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EMPIRICAL ARTICLE

The moderating effect of culture on overall perceived value in the online purchasing process

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Abstract This study analyzes differences in the formation of overall perceived value of a tourism service purchased online, taking tourists' national culture as a moderating variable. The intention is to understand the influence of cultural dimensions on the antecedents and consequences of overall perceived value amongst consumers of different cultures. The sample is made up of 300 tourists (150 British and 150 Spanish) who have purchased a tourism service via the Internet. The two cultures to which the tourists belong differ in terms of the cultural dimensions of uncertainty-avoidance and individualism–collectivism. The findings reveal that in the formation of overall perceived value—which embraces both the online purchase phase and also consumption of the tourism service—moderating effects are generated principally by the cultural dimensions of uncertainty-avoidance and individualism/collectivism. The key practical implications of the study are to understand the variations on overall perceived value when making an online purchase, and to understand the role played by cultural dimensions in interactions with web-based businesses.

Keywords Overall perceived value · Online satisfaction · Perceived quality · Culture

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1 Introduction

International tourism has witnessed extraordinary growth, with 927 million tourists traveling internationally in 2008, up from just 25 million less than 50 years before (World Tourism Organization 2009). Alongside this growth, the Internet has become one of the most important sources of tourism information (Buhalis and Law 2008). The World Tourism Organization (WTO) declared that the key to Internet success lies in the swift identification of customer needs and the establishment of direct contact with consumers, offering them comprehensive, personalized, and up-to-date information (Vich-i-Martorell 2004).

Increasingly consumers are using the Internet to obtain information, explore commercial as well as non-commercial websites, and search-for and purchase products (Buhalis 1998). Hence in order to satisfy tourism demand and survive over the long term, one option for tourism service providers is to use information technologies and the Internet together with traditional channels (Buhalis 1997). Given the exponential growth in international travel, academic interest in the impact of cultural influences on travel behavior is starting to enhance the body of knowledge in this field. To achieve successful international tourism development, industry professionals need to understand the cultural differences among international tourists themselves, as well as between tourists and the host society (Meng 2010).

In online behavior, it has been proposed that perceived value is the essential outcome in evaluating firms' marketing activities (Holbrook 1994). Furthermore, there is a need to develop models that go deeper into perceived value, taking an overall perspective of the consumer's experience that seeks to address both the consumption of the product or service and also the purchasing process (Sánchez et al. 2006).

Specifically then, the greater the perceived value, the greater the probability of the process being repeated. Therefore perceived value is recognized as being an important indicator in predicting certain consumer behaviors, and, as such, numerous researchers in the field of marketing have endeavored to examine its characteristics and applications (Smith and Colgate 2007).

It is also considered as one of the key constructs in competitive advantage (Lee and Overby 2004), for its importance in consumer behavior (Gallarza and Gil 2006; Sánchez et al. 2006; Cronin et al. 2000).

Despite the fact that online consumer behavior is well covered by the literature (Gong 2009), particularly in the theories of planned behavior and reasoned action, and the model of technology acceptance, few works analyze other related factors such as the influence of culture on consumer behavior online (Cheung et al. 2005). Prior studies reveal that if cultures and consumer behaviors differ, then marketing strategies should adapt accordingly to such differences (Cheung et al. 2005).

Moreover, cross-cultural research is particularly relevant in the tourism industry, where supply and demand are by their very nature multinational (Pizam and Fleischer 2005), and where the Internet is increasingly used for information and for contracting tourism services (IET 2010). It is therefore essential to understand how tourists behave in this electronic medium and how this behavior varies depending on

the tourists' cultural background influences his/her Internet usage (Yeniyurt and Townsend 2003).

The aim is to understand the influence of cultural dimensions on the antecedents and consequences of overall perceived value amongst tourists of two different nationalities—Spanish and British—which provide different scores according to Hofstede's cultural dimensions.

The key contributions of the study are: to analyze the formation of overall perceived value for the purchasing process relating to a given service, and the consumption of that service; and to establish the moderating effect of two of the cultural dimensions with the greatest impact on online consumer behavior, uncertainty-avoidance and individualism/collectivism. Furthermore, the present study provides information of value to those offering online services, since providers often present simply a translated version of their website to attract tourists from different nationalities, without taking into consideration that more significant changes are necessary in order to be truly effective (that is, achieve conversion).

2 Literature review

2.1 Antecedents and consequences of overall perceived value

The literature review reveals that the majority of definitions of perceived value, both in terms of traditional media and also online media, focus on one stage only of the purchasing process (Lin and Peng 2005; Fornell et al. 1996). However, a global perspective on perceived value offers a more complete view, in that it measures value pre-purchase, during purchase, and post-purchase (Zeithaml 1988).

