THE EFFECT OF CULTURE AND LANGUAGE ON PERCEIVED RISK ONLINE

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Cited as: Alcántara-Pilar, J.M., Del Barrio-García, S. & Porcu, L. (2012). The effect of culture and language on perceived risk online, in *ICORIA 2012: Proceedings of the 11th International Conference on Research in Advertising, Stockholm*

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ABSTRACT

The present paper analyzes whether cultural values and language can influence the way in which information on a website is processed, in terms of perceived risk. An online experiment was conducted, using a sample comprising users from the United Kingdom and Spain. Participants were asked to browse a website relating to a fictitious tourist destination, with half the sample accessing the site in their mother tongue and the other half in their second language. The key findings show that Internet users' perception of risk is moderated by the language used, with the degree of bilingualism being a key factor.

INTRODUCTION

In this day and age, the crucial role of language in intercultural relations is widely acknowledged, with the words of a language being 'symbols' that act as the vehicles for cultural transfer (Hofstede, 2001). The field of psycholinguistics has studied how consumers use information processing and its effect on memory, perception and attitude (Luna and Peracchio, 1999; Bond and Lai, 2001; Lowrey, 2002).

The literature shows that the way in which a person processes information is conditioned by cultural values – both those of the individual and those associated with the language concerned – and is thus flexible, hence a bilingual consumer can exhibit styles of information processing that are similar to those of native consumers (De Groot, 1992; Kroll and Stewart, 1994; Singh, 2002; Tavassoli, 2002; Noriega and Blair, 2008). Furthermore, recent research has demonstrated that language is associated with cultural frameworks, such that communicating in a given language can increase cognitive access to the cultural values associated with that language (Ross et al., 2002;;Wong and Hong, 2005; Luna et al., 2008; King, 2010). It can be said, in short, that culture shapes and designs language, its grammatical constructs and its semantic structures.

In light of previous works, the aim of the present study is to demonstrate how users from the same culture, when processing online information in different languages, obtain significantly different results in terms of perceived risk.

1. THEORETICAL FRAMEWORK

Cross-cultural research in the sphere of marketing has increased in recent years due to the globalization of markets (Zhang et al., 2005; Kirkiman et al., 2006; Gong, 2009). Most of this research draws on the framework proposed by Hofstede (2001), who classified cultures according to the following dimensions: a) *power distance* – the degree to which the less powerful members of a society accept and expect that power is distributed unequally; b) *uncertainty avoidance* – the degree to which a society tolerates uncertainty and risks; c) *individualism/collectivism* – the degree to which people in a given society create strong or weak links with groups; d) *masculinity/femininity* – the distribution of roles between the genders; and e) *long-term/short-term orientation* – in the thinking of individuals from a given culture.

With regard to the variables that shape the intention to purchase online, numerous researchers have highlighted the decisive role played by perceived risk (Bhatnagar et al., 2000; Featherman and Pavlou, 2003; Wakefield and Whitten, 2006). This, in turn, is largely determined by an individual's culture of origin and that culture's *uncertainty avoidance* dimension (Park, 2002). Recent research finds that this cultural dimension has a significant

effect on perceived risk amongst Internet users (Lim et al., 2004; Gong et al, 2007; Lee et al., 2009; Frost et al., 2010), such that societies with a strong *uncertainty avoidance* culture are highly likely to score higher on this variable. On the other hand, the *long-term orientation* dimension is associated with values that foster entrepreneurial initiative (Hofstede, 2001). It may be concluded, therefore, that cultures with a long-term orientation are willing to tolerate current risk in the search for a more prosperous future, whilst those with a short-term orientation seek short-term solutions and benefits and thus take fewer risks unless they perceive an early and stable pay-back (Li et al., 2009; Sia et al, 2009).

