A cross-cultural analysis of perceived product quality, perceived risk and purchase intention in e-commerce platforms

Paper published in

Journal of Enterprise Information Management

Full citation to this publication:

Rosillo-Díaz, E., Blanco-Encomienda, F. J., & Crespo-Almendros, E. (2020). A cross-cultural analysis of perceived product quality, perceived risk and purchase intention in e-commerce platforms. *Journal of Enterprise Information Management*, *33*(1), 139–160.

DOI: https://doi.org/10.1108/JEIM-06-2019-0150

A cross-cultural analysis of perceived product quality, perceived risk and purchase intention in e-commerce platforms

Elena Rosillo-Díaz, Francisco Javier Blanco-Encomienda, Esmeralda Crespo-Almendros

Abstract

Purpose – While there have always been cultural differences between countries and between individuals, the virtualisation of markets is rendering the impact of these differences even more salient. There is clear evidence that cultural dimensions are relevant in the adoption and use of e-commerce. Thus, the purpose of this study is to analyse the significant effects of individual cultural dimensions on perceived product quality, perceived risk and purchase intention in e-commerce platforms.

Design/methodology/approach – A questionnaire was developed to serve as a tool of measurement. A confirmatory factor analysis was conducted to examine whether all the indicators for the constructs are reliable. A multiple regression analysis was carried out to test the hypotheses.

Findings – The results reveal that, in the case of e-commerce platforms, the cultural dimensions uncertainty-avoidance and collectivism exert a significant influence on perceived product quality, perceived risk and purchase intention.

Research limitations/implications – The present study is based on real, well-known e-commerce platforms, which could have influenced the responses of the sample due to potential past experiences of use. An experimental design based on fictitious platforms could offer more objective findings.

Practical implications – This research contributes to the understanding of e-commerce and the behaviour of consumers during online purchasing, taking into account the cultural differences that may exist between them.

Originality/value – The literature on individual cultural dimensions—that is, non-national cases—and the variables analysed in the present study suffers from great limitations. This study complements a growing interest in analysing the individual cultural dimensions and their effects on the sphere of e-commerce, specifically on perceived product quality, purchase intention and perceived risk during browsing, measured in terms of the six types of risk prevalent in e-commerce platforms.

Keywords: e-commerce, purchase intention, perceived quality, perceived risk, individual cultural dimensions.

1. Introduction

The Internet has grown exponentially in recent years with companies offering their products and services through new alternatives that enable customers to be attracted and retained. Online commercial exchanges have flattened the traditional geographical limits making it possible for firms to now operate anywhere in the world (Agarwal and Wu, 2018; Kumar *et al.*, 2018). This demands a new way of considering online consumer behaviour that transcends national boundaries and takes into consideration cross-cultural effects (Pavlou and Chai, 2002). In this regard, since the evolution of the Internet, studies have focused on how culture can affect adoption and use of online technologies (Swigger *et al.*, 2004). Yoon (2009), for example, explored the effects of national culture on the consumer e-commerce acceptance model and identified cultural dimensions as moderators in the model. Alcántara-Pilar and Del Barrio-García (2017) analysed how the culture of a consumer's country and, specifically, certain cultural dimensions, drive the role of perceived risk in configuring attitudes and the development of loyalty toward an e-commerce website. Even more recently, Agarwal and Wu (2018) analysed the influence of cultural dimensions on purchase rates on the Internet—specifically, how the cultural dimensions affect perceived risk and purchase intention.

However, most of these types of studies focus on the analysis of *national* cultural dimensions, with relatively little research centring on the effects of *individual* cultural dimensions on the variables associated with online purchasing behaviour such as perceived quality and perceived risk (Shiu *et al.*, 2015). On the one hand, regarding the first of these two variables, it is of note that in the electronic environment it is difficult for consumers to assess the quality of products before making their purchase. Hence achieving a perception of quality of the products and/or services offered via online commercial transactions is a major daily challenge faced by online operators (Wells *et al.*, 2011). In addition, the lack of commercial borders in e-commerce has contributed to cultural values becoming more heterogeneous, which makes it even more difficult to communicate effective quality cues for products sold via e-commerce (Wang *et al.*, 2016). It has also heightened the risk perceptions among consumers due to the existing information asymmetries. On the other

hand, the concept of perceived risk can comprise a range of different types of risk that are both inherent to e-commerce transactions and also closely linked to the cultural dimensions of the individuals (Van Noort *et al.*, 2008).

In view of the fact that there is scant research dealing with individual cultural dimensions despite their relevance, it is interesting to shed light on how the most pivotal individual cultural dimensions in the adoption and use of e-commerce—such as uncertainty-avoidance and collectivism—influence user perception of product quality and perceived risk when browsing through leading e-commerce platforms such as Amazon or AliExpress. It is also of interest to determine the effect of individual cultural values on user purchasing behaviour. Therefore, the aim of the present study is to analyse if the individual cultural values of uncertainty-avoidance and collectivism exert a significant influence on perceived product quality, perceived risk and purchase intention in e-commerce platforms.

2. Conceptual background and hypotheses

2.1 Cultural dimensions in the e-commerce context

Various aspects of an individual's life such as the way he/she carries out commercial transactions and comes to decisions have been transformed dramatically with the inception and rapid evolution of new technologies and the Internet (Kusumah, 2015). This new commercial exchange technique is known as e-commerce (Turban *et al*., 2015). Resorting to e-commerce is currently required by businesses for a number of aspects including strengthening competitiveness and optimising a company's performance worldwide (Kasemsap, 2016). Companies take advantage of these techniques to improve commercial and marketing strategies (Escobar-Rodríguez and Bonsón-Fernández, 2017) leading to an exponential increase in use by simplifying commercial operations (Mahajan and Agarwal, 2015).