Overall perceived value can be defined as "an overall assessment of the utility of a product or service based on perceptions of what is received and what is given" (Zeithaml 1988). In this definition, perceived value as a construct is formed by two factors: benefits received, and sacrifices made by the customer (Cronin et al. 2000). With regard to the antecedents that have a positive effect on overall perceived value, amongst these is satisfaction with the online purchase. In a purchase-consumption process, satisfaction with the purchase must precede the value generated by the process in its entirety, once the individual has consumed the product or service.

With regard to the perceived quality of the service, earlier studies establish—both theoretically, using conceptual models (Chen and Dubinsky 2003; Cronin et al. 2000), and also taking an empirical approach (Liao and Wu 2009)—that quality is considered a determining factor in perceived value. Specifically, some researchers assert that perceived quality has a positive effect on perceived customer value. This is both intuitively true (Fornell et al. 1996) and also demonstrated in previous studies (Cronin et al. 2000).

Regarding those antecedents with a negative influence on perceived value, the monetary price and perceived risk are the two sacrifices most commonly used to explain the formation of perceived value on the Internet (Gupta and Kim 2010; Liao and Wu 2009; Chen and Dubinsky 2003). On the one hand, price is an indicator of product or service quality (Zeithaml 1988; Aqueveque 2006) and an element that

influences perceptions of risk (Sweeney et al. 1999). Several researchers hold that price is an inherent component of perceived risk, such that when prices rise, the risk of not being able to obtain the product or service is higher (Sweeney et al. 1999).

On the other hand, when addressing the inter-relationships between the variables influencing perceived value, there is agreement that a higher level of perceived risk has a negative impact on perceived value (Sweeney et al. 1999; Teas and Agarwal 2000).

Furthermore, several studies suggest that perceived value is one of the most important determinants of intention to repeat purchase and intention to repeat visit (Frost et al. 2010; Srinivasan et al. 2002; Lynch et al. 2001).

Figure 1 shows the proposed theoretical model for the present research. It highlights three phases within the purchasing process, namely the purchasing phase, the consumption phase, and the evaluation of results phase.

2.2 The moderating effect of culture

Since the 1980s, various researchers have debated the most appropriate choice of dimensions to conceptualize culture (Hofstede 1980, 1991; Steenkamp 2001). However it is the framework developed by Hofstede (1980, 1991, 2001) that has become established as the point of reference for attempting to measure the impact of the differences between national cultures. Hofstede's study provides a strong empirical base and numerical measurements that map the position of many countries relative to four cultural dimensions (Kolman et al. 2003). Hofstede affirms that culture comprises four dimensions—power distance, masculinity/femininity, individualism/collectivism, and uncertainty-avoidance—and their importance has been demonstrated in different spheres (Steenkamp et al. 1999). However the uncertainty-avoidance and individualism/collectivism dimensions are the most widely used in the literature on online consumer behavior (Jarvenpaa and Tractinsky 1999; Weber and Hsee 1998; Liu et al. 2001; Frost et al. 2010; Gong et al. 2007) not only for their ease of interpretation in the context of the online market, but also because the existing literature shows that individual characteristics such as

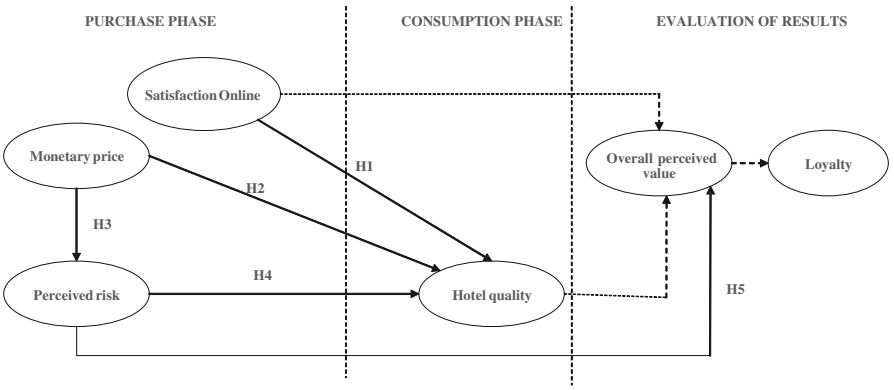

Fig. 1 Theoretical model

perceived risk (Cheung et al. 2005) and the degree of individualism/collectivism (Gong et al. 2007) are amongst the most important determinants of consumers' purchasing behavior.

3 Hypothesis

3.1 Satisfaction with the website—perceived hotel quality

Previous studies reveal that consumers' feelings and emotions are important aspects of their behavior (Derbaix and Pham 1991; Havlena and Holbrook 1986). Thus the emotional or affective aspects of decision-making theory evidence the fact that the value of the experience can influence perceived product quality (Schwarz and Clore 1988). Therefore a positive feeling that a consumer derives from a previous experience would lead to a positive evaluation of quality, while a negative feeling could lead to a negative evaluation of quality (Schwarz and Clore 1988).