Meanwhile, expressing oneself in another language means having to adopt another culture as a framework of reference. It is difficult to be "bi-cultural" without also being "bi-lingual". Differences between languages can give rise to errors of perception in cultural terms (Hofstede 2001). From the perspective of the communicator, the language used by the bilingual person influences their cognitive processing style (Wyer, 2002; Marian and Kaushanskaya, 2004; Luna et al., 2005; Luna and Peracchio, 2007). Consequently, when speaking a language associated with an individualist culture, a bilingual person will process information from a more individualistic perspective, whilst the opposite is true when the language used by the bilingual person is derived from a culture that is more collectivistic in nature. Recent research has demonstrated that language is associated with cultural frameworks, hence communicating in a given language can increase a person's cognitive access to values associated with that language (Ross et al., 2002; Luna et al., 2008). In his study on bilingual students at the University of Hong Kong, King (2010) concluded that those participants who were presented with instructions in Chinese gave answers that more closely reflected Chinese cultural values, whilst those who received their instructions in English gave answers that were more in line with Western cultural norms. These findings are backed up by the Conceptual Feature Model (CFM) (De Groot, 1992), which asserts that bilingual individuals form maps (words) with meaning (concepts). According to this model, the words of a given language activate a series of conceptual features, although the features that are activated by a word are not necessarily the same as those activated by its translation.

Hence in the present cross-cultural study relating to Spain and the United Kingdom (UK), it can be assumed that Spanish users will perceive less risk when browsing in English rather than in Spanish, given that the *uncertainty avoidance* dimension is lower in British culture than in Spain. Following the same logic, it can be assumed that British users will perceive higher risk when browsing in Spanish.

In light of the above, the following research hypotheses are proposed:

H_1: For the Spanish, perceived risk is greater when browsing in Spanish than in English.
H_2: For the British, perceived risk is greater when browsing in Spanish than in English.

3. METHODOLOGY

In order to test the theoretical hypotheses, an experiment was designed with the following characteristics:

3.1. Independent Variables

Two independent variables were chosen, each with two levels: culture (Spanish vs. British), and processing language (Spanish vs. English). Hence the experiment used a 2 x 2 between-subjects design.

The Spanish and British cultures in particular were chosen due to the cultural differences between them as measured by means of the Hofstede indices (1980; 2001) (see Table 1). To control the factor relating to individuals' processing language, subjects were randomly

assigned a website on a tourist destination written either in their mother tongue (L1) or in their second language (L2).

3.2. Implementation of the Experiment

The experiment required a professional website to be purpose-built, providing information on a fictitious tourist destination called Buyuada (www.buyuada.org). Two versions of the site were created; one writing in Spanish and the other in English (see Figure 1 and 2). The subjects were selected by an external company which was commissioned to establish an Internet data panel for the experiment. Internet users from the UK and Spain were invited to participate, on the understanding that they had a suitable level of Spanish or English, respectively. Following initial contact via email, the subjects were sent a link to the website and the appropriate page, together with instructions. The users were to browse through the website and put together their own tourism package based on an outward flight, return flight, hotel accommodation and a restaurant, from the multiple options on offer. It was explained that amongst all the possible combinations there was one particular package that offered the best value in terms of price/quality and users were asked to create their package on this basis. This allowed the number of 'correct answers' to be measured (0, 1, 2, 3 and 4), thus controlling the cognitive effort made in processing the information contained within the experimental website. Once browsing was complete, subjects were redirected to a questionnaire.

3.3. Dependent measures

The dependent variable was the perceived risk by the subjects when processing the information contained within the website. This variable was measured using the Likert scale comprising 4 items and 7 points proposed by Wakefield and Whitten (2006), on which 1 equals *totally disagree* and 7 equals *totally agree*:

"Whilst I was browsing this website, and due to its characteristics I felt that: (1) other people might be able to access information about me if I make a reservation via this site; (2) there is a high risk of loss if I make a reservation via this site; (3) there is a major risk involved in making a reservation via this site; (4) making tourism reservations via this site is risky."

As well as perceived risk, the experiment also measured variables of a socio-demographic nature such as gender and age, moderating variables such as total browsing time in seconds, and the total number of correct answers achieved in the assigned task. These were later used as covariables in the data analysis phase. Finally the cultural dimensions were measured via the VSM94 scale proposed by Hofstede (2001).