In addition, e-commerce has led to the globalisation of business at a relatively low cost and has increased the effectiveness and efficiency of both external and internal communications increasing competitiveness (Ferreira *et al*., 2017; Mahajan and Agarwal, 2015). However, it is not exclusively business that is

favoured by this new commercial technique. Consumers can carry out commercial transactions at any time of the day, anywhere in the world, and from any device (Hernández-Rodríguez and Cano-Flores, 2017). It also allows potential buyers to compare products between different digital trading platforms as they can access a large range of supplier catalogues, prices and conditions (Ferreira *et al.*, 2017).

Thus due to the tremendous growth and momentum of information and communication technologies, firms are now able to satisfy the wants and needs of individuals regardless of their country. E-commerce has become truly globalised, hence the acquisition of products beyond national borders is feasible for all, generating new opportunities for online business, both nationally and internationally (Hallikainen and Laukkanen, 2018). Hence, development and design of e-commerce platforms are fundamental to any firm desiring to gear its operations to serve any market in the world (Wang *et al.*, 2016). They must, in fact, consider the cultural differences of consumers as these differences have an influence on behaviour and perception (Samaha *et al.*, 2014). Following this premise, there has been a marked rise in the number of cross-cultural studies in the area of business administration and marketing. Certain research claims that the development of information and communication technologies, together with market globalisation, leads to a homogenisation of the cultures of different countries (Johnston and Johal, 1999). However, other authors maintain that the opposite, that is, that cultural differences are becoming more pronounced as a consequence of the cultural component that technology itself presents (Swigger *et al.*, 2004). In fact, certain authors such as Hallikainen and Laukkanen (2018) and McCoy *et al.* (2005) affirm that the cultural characteristics of individuals within a country are not homogeneous, but differ both within each country and between countries due to the effect of globalisation.

As a result of the major technological advances of recent decades, and the studies conducted to date in the field of cross-cultural research, a wide variety of approaches have been developed over the years to analyse and compare cultures with, according to Engelen and Brettel (2011), the forefront led by the research conducted by Hofstede (2001). This researcher's initial work (Hofstede, 1980) proposed four cultural dimensions: power distance,

uncertainty-avoidance, individualism–collectivism and masculinity–femininity, a model that was subsequently extended with the addition of the 'long-term–short-term orientation' (Hofstede, 2001) and indulgence–self-restraint dimensions (Hofstede *et al.*, 2010). Power distance refers to the degree to which the individuals in a given society tolerate the fact that power is distributed unequally; uncertainty-avoidance refers to the degree to which individuals in a society accept uncertainty and risk; individualism–collectivism refers to the prevalence of group interest over the individual in a given society, vs. the prevalence of individualistic interests over those of the group; masculinity–femininity refers to a society's preference for high competitiveness, ambition, accumulation of wealth and material possessions (masculine) vs. values such as tenderness, protection or care for others (female); long-term–short-term orientation is an expression of how society overcomes present and future challenges, referring to the vision of the future that people hold; and indulgence–self-restraint is understood as the degree to which individual in a society control their personal desires and impulses freely, vs. practice restraint due to strict social norms.

Despite its use as an important reference over the years, Hofstede's cultural framework has attracted its share of criticism. One such criticism is that it assigns a national cultural index to each person, rather than an individual one (Hoehle *et al.*, 2015; McCoy *et al.*, 2005). Several authors have conducted the conceptualisation of Hofstede's cultural values at the individual level to achieve a better understanding of human behaviours (Hoehle *et al.*, 2015; Rai *et al.*, 2009; Zhang and Maruping, 2008). To deal with this specific drawback of the Hofstede framework, Yoo *et al.* (2011) developed the CVSCALE scale to individually measure Hofstede's cultural dimensions. This enables marketers to segment the market according to the cultural values at the individual level in areas marked by a heterogeneous population. Various studies reveal there to be differences in cultural values between individuals within and beyond the boundaries of a country (Hallikainen and Laukkanen, 2018), and the literature has highlighted the various criticisms of the view that individuals from any given country are culturally homogeneous (Gerow *et al.*, 2010; Hoehle *et al.*, 2015; Kirkman *et al.*, 2006; Kirkman and Shapiro, 2005; Rai *et al.*, 2009; Srite and

Karahanna, 2006; Zhang and Maruping, 2008). For these reasons, the present study takes into account individual cultural dimensions.

Cultural dimensions, since their inception, are key in the adoption and use of e-commerce due to their cultural component (Alcántara-Pilar and Del Barrio-García, 2017). E-commerce has had a different degree of acceptance depending on the cultural level of consumers (Ashraf *et al.*, 2014). In fact, these values are responsible for the development of trust or distrust on the part of the consumer toward this new commercial technique is demonstrated by the fact that individualistic consumers develop negative attitudes toward e-commerce platforms while those who are collectivist develop positive attitudes (Shiu *et al.*, 2015). Likewise, Nath and Murthy (2004) indicate that individuals with high levels of uncertainty-avoidance perceive e-commerce as a more risky procedure, a view leading to its rejection. Individuals with low uncertainty-avoidance, in turn, do not perceive risk among these transactions and are more likely to innovate and adopt them (Agarwal and Wu, 2018).

