
C	0.03	0.31		
Korean Consumers (*N*=111)				
A	−0.45	−2.36**	a×b=0.72	0.01, 0.22
B	−0.16	−2.31**		
C	0.79	5.66***		

Bootstrapping based on 5000 samples

*p<0.10; **p<0.05; ***p<0.01

Level 1 model We begin with a simple linear model for individual perceived effort as shown in (1),

$$\begin{aligned}&\text{Perceived effort}_{ijk}\\&= \pi_{0jk} + \pi_1 * \text{age}_i + \pi_2 \text{gender}_i + \pi_3 * \text{experience}_i + \pi_4 * \text{knowledge}_i\\&+ \pi_{5jk}\text{collectivism}_{ijk} + \pi_{6jk}\text{power distance}_{ijk}\\&+ \pi_{7jk} * \text{uncertainty avoidance}_{ijk} + \pi_{8jk}\text{femininity}_{ijk} + \varepsilon_{ijk}\end{aligned} \quad (1)$$

where i refers to individuals, j refers to country, and k refers to cultural congruence. Perceived effort$_{ijk}$ refers to the expected time to look up information from assigned homepages. Logarithmic transformation was conducted to normalize the distribution of time. Experience living in other countries and knowledge about the destinations is given by experience$_{ijk}$ and knowledge$_{ijk}$. Cultural dimensions such as collectivism, power distance, uncertainty avoidance, femininity are indicated by collectivism$_{ijk}$, power distance$_{ijk}$, uncertainty avoidance$_{ijk}$, and femininty$_{ijk}$; ε_{ijk} refers to the error term, which is distributed normally with a mean of 0 and variance σ^2.

Level 2 model Equation (1) characterizes each effect of cultural dimensions on each subject's perceived effort by parameter estimates of τ_{ijk}. In equation (2), our interest focuses more on investigating whether parameter estimates of τ_{ijk} vary across countries and the conditions of cultural congruence as H2a and H2b predict. The three-way interaction among country congruence and cultural characteristics will show how the individual levels of cultural dimensions are nested with country level of cultural characteristics in the information processing. To examine these, we formulated a level 2 model as follows:

$$\begin{aligned}\pi_{ijk} = {} & \gamma_{0i} + \gamma_1 \text{country}_j + \gamma_2 \text{congruency}_k + \gamma_3 \text{country}_j * \text{congruency}_k\\&+ \tau_{jk}\end{aligned} \quad (2)$$

where country$_j$=dummy variable equal to 1 if the participant is from the U.S. and 0 otherwise. congruency$_k$=dummy variable equal to 1 if cultural background is consistent

with the assigned website and 0 otherwise; σ^2, τ_{ijk} = normal error terms with a mean of 0, variance and covariance σ^2.

Estimation In addition to the proposed two-level HLM, we also estimate benchmark model with level 1 only, which accounts for the level 1 variables but ignores the level 2 model. The model can be written as equation (1) only. The Akaike information criteria (AIC) were used to assess the "goodness of fit" of the proposed model and the benchmark models, respectively. The comparison shows that our proposed model outperforms the benchmark model (benchmark model=562.90 vs. proposed model=504.81). That is, our proposed model which takes account of country and cultural congruence effects outperforms the benchmark model which ignores these effects. We report the estimation results of each model in Table 2.

Parameter estimates of age, gender, experience living in other cultures, knowledge about the destination, and power distance are significant. Interestingly, when consumers have experiences living in other cultures (r=−8.65, t=−3.00, p<0.05) or knowledge about the destinations (r=−2.11, t=−3.18, t<0.05), they are less likely to feel difficulty when looking up the information on a website. Also, when consumers have a high level score on the power distance dimension, they were more likely to find it difficult to look up the information (r=2.66, t=1.24, p<0.05).

Parameter estimates of two-way interactions indicate that when Korean consumers have a high level of uncertainty avoidance, they are less likely to experience difficulties when looking for information, when compared with the U.S. consumers (r=−7.90, t=−1.98, p<0.05). In addition, when the consumers who have a high level of femininity view culturally incongruent websites, they are more likely to face difficulties in looking for information from the assigned websites (r=4.75, t=2.75, p<0.05). However, given that our study focuses on the effects of cultural congruence on processing fluency between two cultures (Korea and the U.S.), the two-way interactions deliver limited information to investigate our hypotheses. Thus, we investigated the three-way interaction further in order to understand how the individuals' cultural characteristics were associated with culturally congruent conditions at the country level. Among the four cultural characteristics, uncertainty avoidance (r=13.79, t=2.75, p<0.05) and femininity(r=−10.86, t=−3.04, p<0.05) were significantly associated with country and cultural congruence.

When Korean consumers showing a high level of uncertainty avoidance accessed the culturally incongruent online travel websites, the perceived effort required was significantly higher when compared with that of the U.S. consumers and the Koreans with the culturally congruent condition. Thus, H2a and H2b are confirmed. Interestingly, we also noted a three-way interaction among femininity, cultural congruence, and country. Korean consumers with a higher level of femininity, and who viewed culturally incongruent online travel agencies, were more likely to face difficulties in searching for information about a destination than both U.S. consumers and other Korean consumers in culturally congruent conditions.