The literature reveals that tourists from different cultures differ greatly in their overall assessment of the perceived quality (Hsieh and Tsai 2009), specifically due to the individualism/collectivism dimension.

Cultures characterized by a high level of individualism place a greater emphasis on specific attributes of a process or product (such as features and uses), they are more competitive, and they attribute more importance to the utilitarian values of the exchange (Bhawuk and Brislín 1992). Meanwhile collectivist cultures place more value on the opinions of other people (Samli 1995; Mooij 2004) and prefer subjective, imagined information.

Specifically, in societies known as individualist, consumers principally pursue their own interests (Dash et al. 2009) and are less tolerant of providers offering poor service quality. Conversely, collectivist consumers are more tolerant of poor service (Donthu and Yoo 1998). Online information-search, and satisfaction with the website ultimately chosen for contracting services, are largely individual experiences. Therefore it may be that consumers from highly individualist cultures place more emphasis on the relationship between online satisfaction and perceived quality of the hotel than those from more collectivist cultures.

Hence the following hypothesis is proposed:

H_1 The positive effect of satisfaction with the website on the perceived quality of the hotel is significant for tourists from individualist cultures and is not significant for tourists from collectivist cultures.

3.2 Monetary price—perceived hotel quality

The literature affirms that variations exist in the relationship between monetary price and perceived quality, determined by the individualism/collectivism dimension (Jo and Sarigollu 2007). Given their scant concern for the opinion of others, individualist cultures are more inclined to display relaxed behaviors, focusing little on societal norms, while collectivist consumers do take account of societal norms

(Kalhe 1995a). Kalhe (1995b) affirms that consumers displaying more relaxed behaviors ascribe greater value to showing respect than to being respected, for example. Similarly individualist consumers are less susceptible to interpersonal influences (Bearden et al. 1989) and to prestige (Lichtenstein et al. 1993) than their collectivist counterparts. Amongst the latter, monetary price tends to hold a strong symbolic value in terms of status and prestige (Johansson 1997), and because the opinion of others is extremely important (Hofstede 1980; Samli 1995), price is associated with greater perceived quality than in individualist cultures (Jo and Sarigollu 2007) where consumers instead seek the best value for money or best product features for a given price, unconcerned about social comparisons, norms and prestige.

The follow hypothesis is thus proposed:

H_2 The positive effect of monetary price on perceived hotel quality is significant for tourists from collectivist cultures and is not significant for tourists from individualist cultures.

3.3 Monetary price—perceived risk

The relationship between monetary price and perceived risk may be subject to variations attributed to the national culture of the consumer. Specifically, uncertainty-avoidance can impact on this relationship as it is linked to the consumer's perception of risk (Jarvenpaa and Tractinsky 1999).

In the online context, consumers tend to have reservations about using the Internet due to concerns about security (Lee and Joshi 2007). The literature affirms that cultures with low uncertainty-avoidance are more tolerant of risk, and that people from these cultures tend to be more innovative, enterprising, and willing to try new things. Conversely those countries with high uncertainty-avoidance value security, rules and formality. Their citizens are more resistant to change and tend to avoid or minimize risk, hence they are less inclined to innovate (Gong 2009). It follows, then, that, given that a greater degree of innovation may be related to a higher price, those societies characterized by a high level of uncertainty-avoidance—with a lower level of innovation—may associate a higher price with a higher level of risk. Thus, the following hypothesis is proposed:

H_3 The positive effect of monetary price on the perceived risk of the online purchase is significant for tourists from cultures with high uncertainty-avoidance and is not significant for tourists from cultures with low uncertainty-avoidance.

3.4 Perceived risk—perceived hotel quality and overall perceived value

The relationships between perceived risk and perceived quality, and perceived risk and overall perceived value, may display variations due to consumers' national cultures—specifically relating to the degree of uncertainty-avoidance in the cultures being studied (Hofstede 1980, 2001). This statement is all the more true when referring to researching and purchasing products online. In this realm, consumers from societies with a high degree of uncertainty-avoidance are more concerned with

promises made by service providers and with security (Lee and Joshi 2007), in other words, with service quality. Hence, bearing in mind the characteristics of the context that surrounds the online purchasing process, the risk assumed in the purchasing decision will impact on the perceived quality of the service. It is not unreasonable to assume, then, that there will be a negative relationship between risk and perceived quality, whilst this element will have less of an influence on the formation of perceptions of quality when uncertainty-avoidance is low.

Several studies suggest that perceived risk is an important variable that needs to be examined in relation to perceived value (Teas and Agarwal 2000). Following a similar argument to that proposed for the relationship between perceived risk and perceived quality, it may be that the relationship between perceived risk and overall perceived value is shaped by an individual's national culture. The perceived risk may have a negative influence on the overall assessment of the purchasing process amongst individuals characterized by a high level of uncertainty-avoidance. Hence it would be that consumers from cultures with a high level of uncertainty-avoidance show a stronger negative relationship between perceived risk and perceived value than do those from cultures characterized by low uncertainty-avoidance. The following hypotheses are thus put forward:

H_4 The negative effect of the perceived risk of online purchasing on perceived hotel quality is significant for tourists from cultures with a high level of uncertainty-avoidance and is not significant for tourists from cultures with a low level of uncertainty-avoidance.