Of all the defined individual cultural dimensions, those that appear to be the most relevant vis-à-vis consumer adoption and use of e-commerce are uncertainty-avoidance and collectivism (Magnusson *et al.*, 2014; Soyez, 2012; Zheng *et al.*, 2013). Certain studies have analysed the effect (direct or moderating) of these dimensions on perceived service quality (Alnasser, 2014; Ganguly *et al.*, 2010), on technology adoption and acceptance (Alcántara-Pilar and Del Barrio-García, 2017; Yuen *et al.*, 2015), on trust (Hallikainen and Laukkanen, 2018; Lowry *et al.*, 2010; Yoon, 2009) and on perceived risk (Alcántara-Pilar *et al.*, 2018; Zhang *et al.*, 2018). However, the majority of these studies are based on the values of Hofstede's national culture model and not the culture of each individual (Shiu *et al.*, 2015) (see Table 1). Likewise, there is a gap in the literature regarding the effects of individual cultural dimensions on perceived product quality in e-commerce. There is also a lack of research on the effect of individual cultural dimensions on perceived risk measured in terms of the six types of risk present in e-commerce. Therefore the present study analyses the effects of the individual cultural dimensions of uncertainty-avoidance and individualism–collectivism on the relevant dimensions of e-

commerce, namely: perceived product quality, perceived risk and purchase intention (Dai *et al.*, 2014; Dimoka *et al.*, 2012).

Table 1. Cross-cultural studies in the e-commerce context

Author	Cultural dimension	Effect	Construct	Country/Region	Approach
Agarwal and Teas (2002)	PDI, COL, MAS, UA	Direct	PQ, PVAL, BR, SN, OPR, PSR, WB	USA, Belgium Sweden	National
Gong *et al.* (2007)	PDI, COL, MAS, UA, LTO	Direct	IAD	58 countries	National
Lee *et al.* (2007)	UA, PU	Direct and moderating	PU, QJ, BI	USA	National
Völckner and Hofmann (2007)	PDI, COL, MAS, UA	Moderating	Q, PR	United States, Canada and EU countries	National
Ganguly *et al.* (2010)	COL, UA, MAS	Moderating	WD, TR, PCR, PI	USA, Canada and India	National
Ozdemir and Hewett (2010)	COL	Moderating	RQ, SQ, BI	USA and Turkey	National
Hoehle *et al.* (2015)	PDI, COL, MAS, UA, LTO	Moderating	MAU-CIU	USA, Germany, China and India	National
Shiu *et al.* (2015)	COL, UA	Direct and moderating	TR, ATT, PVAL	7 EU countries	Individual
Alcántara-Pilar and Del Barrio-García (2017)	UA, COL, LTO	Moderating	PCR, PEU, PUS, ATT, LOY	Spain and UK	National
Cheng *et al.* (2018)	PDI, COL, MAS, UA	Moderating	PR, CL, OSP, PUS, TR, EM	Germany and Taiwan	National
Hallikainen and Laukkanen (2018)	PDI, COL, MAS, UA, LTO	Direct	TR	China and Finland	National
Wen *et al.* (2018)	COL, PDI, INDUL	Direct	EM, eWOM	USA	Individual
Zhang *et al.* (2018)	PDI, COL, MAS, UA, LTO	Moderating	PCR, TR, BI, PE, EE, SI	27 countries	National
Lee and Choi (2019)	PDI, COL, MAS, UA, LTO	Direct	eWOM	USA and Korea	Individual

Note: PDI-power distance, COL-collectivism, MAS-masculinity/feminity, UA-uncertainty-avoidance, LTO-long/short-term orientation, INDUL-indulgence/restrait, PQ-perceived quality, PVAL-perceived value, BR-brand, SN-store name, OPR-objective price, PSR-perceived sacrifice, WB-willingness to buy, IAD-internet adoption and diffusion, PU-product uncertainty, QJ-quality judgments, BI-behavioral intentions, Q-quality, PR-price, WD-website design, TR-trust, PCR-perceived risk, PI-purchase intention, RQ-relationship quality, SQ-service quality, MAU-mobile application usability, CIU-continued intention to use, ATT-attitude, PEU- perceived ease of use, PUS-perceived usefulness, LOY-loyalty, CL-colour, OSP-online store perception, EM-emotions, eWOM- electronic word-of-mouth, PE-performance expectancy, EE-effort expectancy, SI-social influence.

2.2 Effects of cultural dimensions on perceived product quality

In the extant literature, there is no single definitive concept of perceived quality, as its definition varies according to situation and context (Snoj *et al.*, 2004). Among the main authors that analyse this concept is Zeithaml (1988) who defines perceived quality as the judgment consumers come to about the degree of excellence or superiority of a product. Furthermore, this author affirms that it corresponds to a mental assessment made by the consumer and considers perceived quality as an abstract concept closely linked to individual attitudes.

Thus, perceived quality (also known as subjective quality) can be defined as the value-judgments consumers come to as to the quality of a product (Espejel *et al.*, 2007). Furthermore, an individual's perception of quality will differ depending on a number of factors such as the moment in which they acquire the information or data defining the characteristics of the product, or the place where the purchase is made, or the goods consumed (Fandos and Flavián, 2006). Perceived quality can therefore be understood as the subjective assessment that consumers make about a brand, about a product or about the performance of both (Yu *et al.*, 2018a). Thus consumers will value the functionality or utility of a product or service according to their preferences or necessities (Fandos and Flavián, 2006).

In traditional markets, consumers are able to assess the quality of products directly through their senses by touching them, testing them and inspecting them in situ (Jiang and Benbasat, 2005). However, in a technology-mediated market, consumers cannot make evaluations of product quality assessments in the same way, a situation that generates incertitude and leads to product rejection (Wells *et al.*, 2011). It is for this reason that sellers resort to certain cues—such as an attractive and user-friendly design for the interface of e-commerce platforms—to help consumers evaluate product quality (Mavlanova *et al.*, 2016). Moreover, due to market globalisation, companies must take into account cultural differences among consumers when adapting to these markets (Wang *et al.*, 2016) as the graphics of an e-commerce platform, serving the sellers as a sign of quality of the products or services, may for instance, be well-received by one culture but rejected by another (Hoehle *et al.*, 2015). Therefore, it is essential to analyse the impact of individual cultural values on perceived

product quality to provide e-commerce sellers with the necessary guidelines to tailor the cues they present, in line with the different cultural values of specific groups of consumers.