5 Conclusion and limitations

Several cross-cultural studies have endeavored to explore the influences of cultural differences in the globalized e-commerce market as a function of attracting consumer

Table 2 The influence of cultural traits on perceived effort

	Benchmark model			Proposed model		
	b	SE	*t* value	*r*	SE	*t* value
Gender	−8.06	3.02	−2.67**	−9.88	3.27	−3.02**
Age	0.12	0.09	1.33	0.17	0.12	1.41
Experience living in other countries	−8.65	2.88	−3.01**	−6.99	2.96	2.38**
Knowledge	−2.11	0.66	−3.18**	−1.80	−2.87	−2.87**
Uncertainty avoidance	2.08	1.11	1.88	4.70	3.26	1.44
Power distance	2.66	1.24	2.15**	4.75	2.13	2.23**
Femininity	−0.36	0.70	−0.52	−2.40	1.43	−1.68
Collectivism	0.14	1.29	0.11	−4.10	2.70	−1.52
Congruency				−26.44	17.21	−1.54
Country				6.54	20.37	0.32
Collectivism*country				4.25	3.42	1.24
Uncertainty avoidance*country				−7.90	3.99	−1.98**
Power distance*country				−2.60	2.81	−0.92
Femininity*country				3.29	2.04	1.61
Collectivism*congruency				5.14	3.15	1.63
Uncertainty avoidance*congruency				−4.84	3.92	−1.24
Power distance*congruency				−1.45	2.70	−0.546
Femininity*congruency				4.75	1.73	2.75**
Country*congruency*uncertainty				13.79	5.01	2.75**
Country*congruency*collectivism				1.92	4.95	0.39
Country*congruency*power distance				2.31	3.01	0.78
Country*congruency*femininity				−10.86	3.58	−3.06

*$p<0.10$; **$p<0.05$; ***$p<0.01$

attention (Singh 2004). For example, Singh and Matsuo (2002), based on the assumption that culturally customized websites will attract more consumers, found that cultural characteristics affect website design and function. However, while it is clear that understanding cultural differences makes an important contribution to international marketing, there are calls to explore how these practices affect individual consumers and their decisions (e.g., Singh and Matsuo 2004; Bartikowski and Singh 2014). Our study makes an important contribution to these issues by offering a novel theoretical approach found at the nexus of metacognitive experiences (Schwartz 2004) and cultural dimensions (Hofstede 1984), to explore the cross-cultural differences both at the level of culture and individual consumer. Specifically, we demonstrate empirically that cultural dimensions can influence how consumers perceive cultural congruence and reveal how the associated experiences of processing fluency derived from the in/congruent conditions can influence the consumers' purchase decisions in online contexts.

The chosen approach and findings of this study are particularly important for the following two reasons. On the one hand, Wigder et al. (2013) predicts that the regional markets in East Asia, such as China, Japan, and Korea, will surpass e-commerce in

North-American and European markets combined in 2018. It has been widely established that Asian markets are characterized by particular cultural dimensions, which are distinct from those of Western countries (Hofstede and Hofstede 2004). On the other hand, we also know that the consumer experiences in a computer-mediated environment are characterized with the complex information processing cognitions and behaviors (e.g., Hoffman and Novak 1996). Our study makes an important contribution by bridging these two important issues together, whereby we reveal the complex interrelationships between metacognitive experiences, cultural congruence, and cultural dimensions, and contrast how consumers make online purchasing decisions in the context of Asian (Korea) and Western (the U.S.) cultures.

Moreover, understanding the effect of cultural congruence gaps on purchase decision-making has significant implications for online marketers. Culturally customized websites are used widely in marketing strategies in the current global marketplace. Nevertheless, there have been debates about their effectiveness (Singh et al. 2004). This research provides further insights into this issue by illustrating that understanding of cultural characteristics in a target market should be advanced before designing culturally customized websites. Specifically, we suggest that culturally customized websites are more important for consumers who are characterized with higher levels of uncertainty avoidance and femininity.

Although the effect of uncertainty avoidance on cultural congruence can be explained by the importance of perceived risk in the context of making online purchase decisions (Chang and Chen 2008), the effect of femininity when there is cultural in/congruence requires further attention. One possible explanation could be that there are distinct features of localized websites and online practices that operate in the cultures that we traditionally associate with femininity (e.g., Asian region). For instance, Korean consumers are routinely exposed to complex and vivid colorful stimuli in their daily life and localized online environment. Such routinized stimuli could make these consumers feel particularly sensitive to foreign websites, which are less visually multifaceted and colorful and, therefore, could be perceived by Koreans as being more effortful to navigate and purchase from. Accordingly, we call for future studies to explore the effect of feminine characteristics on online purchase decisions in more detail. Finally, our findings suggest that there could be less need to design culturally customized websites for multicultural consumers (Seo and Gao 2014), who are familiar with different cultures. This is because previous cultural experiences may reduce the effort associated with navigating culturally incongruent websites.

In spite of the fact that this study makes significant theoretical and managerial contributions, there are several limitations that need to be discussed. Firstly, this research was conducted based on snapshots of website homepages. Future studies would benefit from using interactive websites. Secondly, this research compared two countries, Korea and the U.S. Culturally conflicting countries and only one industry were selected in order to investigate the effect of cultural congruence on WTP. Researchers should also investigate other cultures and industries that could moderate or challenge the effect of cultural congruence on decision-making.

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