4. FINDINGS

4.1. Sample Description

The final sample comprised 491 Internet users, of which 47% were Spanish and 53% British. In the main the subjects were highly experienced in using the Internet, with 80% browsing online for over 10 hours a week. The sample was well balanced in gender terms, comprising 52.55% men and 47.45% women. Finally, the sample represented a minimum age of 18 and a maximum of 78 – the average being 38.66 years of age (see Table 2). To ensure that users came from Spain and the UK, Google Analytics was used during the data collection (see Figure 3).

4.2. Standardisation of Cross-Cultural Studies and manipulation check for the culture factor

When working with samples from different cultures it is important to address issues arising from equivalence and deviation. The method proposed by Cheung and Resvold (2000) was applied, using factorial invariance analysis, examining whether members of both cultures gave equal weight to the different indicators used to measure the theoretical constructs. The results obtained revealed the existence of cultural response bias. From the most used models proposed in the literature, we decided on the "method of standardization among cultures" which includes subtract to all values of each culture the mean of the culture in question and dividing by the standard deviation (Fischer, 2004).

The cultural scores obtained for the sample led to the conclusion that, overall, the difference in cultural dimension hold true compared to Hofstede's (2001) original study (see Table 3).

4.3. Testing the Hypotheses[1]

Prior to testing the proposed hypotheses the psychometric properties of the perceived risk scale were examined, by means of a multi-group CFA using Lisrel 8.80 software. After applying the analysis, the first item of perceived risk was removed because of its reliability (R^2) below the recommended limit of 0.50. The results delivered acceptable goodness of fit indicators (see table 4), and composite reliability and variance extracted indicators above the recommended values (0.80 and 0.50, respectively) (Fornell and Larcker, 1981).

Next, an indicative variable for perceived value was created using the sum of the scores allocated to the different items of the scale.

To test H_1 an ANCOVA was carried out on two factors, in which the dependent variable was perceived risk, and the independent variables were language and culture. The number of correct answers and the time spent browsing were included as covariables. The data analysis revealed a significant interaction between language and culture ($p<0.05$) (see Table 5 and figure 4). The Spanish sample obtained a higher value in terms of perceived risk when browsing in L1 (-2.68) than in L2 (-3.99). By contrast, the British sample obtained a lower value when browsing in L1 (-2.93) than in L2 (-2.81). The Bonferroni correction showed significant differences in the Spanish sample ($p<0.05$) but not in the British sample ($p>0.05$).

These findings confirm H_1, since perceived risk amongst the Spanish sample lowers when browsing is conducted in English (L2), a language associated with a culture known to have low *uncertainty avoidance*. However, H_2 must be rejected, as there appears to be no difference in perceived risk for the British sample when browsing in L1 or L2, although the direction established in this hypothesis is upheld.

5. CONCLUSIONS AND IMPLICATIONS

This research provides a double cross-cultural analysis, as it doesn't only compare two cultures with different values in Hofstede's dimensions (Hofstede, 2001) but also mixes the language issue (maternal or secondary) with the processing information. There are few studies analyzing the interaction between language and culture on perceived risk online.

The present research finds for the Spanish sample, there is a significant difference in perceived risk depending on whether users are browsing in L1 or L2, with this value falling where browsing is carried out in English (L2). For the British sample, although when browsing is conducted in Spanish (L2), perceived risk obtains a higher value than in English (L1), the difference between the two values is not significant. It means that if a marketer

[1] Statistica 8.0 software were used to test the hypothesis

wants to reduce the risk perception of a marketing communication message, he can use the language with the lower uncertainty avoidance. It could be in the whole message or in some keys words.

The differentiating characteristic that may explain these findings is the true degree of bilingualism of the subjects participating in the experiment. When establishing the Internet user panel there was no difficulty in forming the sample of Spanish nationals who were able to browse in English. However the percentage of the British population able to browse the Internet and process the resulting information in Spanish was lower than 5%[2]. Therefore it may be the case that the degree of bilingualism is moderating the results obtained. Taking this into account, and in light of De Groot's CFM (1992), it may be asserted that Spanish Internet users have a direct conceptual link between concepts and the second language, whilst the British process the concepts of L2 by first processing via their mother tongue.