In this regard, authors such as Lee *et al.* (2007) argue that the information asymmetries inherent to e-commerce can generate different perceptions of quality between individuals who are highly risk-averse and those with low risk aversion—that is, the first collective presents greater uncertainty-avoidance. There is, in fact, empirical evidence indicating that individuals with high levels of uncertainty-avoidance reveal a greater appreciation for the quality of products than those with low levels of uncertainty-avoidance (Yu *et al.*, 2018b). Furthermore, Furrer *et al.* (2000) find differences in perceptions of product quality depending on whether the individuals in question are collectivist or individualistic. Kassim and Abdullah (2010) argue that collectivism is one of the most relevant dimensions linked to the perception of quality. In this sense, there are indications that those characterised by collectivist values are more concerned with product or service quality than individualistic consumers when making purchase decisions (Ozdemir and Hewett, 2010; Stathopoulou and Balabanis, 2019). This may be due to the fact that for the functional aspects of the products, brands and/or services among collectivist individuals are more relevant than their intrinsic emotional values (Xiao and Kim, 2009). However, most of the research to date has taken national cultural values into account (Shiu *et al.*, 2015).

Thus, due to the lack of research focusing on examining the impact of individual cultural rather than national dimensions on aspects such as quality perception of individuals in the context of the main e-commerce platforms, it is compelling to analyse how the most relevant cultural values as to the use of e-commerce influence the perceived quality of the products. Thus, uncertainty-avoidance and collectivism are expected to have a significant impact on the quality perceived by users of e-commerce platforms. This leads to advancing the following hypotheses:

H1. Perceived product quality of e-commerce platforms is greater among consumers with high levels of uncertainty-avoidance.

H2. Perceived product quality of e-commerce platforms is greater among collectivist consumers.

2.3 Effects of cultural dimensions on perceived risk

Perceived risk can be defined as consumer uncertainty and perception of adverse consequences when purchasing a product or service (Dowling and Staelin, 1994; Yang *et al.*, 2016). In the framework of e-commerce, a widely-accepted conceptualisation of perceived risk defines it as the consumer's expectation of specific and subjective loss when purchasing through the Internet (Forsythe and Shi, 2003).

The studies that have analysed this variable find that it comprises several dimensions, and that financial risk and performance risk are the most often analysed and influential in e-purchasing decisions (Chang and Tseng, 2013; Yang *et al.*, 2016). Originally, perceived risk was considered a two-dimensional concept formed by uncertainty and negative consequences (Bauer, 1960). However, more recent authors have attempted to refine this understanding, taking it to be a multidimensional variable comprising various types of risk: financial, which refers to the potential monetary loss that may be incurred when buying a product or service; physical, which refers to the possibility of a consumer hurting themselves or others while using the product; psychological, referring to the mental stress the user suffers in their purchasing behaviour, or the possible loss of self-esteem triggered by a frustrated purchase; and social, which alludes to the individual's concern about potentially losing status in a social group due to the purchase of a particular product (Jacoby and Kaplan, 1972). Subsequently, Murphy and Enis (1986) added the variable of functional risk, defined as the possibility that the product will not deliver the expected results or not work properly. In this regard, and specifically in the context of the online environment, Jarvenpaa and Todd (1996) argue that perceived risk to privacy and security risk are highly characteristic of purchases made via e-commerce platforms—that is, there exists the possibility of losing control over personal information or the concern that it may be shared inappropriately. Mumel (1999), in turn, added a further dimension: time risk. This is considered an important element in predicting consumer online purchasing behaviour and

is defined as the feeling of having wasted time when coming to a bad purchase decision, when researching the product, or when making the purchase (Bellman *et al.*, 1999).

The attitudes of consumers toward e-commerce platforms can also be influenced by their perceptions of risk (Van Noort *et al.*, 2008). With the evolution of the Internet, perceived risk has become highly relevant in this context as this is a virtual sale–purchase channel, meaning that products and/or services cannot be physically tested before the purchase. This significantly increases transaction uncertainty (Ganguly *et al.*, 2010), a notion closely linked to uncertainty-avoidance (Alcántara-Pilar and Del Barrio-García, 2017; Frijns *et al.*, 2013). Previous research, in fact, upholds that uncertainty-avoidance has an influence on perception of risk inherent to online transactions (Karahanna *et al.*, 2013). This is due to the unobservability and the asymmetry of information due to the different type of information held by sellers and consumers of e-commerce platforms (Tan and Thoen, 2010; Yildirim *et al.*, 2016).

Hence, individuals with a high level of personal aversion to risk will reject uncertain situations, such as making online purchases, where the perceived degree of risk is greater due to that lack of possibility of physically testing the product (Lim *et al.*, 2004; Nath and Murthy, 2004; Tan and Guo, 2005). Consumers with lower levels of aversion to risk, conversely, are more predisposed to assume risks (Hwa-Froelich and Vigil, 2004; Lee *et al.*, 2007) due to their greater tolerance to uncertainly and ambiguous situations (Frijns *et al.*, 2013).

Meanwhile, individuals with high collectivist values will be more reluctant to deal with the potential threats of e-commerce as they fear suffering potential negative consequences of their decisions and will be more affected by perceived risk than those with high individualist values when making transactions in e-commerce platforms (Park and Jun, 2003; Ramzy and Eldahan, 2016).