H_5 The negative effect of perceived risk on overall perceived value is significant for tourists from cultures with a high level of uncertainty-avoidance and is not significant for tourists from cultures with a low level of uncertainty-avoidance.

Arising from these hypotheses is a model of relationships that attempts to explain the moderating effect of cultural dimensions on the overall perceived value of the online purchase of a tourism service. However, it is predicted that the degree of influence of the cultural dimensions on the relationships between the constructs of the perceived value model will differ according to tourists' cultures of origin. Therefore the present study proposes that the two cultural dimensions, such uncertainty-avoidance and individualism/collectivism are moderators of the relationships established in the overall perceived value model for Spanish and British tourists.

Figure 1 shows the moderating effect of uncertainty-avoidance and individualism/collectivism in the overall perceived value model.

4 Methodology

4.1 Sample design and data collection

The sample was designed in light of two criteria: (a) it should be representative of the target population of the study, and (b) it should enable analysis of the effect of

cultural dimensions on the online purchasing behavior of consumers from different nationalities.

A sample of tourists was chosen from two nationalities, namely British and Spanish. This choice was based on two key factors: (1) Data show that the level of Internet use amongst the Spanish and the British is very similar, at 70.6 and 79.8 % of the population respectively (Internet World Stats 2009); (2) Spain and the United Kingdom demonstrate major differences in the uncertainty-avoidance dimension (86 for the Spanish and 35 for the British) and individualism/collectivism (51 for the Spanish and 89 for the British) (Hofstede 1980, 2001). Furthermore, the literature review shows that these are the cultural dimensions that have the greatest influence on the process of perceived value formation.

Specifically, Hofstede developed a survey instrument called the Value Survey Module (VSM). This instrument enables the culture of a country to be summarized across a limited number of common dimensions, based on a scoring mechanism, and it is assumed that systematic and stable differences between respondents from different countries can only be explained by the culture of the country in question. Table 1 shows the scoring for the two cultural dimensions used in the present study.

The uncertainty-avoidance dimension focuses on the level of tolerance for uncertainty and ambiguity within a given society. A high uncertainty-avoidance ranking indicates that the country has a low tolerance for uncertainty and ambiguity. According to Hofstede's framework and findings, Spanish society is characterized by a high level of fear of the future. This gives rise to a tendency to create rules that can organize all activities, and to positively valuing the existence of experts who can offer advice, all with the aim of minimizing risk. These beliefs derive from a high level of uncertainty-avoidance. A low uncertainty-avoidance ranking indicates that a country has less concern for ambiguity and uncertainty, and has more tolerance for a variety of opinions. Again according to Hofstede, British society demonstrates a greater tolerance for risk and tends towards "living for the moment" rather than being concerned about what may happen in the future. These beliefs derive from a low level of uncertainty-avoidance. Meanwhile, the individualism/collectivism dimension is used to describe the relationship between individuals and the dominant collective in a given society, including the values and behaviors that characterize that relationship (Hofstede 2001). A high individualism ranking indicates that individuality and individual rights are paramount within that society. According to Hofstede, British society demonstrates a greater tendency to believe that people as individuals are more important than the group, that success is a result of personal effort, and that one's private life is separate from work life. These beliefs derive from a high degree of individualism. A low individualism ranking (collectivist) typifies societies with close ties between individuals. These cultures reinforce extended families and collectives

Table 1 Scoring for Hofstede's cultural dimensions, for the UK and Spain

Cultural dimension	Hofstede scoring	
	British	Spanish
Uncertainty-avoidance	35	86
Individualism/collectivism	89	51

where everyone takes responsibility for fellow members of their group. Spanish society is an example of a collectivist culture according to Hofstede's framework.

In order to test the hypotheses put forward, a study was carried out based on telephone interviews with subjects using a structured questionnaire. With regard to the selection of the sample, comprising two groups of tourists (one Spanish, the other British), random sampling was applied. In terms of the volume of questionnaire responses sought, interviews were organized in proportion to the size of the different geographical areas, making the distinction between large, medium and small cities.

Tourists had to fulfill three criteria in order to be included in the sample, namely: that they had undertaken a holiday trip in the 12 months preceding the interview; that they had purchased their hotel accommodation via the Internet; and that their nationality, be it Spanish or British, matched their country of residence.

The hotel was chosen as service of reference in this research. In line with the Trend in Online Shopping report, by Nielsen (2008), hotel reservation and Airlines tickets are the two only services included in the top ten of products acquired online.