It is confirmed, therefore, that information processing is conditioned by the cultural values of the language that is used and by the degree of bilingualism of the individual concerned. It is recommended, then, that when translating the content of a website, the cultural values it conveys be analyzed, to check that these are in line with the strategy behind the site. For example, in the case of British users, if the aim is to minimize perceived risk, it would not be advisable to translate the site into Spanish. On the other hand, if a british site wants to create an identity that is more collectivist, that aims to reflect group celebrations or convey the sense of openness for a tourist destination in which everyone is welcome as part of a group, then it would be useful to translate some words into Spanish or include Spanish slogans. For example, the words *beer* and *cerveza* are translation of each other, but the image through the conceptual link is different. Therefore, in a touristic communication campaign, although the main text is in English, it would be advisable to include words that facilitate concepts of the destination. In our example, it would be recommended to use *cerveza* instead of *beer*, *paella* instead of *spanish rice* or *chiringuito* instead of *restaurant on the beach*.

One of the limitations of the present research could be the level in Spanish language of the British sample. Due to they aren't 100% bilinguals, they used British conceptual features instead Spanish when they process the information (De Groot, 1992). This could be the reason that makes us to reject H_2. Another limitation could be that only two cultures are compared. I would be very interesting to compare different cultures that have different indices of uncertainty avoidance.

In terms of future research it would be interesting to make a comparison between other cultures, focusing particularly on the degree of bilingualism of the subjects, and analyzing other variables related to the cultural dimensions, such as loyalty or attitudes in relation to individualism/collectivism. It would be also interesting to see effects of the language on the brand or website use analysing the Cultural Paradox (De Moiji, 2003). For example, Could a collectivist culture develop positive attitudes towards a website design according to their cultural values but prefer a product promotion that offers individual characteristic through its message? In that case, it could be analysed with two different slogans; the first one with a collectivist design and message, and the other one with individual characteristics.

[2] *According to data submitted by the company that provided the British Internet user panel.*

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Table 1. Hofstede's cross-cultural dimensions					
Nation	**Cultural dimensions**				
	Power Distance	*Uncertainty avoidance*	*Individualism collectivism*	*Masculinity /femininity*	*long-term orientation*
Spain	57	86	51	42	-
Great Britain	35	35	89	66	25

Table 2. Distribution of the sample by gender, age and culture			
Spanish sample			
	Male	Female	Total
18-24	11 (4.82%)	4 (1.75%)	15 (6.58%)
25-34	93 (40.78%)	42 (18.42%)	135(59.21%)
+35	51 (22.38%)	27 (11.85%)	78 (34.21%)
TOTAL	155 (67.98%)	73 (32.02%)	228 (100%)
British sample			
	Male	Female	Total
18-24	11 (4.18%)	25 (9.50%)	36 (13.69%)
25-34	20 (7.60%)	55 (20.91%)	75 (28.52%)
+35	72 (27.38%)	80 (30.43%)	152 (57.79%)
TOTAL	103(39.16%)	160 (60.84%)	263 (100%)
Total sample			
	Male	Female	Total
18-24	22 (4.48%)	29 (5.9%)	51 (10.39%)
25-34	113 (23.01%)	97 (19.75%)	210 (42.77%)
+35	123 (25.06%)	107(21.8%)	230 (46.84%)
TOTAL	258 (52.55%)	233 (47.45%)	491 (100%)

Table 3. Uncertainty avoidance scores					
Cultural dimensions	Nationality	Present study		Hofstede's study (2001)	
		Value	*Difference*	*Value*	*Difference*
Uncertainty avoidance	Spanish	80.62	32.63	86	51
	British	48.39		35	

Table 4. Goodness of fit indices	
Chi-square Satorra-Bentler (d.f.)	5.67 (4)
p-value	0.22
GFI	1.00
NFI	0.99
IFI	1.00
RFI	0.99
CFI	1.00
Critical N (CN)	1145.04