In the present study, the different types of risk prevalent in e-commerce platforms are taken into account (that is, with the exception of physical risk, due to the impossibility of handling the product before making the purchase online) to analyse the effects of individual cultural dimensions on a broader concept of

perceived risk. Thus it is expected that uncertainty-avoidance and collectivism will exert a significant impact of perceived risk leading to the following hypotheses:

H3. Perceived risk of e-commerce platforms is greater among consumers with high levels of uncertainty-avoidance.

H4. Perceived risk of e-commerce platforms is greater among collectivist consumers.

2.4 Effects of cultural dimensions on purchase intention

Purchase intention in e-commerce is defined as a consumer's inclination to make a purchase from the online seller (Lu *et al.*, 2016). According to the theory of planned behaviour (Ajzen, 1991), the most influential predictor of behaviour is behavioural intention (Lu *et al.*, 2016). To achieve greater acceptance of e-commerce, it is essential that consumers intend to use e-commerce platforms and obtain the information necessary to perform the transaction when purchasing a product or service. Purchase intention is the ultimate outcome of all the cues dealt to the e-commerce consumer (Ganguly *et al.*, 2010; Sinha and Mukherjee, 2016).

Other aspects to take into account for the acceptance of new commercial techniques are cultural values since the attitude toward their use and integration in a particular market depends to a large extent on them (Sun *et al.*, 2019). In other words, consumers, depending on their cultural values, will be more or less reluctant to carry out commercial transactions on e-commerce platforms (Yildirim *et al*., 2016).

Hence, individual cultural values can play an important role in consumer purchasing behaviour; for example, as noted above, individuals with high collectivist values bear high levels of uncertainty-avoidance and are more reluctant to carry out commercial transactions through e-commerce platforms due to the uncertainty generated by not being able to liaise directly (either as an individual or as part of a group) with sellers (Alcántara-Pilar and Del Barrio-García, 2017; Zendehdel *et al.*, 2016). This is due to the fact that people with collectivist cultural values form communities in which each individual expects

the other members of the group to take care of the interests of others out of loyalty, which is negatively affected by the uncertainty generated due to information asymmetries (Gong *et al.*, 2007). That is, collectivists will carry out purchases in function of the degree of trust they maintain of e-commerce platform vendors based on the level of comfort they generate (Chen *et al.*, 2015; Cyr, 2008; Grandón *et al.*, 2011).

By contrast, it has been demonstrated that subjects with strong individualist values feel less uncertainty and, therefore, are more prone to make purchases via e-commerce platforms (Agarwal and Wu, 2018; Lim *et al.*, 2004) as they tend to present high levels of innovation and a propensity to try out new things (Yaveroglu and Donthu, 2002).

Furthermore, consumers with high levels of uncertainty-avoidance tend to shoulder greater stress when dealing with an uncertain and unknown future (Frijns *et al*., 2013) and feel less comfortable than those with low risk aversion while making online purchases. This is due to the insecurity and low tolerance they have for risk and ambiguous situations, which leads to rejection of e-commerce purchasing (Yildirim *et al*., 2016).

Given the differences that may exist in consumer purchasing behaviour based on individual cultural values, and in light of the limited research on cultural dimensions at the individual level (Shiu *et al.*, 2015), it is helpful to examine the possible effects of the uncertainty-avoidance and collectivism dimensions on consumer purchasing behaviour to identify how culture influences consumer behaviour (Faqih and Jaradat, 2015; Patterson and Mattila, 2008) when purchasing through e-commerce platforms. Thus, the following hypotheses are proposed:

H5. Purchase intention through e-commerce platforms is lower among consumers with greater levels of uncertainty-avoidance.

H6. Purchase intention through e-commerce platforms is lower among collectivist consumers.

Figure 1 illustrates the conceptual model by outlining the relationships between the aforementioned cultural dimensions and variables.