The initial stage consisted of two pre-test studies. First, one pre-test study was undertaken amongst students of the Economic and Business Sciences Faculty of the University of Granada, with a subsequent sift being made in light of the results obtained, to test understanding of the questions and to refine the questionnaire accordingly. Second, another pre-test was undertaken amongst a representative sample of the target audience (30 Spanish and 30 British), at Granada airport (Spain), to analyze how the scales under study worked.

The sample was made up of 300 tourists, 150 of whom were Spanish, the rest being British. The field work was undertaken between December 2008 and February 2009. As regards the composition of the sample, 51.4 % of those surveyed were men, and 48.6 % were women. The majority of the tourists were over 35 years of age. Some 90 % of all those surveyed were from households of two or more people. Approximately 59 % had completed University-level study, and 74 % had paid work. Table 2 shows the different geographical areas covered.

Table 2 Socio-demographic characteristics

Geographical area	Spain		United Kingdom	
Large	Madrid	80	London	78
	Barcelona		Manchester	
	Seville		Birmingham	
Medium	A Coruña	52	Liverpool	52
	Alicante		Bristol	
	Córdoba		Cardiff	
	Murcia		Plymouth	
Small	Huesca	27	Portsmouth	26
	Toledo		Brighton	
	Cáceres		Ipswich	
	Logroño		Norwich	
	Sta. Cruz de Tenerife		Exeter	

4.2 Construct measurement items

4.2.1 Online satisfaction

Satisfaction was measured using two items widely accepted throughout the literature (degree of satisfaction and degree of pleasure) (Oliver 1981). This scale has also been used to measure satisfaction with a website (Szymansky and Hise 2000; Castañeda et al. 2007).

4.2.2 Perceived hotel quality

This was measured using an adapted version of the scales used by Sweeney et al. (1999) and Teas and Agarwal (2000).

4.2.3 Monetary price

Given the research aim of measuring the perception of the subjective price, the scale used by Yoo et al. (2000) was adapted by applying the original scale in the service market, specifically in tourism.

4.2.4 Perceived risk

Considering each of the items comprising the perceived risk dimension, and the fact that the research sought to measure perceived risk of an electronic transaction, a scale was chosen with two items adapted from studies analyzing perceived risk online (Gupta and Kim 2010; Chen and Dubinsky 2003; Sweeney et al. 1999).

4.2.5 Perceived value

The items used make up an overall measurement which enables a combined assessment to be made for the entire online purchase decision-making process. The choice of a scale used in the service sector is based on the fact that scales measuring perceived value online do not offer a measurement of overall value (Gallarza and Gil 2006; Cronin et al. 2000; Zeithaml 1988).

4.2.6 Loyalty

This is addressed from a one-dimensional perspective that considers intention to repeat purchase and word-of-mouth communication as one single dimension, as per the works of Joo (2007) and Gallarza and Gil (2006).

4.3 Standardization of data

Undertaking cross-cultural research involves dealing with people from different cultures, and, as a result, it is necessary to take into account whether the scores obtained are comparable (Van de Vijver and Leung 1997).

Hofstede (1980) was amongst the first to defend the use of standardization as a means of adjusting original scores from cross-cultural research in order to correct any error in the responses. The principal aim of standardization is a reduction or elimination of unwanted cross-cultural differences that are not due to variables of interest, but rather response sets and methodological artifacts (Van de Vijver and Leung 1997). Other studies, such as that of Fischer (2004) include a review of studies published by the magazine "*Journal of Cross-Cultural Psychology*" between 1970 and 2002 that use standardization procedures. The review affirms that there was constant growth in the use of standardization procedures from 1985 onwards, and highlights that the main reason given for standardization was the elimination or reduction of deviation in responses.

Therefore, considering the characteristics of this study and its cross-cultural nature, it would seem necessary to use standardization in the initial data, with a view to avoiding deviation in the responses. Of those existing procedures for carrying out standardization, the "Within Group Standardization" method was used—adjustment across variables—such that each variable has the same mean and the same variance. This method assumes that the scoring in terms of overall percentage and/or the variance is comparable amongst variables, so that skewing due to the styles of response amongst and within cultures can be eliminated. The approach is based on the assumption that responses from within a particular culture may not be homogeneous either, given the possible influence of other socio-demographic characteristics. Using this procedure makes it possible to undertake a factorial analysis of the variables from the data overall, with the certainty that the resulting dimensions are "pure" representations of the factors, unaffected by the positioning effect of the culture, given that the average scoring of each culture for each variable is zero. Of course, even so the effect of the culture on the model of variables is reflected in the data overall.

The factorial invariance will be detected by analyzing the variations arising when adjusting from the CFA model, from a free multi-group model (m1), to another where factor loading is restricted to equal (m2). Thus the absence of significant differences in the χ^2 of m1 and m2 is an indicator of factorial invariance (Table 3).