Table 5. ANCOVA of language and culture in perceived risk					
Treatment	**Language**	**Culture**	**Average**	**F**	**p-value**
Language X Culture	L1	Spanish	-2.68	6.15	0.01
		British	-2.93		
	L2	Spanish	-3.99		
		British	-2.81		
Significant covariable		**BETA**	**Average**	**F**	**p-value**
Number of correct answers		-0.19	1.49	128.12	0.00
Normality No major deviations observed Homoscedasticity Levene's test: p=0.78		**Homogeneity of coefficients between groups (parallelism test)** Language x Nº correct answers: p=0.78 Culture x Nº correct answers: p=0.07; Language x Culture x Nº correct answers: p=0.83			

Figure 1. Example of the Web site in Spanish

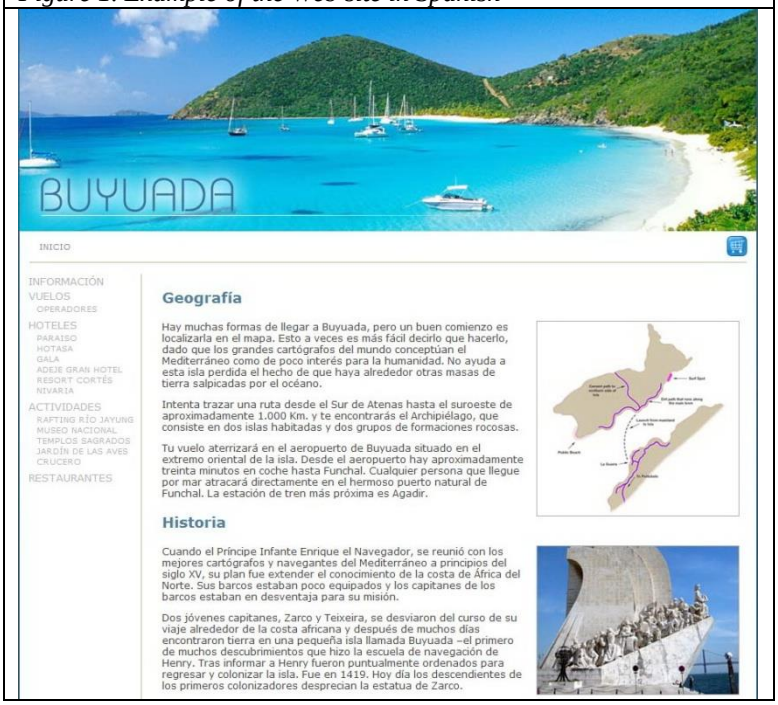

Figure 2. Example of the Web site in English

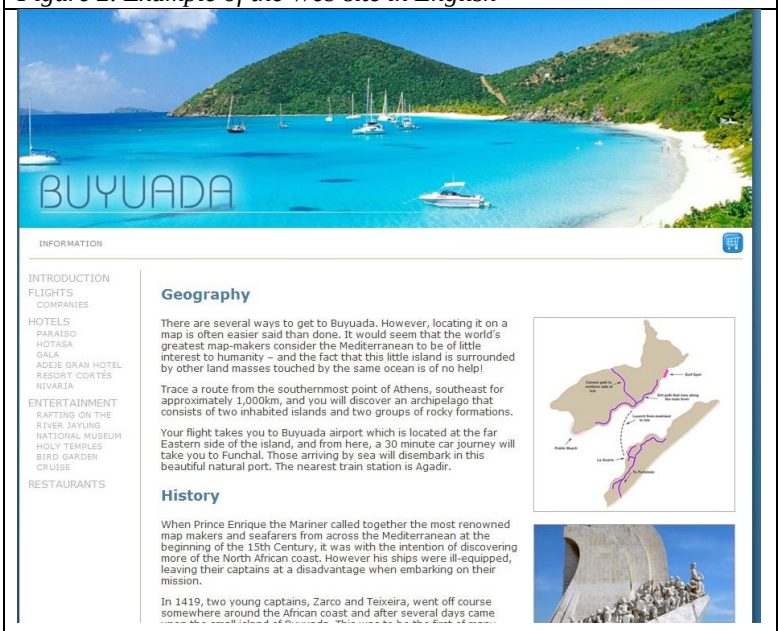

Figure 3. Google Analytics statistics during the data collection.