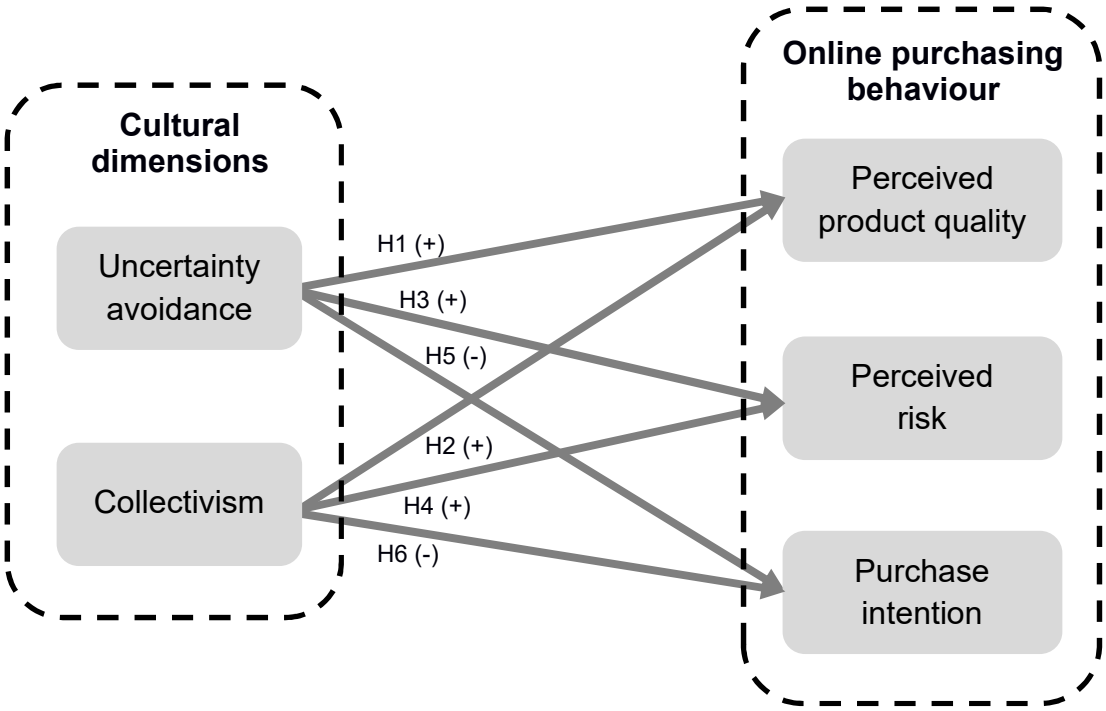

Figure 1. Research model and hypotheses

3. Methodology

3.1 Measures

A questionnaire was developed as the tool of measurement. After completion of a first draft, and to ensure its reliability, it was submitted to a pretest. The questionnaire comprised three parts so as to (1) glean information as to the socio-demographic characteristics of respondents, (2) evaluate the variables associated with online purchasing behaviour; and (3) measure cultural values. The variables of the model put into operation were based on quantifications applied in prior research ultimately modified here to fit for the research subject and purpose of this study. Thus, to measure perceived product quality in the framework of e-commerce, the study opted for an adaptation of the scale advanced by Wells *et al*. (2011) as it collects attributes related to product quality in a virtual contexts. Likewise, to measure perceived risk, the study resorted to the scales of Featherman and Pavlou (2003), Flavián-Blanco and Guimalíu-Blasco (2007), González-Mieres *et al.* (2006) and Malhotra *et al.* (2004) as they are the most common in the literature of measuring perceived risk among e-commerce platforms. To quantify purchase intention, in turn, the study resorted

to adaptations of the scales of Putrevu and Lord (1994) and Taylor and Baker (1994) due to the relevance these authors placed on them when measuring purchasing behaviour. Finally, the CVSCALE scale developed by Yoo *et al*. (2011) was chosen to measure individual cultural dimensions given its adequacy in segmenting any country into groups of consumers depending on their different cultural values. The constructs and items of measurement are listed in Table 2.

The items were scored by means of 7-point Likert scales with 1 equalling *I strongly disagree* and 7 equalling *I strongly agree*. Due to the use of multi-item scales, calculations were carried out of the sum of the scores for each item.

Table 2. Survey items

Construct		Item	Description
Perceived risk (PCR)[a]	Time risk (TR)	TR1	I run the risk of wasting a lot of time if the product/service is not as I expected.
		TR2	Using this platform would cause me to waste time if I wanted to exchange one product for another.
		TR3	I think that if I browse through this platform I will waste time in the processing of a claim or refund.
	Performance risk (PFR)	PFR1	This platform might not perform well and cause problems with my bank.
		PFR2	The security systems built into this platform are not strong enough to protect my account.
		PFR3	The probability that something will go wrong in the performance of this platform is high.
		PFR4	Considering the expected level of performance of this platform, for me to sign up and use it would be risky.
	Financial risk (FR)	FR1	I think buying on this platform is not a wise way of spending money.
		FR2	I think buying a product on this platform will not reflect the money invested.
		FR3	I think buying on this platform is a waste of money.
	Psychological risk (PSR)	PSR1	Buying on this platform will make me feel uncomfortable with myself.
		PSR2	Buying on this platform makes me feel unhappy or frustrated.
		PSR3	Buying on this platform makes me doubt whether I was right to buy here.
	Social risk (SR)	RS1	I am worried that, if I buy on this platform, the respect my family or friends have for me may diminish.
		RS2	I am afraid that, if I buy on this platform, it may negatively affect what others think of me.

Privacy risk (PR)	PR1	When I browse through this platform, I feel uncertain about handing over my personal information.
	PR2	I think providing this platform with my personal information would involve many unexpected problems.
Perceived product quality (PPQ)[b]	PPQ1	I believe the products offered by this platform are in good condition.
	PPQ2	The products appear to me to be properly manufactured.
Purchase intention (PI)[c]	PI1	I will purchase what I need on this platform instead of going to others.
	PI2	I will purchase on this platform the next time I need a product.
Uncertainty-avoidance (UA)[d]	UA1	I think it is important to have instructions spelt-out in detail so that I always know what I am expected to do.
	UA2	I think it is important to closely follow instructions and procedures.
	UA3	I think rules and regulations are important because they inform me of what is expected of me.
	UA4	I think standardised work procedures are helpful.
	UA5	I think operating instructions are important.
Collectivism (COL)[d]	COL1	I believe individuals should sacrifice self-interest for the group.
	COL2	I believe that group welfare is more important than individual rewards.
	COL3	I believe that group success is more important than individual success.

Note: [a]Featherman and Pavlou (2003), Flavián-Blanco and Guimalíu-Blasco (2007), González-Mieres *et al.* (2006), Malhotra *et al.* (2004); [b]Wells *et al.* (2011); [c]Putrevu and Lord (1994), Taylor and Baker (1994); [d]Yoo *et al.* (2011).

3.2 Sample and procedure

To collect the data, the questionnaire was distributed via social media. Specifically, it was disseminated by means of a link with an explanatory comment allowing voluntary access. Once inside, the participants responded to the query if they made purchases through e-commerce platforms and, when appropriate, indicated which they used the most often. The choice of the platforms to study was made taking into account those found on the cusp of the e-commerce sector, namely Amazon, AliExpress (and analogous sites such as Ebay), as more than half of the world's population uses them (Ma *et al.*, 2018). They were also selected due to the effects that the possibility of anyone expressing comments about the products and/or services once the acquisition

is completed can have on the consumer behaviour, perception and attitude (Bai *et al.*, 2015).