Looking at these findings, significant differences can be seen between models 1 and 2, such that invariance between the two models cannot be affirmed. This confirms the existence of bias in the extreme response styles derived from comparison of the two, culturally different, samples.

To eliminate this bias and achieve standardization, the 'Standardization within groups Method' was used (adjustment between variables), such that each variable has the same mean and the same variance. This model assumes that scoring of the

Table 3 Comparison of models 1 and 2

	Model with restriction	Model without restriction	χ^2 difference
Comparison of models 1 and 2	1706.41	1649.62	56.79
	d.f. = 1103	d.f. = 1079	d.f. = 24
			p value < 0.0001

overall percentage and/or the variance are comparable amongst variables, so that bias in the styles of response between and within each culture can be eliminated, based on the assumption that it may be that responses from within the same culture may not be homogeneous either, given the possible influence of other socio-demographic characteristics. By using this approach it is possible to undertake a factorial analysis of the variables of the data set and be sure that the resulting dimensions are 'pure' representations of the factors, unadulterated by the moderating effect of culture, given that the mean score of each culture for each variable is zero.

5 Results

There now follows an analysis and discussion of the key results arising from the research. Firstly, as regards evaluation of the measurement model it was proven that Cronbach's alpha (α) and the reliability coefficient (R^2) are within the limits recommended by the literature. Composite reliability (CR) and variance extracted (VE) were also calculated, with favorable results—above 0.7 and 0.5, respectively (see Table 4).

Following evaluation of the adequacy of the measurement model, LISREL 8.71 software is used to estimate the model. Using the asymptotic variance–covariance matrix, the multi-group model is estimated. In this research, we have opted for the multi-group approach as we have the uncertainty-avoidance and individualism/collectivism dimensions represented by two subsamples (one for Spain and one for Britain). In the vein of Marsh et al. (2004), multi-group analysis is suitable for

Table 4 Evaluation of measurement model

Dimension	Items	α	CR	VE	R^2	Stand. coeffic. (t value)
Satisfaction with the website	SAT1	0.872	0.87	0.77	0.81	0.90 (–)
	SAT2				0.74	0.86 (17.28)
Hotel quality	QUAL1	0.871	0.88	0.78	0.69	0.83 (–)
	QUAL2				0.87	0.93 (11.28)
Price	PRICE1	0.791	0.81	0.68	0.48	0.70 (–)
	PRICE2				0.88	0.94 (5.18)
Perceived risk	PR1	0.753	0.76	0.61	0.70	0.84 (–)
	PR2				0.52	0.72 (5.40)
Perceived value	PV1	0.913	0.91	0.78	0.77	0.88 (–)
	PV2				0.83	0.91 (19.37)
	PV3				0.73	0.86 (21.21)
Loyalty	LOY1	0.870	0.88	0.65	0.32	0.57 (–)
	LOY2				0.72	0.85 (10.21)
	LOY3				0.81	0.90 (9.94)
	LOY4				0.75	0.87 (9.57)

examining the moderating effect when one of the variables is a latent variable based on multiple indicators and one is an observed categorical variable that can be used to form a relatively small number of groups. The invariance of the structural equation modeling (SEM) over the multiple groups provides an effective test of interaction effects.

In the analysis, each group represented the national culture of the tourists under study. The most obvious means of evaluating the structural model is to analyze the relationships that exist between the latent variables.

The goodness-of-fit indicators of the multi-group structural equation model are as follows: χ^2 (Satorra–Bentler) = 356.83 ($p = 0.00$), RMSEA = 0.075, NFI = 0.92, NNFI = 0.96, CFI = 0.96, IFI = 0.96, RFI = 0.91, RGFI = 0.93. All the indicators are within the limits recommended by the literature, except for χ^2 which is affected by population size.

To test the hypotheses in Table 5, the standardized coefficients are shown with their corresponding t values, distinguishing between groups of Spanish and British tourists.

6 Discussion of results

Empirical verification of hypothesis 1 reveals that the effect of culture on the relationship between satisfaction with the website and perceived quality of the hotel is significant in both cases. However, it is significantly greater amongst British tourists (individualist character) than Spanish (more collectivist). To demonstrate empirically the difference between coefficients, the χ^2 is compared between the unrestricted model and the restricted model (Table 6).