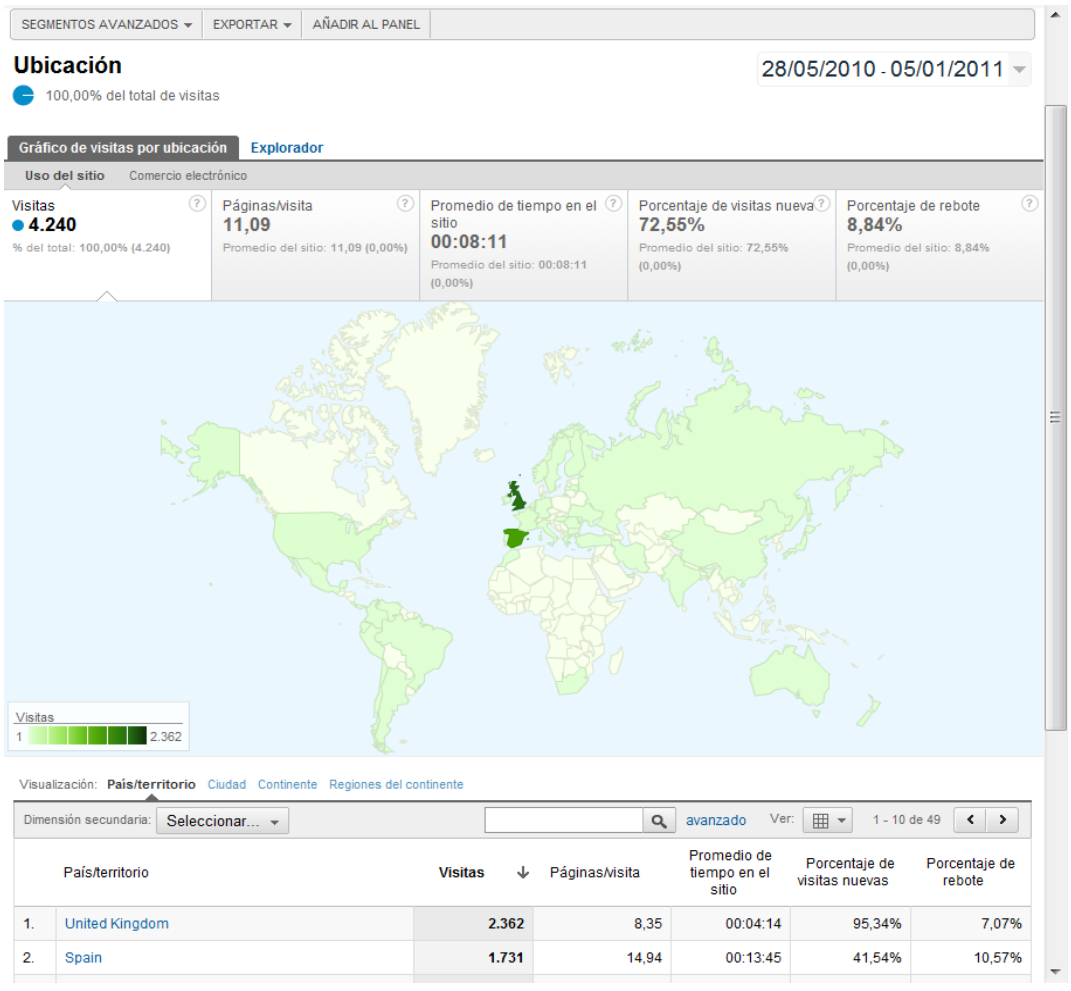

Figure 4. Perceived risk by the interaction between culture and language