User past use of the platforms and individual cultural dimensions were not controlled a priori but were processed using the quantification of experience (a posteriori) afforded by the participants. Likewise, through queries as to when they made their last purchase and which platform they most commonly used rendered it possible to identify if they were consumers or not of e-commerce platforms and if they had knowledge as to the most popular current platforms.

Selection of the survey sample resorted to simple random sampling. The final sample consisted of 346 online shoppers (see Table 3) which was balanced in terms of gender (43.1% male and 56.9% female) and comprised mostly young people between 18 and 29 years old (69.7%). It was also balanced between students (45.7%) and workers (42.8%). The majority of respondents were regular consumers of e-commerce platforms and had made their last purchase in the last month (66.2%). The representativity of the sample was guaranteed and data bias avoided as the majority of the participants were students and workers between 25-34 years of age (Eurostat, 2018) who had carried out commercial transactions in the last 30 days (AIMC, 2018).

Table 3. Demographic features of respondents

Demographic feature	Category	Frequency	Percentage (%)
Gender	Male	149	43.1
	Female	197	56.9
Age	18–29	241	69.7
	30–44	70	20.2
	45–65	35	10.1
Occupation	Student	158	45.7
	Worker	148	42.8
	Unemployed	32	9.2
	Other	8	2.3
Last purchase made	Yesterday	30	8.7
	In the last 7 days	99	28.6
	In the last 30 days	100	28.9
	In the last year	83	24.0

	More than a year ago	34	9.8
Platform most frequently visited	Amazon	124	35.8
	AliExpress	106	30.6
	Other	116	33.5

A confirmatory factor analysis (CFA) was conducted to test whether all the indicators for the constructs were reliable. For this purpose, a first-order CFA was performed to analyse the variables: time risk, performance risk, financial risk, psychological risk, social risk, privacy risk, perceived product quality, purchase intention, uncertainty-avoidance and collectivism. In addition, a second-order CFA was carried out to verify if the construct 'perceived risk during browsing' presented adequate psychometric properties.

After verifying the reliability and validity of the scales used, the various relationships advanced were tested by means of a multiple regression analysis using IBM SPSS software. Specifically, the model was estimated using the following equations:

$$PPQ = \beta_{11} + \beta_{21}UA + \beta_{31}COL + \beta_{41}UAxCOL + u_{1}, \quad (1)$$

$$PCR = \beta_{12} + \beta_{22}UA + \beta_{32}COL + \beta_{42}UAxCOL + u_{2}, \quad (2)$$

$$PI = \beta_{13} + \beta_{23}UA + \beta_{33}COL + \beta_{43}UAxCOL + u_{3}, \quad (3)$$

where *PPQ* is perceived product quality, *PCR* is perceived risk, *PI* is purchase intention, *UA* is the uncertainty-avoidance dimension, *COL* is the collectivism dimension, and *UAxCOL* is the interaction effect of both cultural dimensions.

4. Results

4.1 Validity and reliability of measures

Table 4 reveals the findings of the CFA. All the standardised factor loadings were significant with all *t*-values surpassing 1.96, above the recommended values (Barclay *et al.*, 1995; Nicolau-Juliá *et al.*, 2015), representative of a significant correlation with the latent variables. Furthermore, the individual reliability of each indicator (R^2) achieved a value above the recommended value

of 0.50 (Li *et al.*, 2013) indicating that more than 50% of the variances of all the items are shared with their respective constructs.

Turning to the notion of composite reliability (CR), all of the values of both the first-order and second-order constructs are around 0.90, greatly above the recommended 0.70 minimum (Hulland, 1999), providing evidence supporting the acceptable measure of reliability. Moreover, all the values of variance extracted (AVE) were above the threshold of 0.50 suggested by the literature (Hair *et al.*, 2010) confirming the convergent validity.

Incremental and absolute fit indices were also analysed. All of those of the first point to a good fit of the scale when reflecting the values of NFI, NNFI, CFI and IFI above the threshold of 0.90 (Byrne, 1998), whereas for the second, there are indications of a good absolute fit as the RMSEA value was lower than the maximum recommended level of 0.08 (Hair *et al.*, 2010).

Table 4. Psychometric properties of the scales

Second-order construct	**First-order construct**	**Coefficient (t-value)**	**CR**	**AVE**	**Item**	**Coefficient (t-value)**	**R^2**	**CR**	**AVE**
PCR	TR	0.65 (*)	0.91	0.62	TR1	0.78 (*)	0.61	0.88	0.72
					TR2	0.90 (20.25)	0.80		
					TR3	0.86 (19.64)	0.74		
	FR	0.95 (15.98)			FR1	0.72 (*)	0.51	0.83	0.62
					FR2	0.84 (16.04)	0.70		
					FR3	0.80 (16.43)	0.65		
	PFR	0.85 (18.08)			PFR1	0.83 (*)	0.69	0.90	0.70
					PFR2	0.79 (19.99)	0.62		
					PFR3	0.87 (22.45)	0.76		
					PFR4	0.85 (20.02)	0.72		
	PSR	0.82 (14.97)			PSR1	0.85 (*)	0.72	0.87	0.70
					PSR2	0.91 (24.68)	0.83		
					PSR3	0.74 (18.70)	0.55		
	SR	0.71 (12.12)			SR1	0.91 (*)	0.84	0.91	0.83
					SR2	0.91 (22.02)	0.83		
	PR	0.70 (14.57)			PR1	0.85 (*)	0.72	0.90	0.81
					PR2	0.95 (19.45)	0.90		
Construct					**Item**	**Coefficient (t-value)**	**R^2**	**CR**	**AVE**
PPQ					PPQ1	0.86 (*)	0.75	0.87	0.77