Hypothesis 1 cannot be disregarded. The findings are in line with previous studies which established that tourists from different cultures demonstrate significant differences in their overall assessment of the perceived service quality of the hotel (Hsieh and Tsai 2009), differences that may be shaped by their previous satisfaction with the online transaction. Although quality will be important to both

Table 5 Standardized coefficients (t values)

	SPAIN Standardized coefficient (t value)	United Kingdom Standardized coefficient (t value)
Online satisfaction → perceived value	0.15 (1.72)	**0.38 (3.30)**
Monetary price → perceived risk	**0.21 (2.41)**	−0.12 (−1.12)
Monetary price → hotel quality	0.07 (0.58)	−0.09 (−1.32)
Perceived risk → hotel quality	**−0.43 (−3.74)**	0.03 (0.43)
Perceived risk → perceived value	0.07 (0.68)	−0.03 (−0.37)
Hotel quality → perceived value	**0.48 (3.04)**	**0.65 (3.38)**
Perceived value → loyalty	**0.45 (3.68)**	**0.49 (5.45)**

Bold values indicate significant coefficients

Table 6 The moderating effect of culture on the relationship between online satisfaction and perceived quality of the hotel

	Restricted model	Unrestricted model	Difference in χ^2
Satisfaction with website—hotel quality	367.24 d.f. = 194	356.83 d.f. = 193	8.1528 d.f. = 1 p value = 0.004

groups, it will be more so amongst individualist tourists as they will pursue their own specific aims, whereas more collectivist tourists are more tolerant of possible failings in the factors associated with measuring the perceived quality of the hotel.

Empirical verification of hypothesis 2 shows that monetary price does not influence the perceived quality of the hotel in either group. Thus the moderating effect proposed has no empirical support. Although much of the literature establishes that price is widely considered to be a key extrinsic indicator for perceived product quality (Zeithaml 1988), some researchers suggest that this relationship, though generally positive, may not arise when other variables are present that may have an influence on quality (Zeithaml 1988). Chen and Dubinsky (2003) suggest that there is no relationship between price and quality. Consumers take price to infer quality when they are relatively unfamiliar with the product. The use of price as an indicator of quality may also depend on the category of product concerned, and on price variations within the same category (Chen and Dubinsky 2003). The present findings support the latter view, that price does not directly influence perceived hotel quality. In this particular case it is perhaps understandable that price should not influence perceived hotel quality as this research focused on online acquisition of a tourism service, in which the monetary price was paid prior to the experience of the service. Therefore, in line with studies that question the relationship between price and perceived quality (Zeithaml 1988; Chen and Dubinsky 2003), it may be that it is factors other than price that influence perceived quality.

With regard to hypothesis 3, the relationship between monetary price and perceived risk is significant only in the case of tourists from a high uncertainty-avoidance culture (Spanish), hence this hypothesis finds empirical support. To demonstrate empirically the difference between coefficients, the χ^2 is compared between the unrestricted model and the restricted model (Table 7).

Uncertainty-avoidance is proven to influence consumers' assessment of risk (Keh and Sun 2008). People from low uncertainty-avoidance cultures are more tolerant of risk and tend to be more innovative, enterprising and open to trying new things—suggesting that even when they consider that a greater degree of innovation leads to

Table 7 The moderating effect of culture on the relationship between monetary price and perceived risk

	Restricted model	Unrestricted model	Difference in χ^2
Monetary price-perceived risk	365.46 d.f. = 194	356.83 d.f. = 193	43.25 d.f. = 1 p value = 0.000000

higher pricing, for them this does not imply a greater level of risk. Conversely, people from high uncertainty-avoidance cultures value security, rules and formality; they are more resistant to change and tend to avoid or minimize risk, hence they are less likely to innovate. Thus they may associate higher risk with higher pricing.

Hypothesis 4 proposed a significant and negative relationship between perceived risk and perceived quality amongst tourists with high uncertainty-avoidance. The findings confirm that this hypothesis cannot be disregarded. To demonstrate empirically the difference between coefficients, the χ^2 is compared between the free model and the restricted model (Table 8).

People from high uncertainty-avoidance cultures positively value the security of the process and promises made by providers. Hence for them, greater risk implies perceived inferior quality. For people from low uncertainty-avoidance cultures, risk is not considered a determinant of perceived quality.

Empirical verification of hypothesis 5 reveals that perceived risk does not directly influence perceived value in the purchase of a tourism service online, for either of the two groups. Therefore there is no empirical support for the moderating effect proposed. With regard to the model, the relationship between perceived risk and overall perceived value is indirectly determined by perceived hotel quality. It is not possible to affirm the existence of a direct relationship. This may be because perceived risk is evaluated prior to the tourist's overall assessment, which happens once they have consumed both the online services and the tourism service itself. Therefore their perception of risk has already been assessed in terms of hotel quality, and hence does not directly impact on the overall value of the purchase and consumption of the service.

Turning to the other relationships, for which no moderating effect was proposed, the findings show that, in line with the literature review, online satisfaction and perceived hotel quality influence overall perceived value; and overall perceived value influences loyalty towards the website. Of particular note is the relationship between online satisfaction and overall perceived value, as the findings show that the relationship is not significant in the case of Spanish tourists in a bilateral test. However, a positive relationship is clearly identified between satisfaction and value, suggesting that the t-test is that corresponding to a unilateral test.

7 Conclusions and implications

The growing trend towards globalization of commercial activity (Maheswaran and Shavitt 2000), together with the rising number of consumers using the Internet to

Table 8 The moderating effect of culture on the relationship between perceived risk and perceived quality

	Restricted model	Unrestricted model	Differences in χ^2
Perceived risk-perceived quality	361.62 d.f. = 194	356.83 d.f. = 193	3.85 d.f. = 1 p value < 0.05

obtain information and purchase services, have prompted the need to understand variations in international consumer behavior and, what is more, to understand the role played by uncertainty-avoidance and individualism/collectivism in interactions with Web-based businesses.

The main contribution of the present work is to understand the influence of cultural dimensions on the antecedents and consequences of overall perceived value amongst tourists of two different nationalities—Spanish and British—which provide different scores according to Hofstede's cultural dimensions. To this end, a model of overall perceived value for the purchase decision-making process of a service is proposed and validated. The model covers both the purchasing phase (online) and also consumption of the service (hotel).

The moderating effect of culture on the relationship between the antecedents and consequences of overall perceived value in the purchase and consumption of a service is analyzed. This reveals that culture does have a moderating effect on the overall perceived value of the purchase decision-making process for a tourism service, specifically via the cultural dimensions of individualism/collectivism and uncertainty-avoidance.

With regard to the individualism/collectivism dimension, it is worth noting that this dimension moderates the relationship between satisfaction with the website and perceived hotel quality (Hsieh and Tsai 2009), such that the effect is greater amongst tourists from individualist cultures, and lesser amongst tourists from collectivist cultures. Hence when dealing with clients from individualist cultures, the service provider should bear in mind that they place a higher value on effectiveness of service and commitment to delivering what was promised. Conversely, clients from more collectivist cultures think in more global terms, meaning they are more understanding and tolerant of failings in the service.

Meanwhile the uncertainty-avoidance dimension moderates the relationship between monetary price and perceived risk, and the relationship between perceived risk and perceived hotel quality. Thus both relationships are significant for tourists from high uncertainty-avoidance cultures, while they are not significant for those from low uncertainty-avoidance cultures (Jarvenpaa and Tractinsky 1999). When addressing clients from high uncertainty-avoidance cultures, the service provider should take care to only request information that is strictly necessary (as these clients require a high level of confidence to undertake transactions online), and focus on minimizing any uncertainty surrounding the service. Conversely when dealing with clients from low uncertainty-avoidance cultures, it is not so important to strive to minimize the risk associated with the purchase decision-making process, as these clients do not perceive it as risky.

It is also worth noting the findings regarding the relationship between monetary price and perceived hotel quality, and the relationship between perceived risk and overall perceived value. With the former, the findings obtained for the moderating effect of culture on the relationship between monetary price and perceived hotel quality demonstrate that monetary price does not influence quality (Chen and Dubinsky 2003), as the price was paid prior to perceptions of product quality being formed.

The findings clearly show that culture does not have a moderating effect on the relationship between perceived risk and overall perceived value. Perceived risk refers to the purchase of the tourism service and the perceived quality of that service. This implies that when an overall assessment is made of the purchase decision-making process, it will be the perception of quality that determines the degree of influence of risk on overall perceived value, since if the perception of risk is higher, the quality of the tourism service will be perceived as lower.

From a management perspective, this knowledge is of great value. When tourism service providers understand the factors that influence how international consumers perceive overall value in the purchase decision-making process, and why they have this influence, this can help them understand how to tailor their service to consumers of different nationalities. Furthermore, it enables them to offer their services via websites that are tailored to the culture of origin of their target publics. This same knowledge is also invaluable in developing websites to improve commercial services for clients from different cultures, enabling the business to carry out online trade that improves their competitive position. The key implication is the need to adapt the website and the tourism service features to match the specific requirements of each target culture, with a view to clients perceiving positive overall value—the determining factor in achieving their loyalty to that website. However it is important not to over-generalize these implications across all cultures, given that the scoring for individualism/collectivism and uncertainty-avoidance varies from one to the other.

Finally, it should be highlighted that these results could apply not only to firms that work internationally but also to those operating in one country. Hence we suggest that all service providers should consider uncertainty-avoidance and individualism/collectivism in their service offer.

8 Limitations and future lines of research

Upon interpreting the findings of this research, certain limitations come to light. First, this study follows the approach taken by Hofstede (1980, 1991, 2001), assuming that, within a national culture, cultural values are consistent for the entire population. That said, the great majority of studies work to this assumption as it offers practical applicability of results and facilitates the identification of nationality with cultural dimensions.

Second, the tourists participating in the survey use different Web portals and book different hotels, meaning that one single website and one specific category of hotel were not analyzed. A future line of research would be to undertake an experiment in which the website, the category of hotel and the destination are controlled. Basing the experiment on one single destination would make it possible to control the possible effect of the destination from which the tourism service is delivered.

Finally, as is the case with any research focusing on consumer behavior, changes in the economic environment could have a transitory effect on the relevance of the different determinants of value.

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