	PPQ2	0.89 (11.41)	0.78		
PI	PI1	0.87 (*)	0.76	0.87	0.77
	PI2	0.88 (11.54)	0.77		
UA	UA1	0.84 (*)	0.71	0.92	0.69
	UA2	0.91 (20.57)	0.82		
	UA3	0.83 (16.37)	0.69		
	UA4	0.75 (22.69)	0.56		
	UA5	0.80 (14.50)	0.64		
COL	COL1	0.75 (*)	0.57	0.87	0.70
	COL2	0.88 (13.07)	0.77		
	COL3	0.87 (13.95)	0.76		
SB-χ^2 (d.f.) = 562.92 (362); RMSEA = 0.040; NFI = 0.96; NNFI = 0.98; CFI = 0.99; IFI = 0.99					

* Value not calculated because the parameter was established at 1 in order to set the scale for the latent variable.

After verifying that the measurement scales serving for the research presented adequate goodness-of-fit indices, a discriminant validity test was performed (see Table 5) to identify whether there were significant differences between the constructs analysed in the CFA (Hair *et al.*, 2010). The method proposed by Fornell and Larcker (1981) applied for this purpose holds that the square root of the AVE (located on the diagonal of the matrix) must have a greater value than the correlations (the values located under the diagonal). The results confirm that there were indeed differences between the constructs under analysis.

Table 5. Construct correlations and square root values of AVE

	PCR	**PPQ**	**PI**	**UA**	**COL**
PCR	**0.79**				
PPQ	-0.27	**0.88**			
PI	-0.28	0.50	**0.88**		
UA	-0.01	0.23	0.31	**0.83**	
COL	0.11	0.24	0.27	0.37	**0.84**

4.2 Regression test results

After checking the baseline assumptions, a multiple regression analysis was conducted to test the hypotheses. The testing of *H1* and *H2*, which propose that uncertainty-avoidance and collectivism exert a significant influence on

perceived product quality, resorted to a multiple regression analysis where the dependent variable was perceived product quality and the independent variables were uncertainty-avoidance and collectivism (Equation 1). The results indicate that UA and COL both exert significant and positive effects on perceived product quality ($\beta_{UA \rightarrow PPQ}=0.083,\ p<0.01;\ \beta_{COL \rightarrow PPQ}=0.109,\ p<0.01$). *H1* and *H2* are therefore confirmed, indicating that both cultural dimensions are significant predictors of perceived product quality in e-commerce. Furthermore, the more collectivist the user, and the greater his/her aversion to risk, the greater the perception of product quality as collectivism has the greatest influence on perceived product quality (see Table 6). The findings coincide with the existing literature in that individuals with collectivist values and high levels of uncertainty-avoidance are characterised by higher quality perceptions than individualistic consumers with low uncertainty-avoidance as the first resort to quality perceptions of the products offered as a way to reduce the uncertainty and distrust generated by e-commerce (Lee *et al.*, 2007; Ozdemir and Hewett, 2010; Stathopoulou and Balabanis, 2019; Völckner and Hofmann, 2007; Xiao and Kim, 2009; Yu *et al.*, 2018b).

Table 6. Effects of uncertainty-avoidance and collectivism on perceived product quality

	Coefficient	t-statistic	p-value	
Intercept	-0.028	-0.274	0.784	
UA	0.083	3.103	0.002	***
COL	0.109	2.786	0.006	***
COLxUA	0.007	1.079	0.281	n.s.
Sample size = 346				
Model *F*-statistic = 8.995				

*** Significance level: $p<0.01$

** Significance level: $p<0.05$

n.s. non-significance

H3 and *H4*, in turn, propose that uncertainty-avoidance and collectivism exert a significant effect on perceived risk. A second multiple regression analysis was carried out to test these hypotheses with perceived risk as the dependent

variable and with uncertainty-avoidance and collectivism serving as independent variables (Equation 2). The results indicate that only COL exerts significant and positive effects on perceived risk ($\beta_{UA \rightarrow PCR}$*=-0.230, p>0.05;* $\beta_{COL \rightarrow PCR}$*=0.565, p<0.05*). Therefore, of the two only *H4* can be confirmed. This suggests that only collectivism is a significant predictor of perceived risk in e-commerce—that is, the more collectivist the user, the greater his/her perception of risk (see Table 7). This is in line with the findings of the research of Alcántara-Pilar and Del Barrio-García (2017) and Ramzy and Eldahan (2016). These authors determined that collectivist individuals perceive associate high risk with e-commerce due to the mistrust it generates which can only be avoided by increasing its perceived utility. Hung and Chou (2014) and Zhang *et al.* (2018) likewise identified this relationship when considering cultural values as moderators.

Table 7. Effects of uncertainty-avoidance and collectivism on perceived risk

	Coefficient	t-statistic	p-value	
Intercept	0.169	0.254	0.799	
UA	-0.230	-1.311	0.191	n.s.
COL	0.565	2.203	0.028	**
COLxUA	-0.042	-1.003	0.317	n.s.
Sample size = 346				
Model *F*-statistic = 1.860				

*** Significance level: $p<0.01$

** Significance level: $p<0.05$

n.s. non-significance

Finally, to test *H5* and *H6*, which propose that uncertainty-avoidance and collectivism have a significant impact on purchase intention, a third multiple regression analysis was conducted. The dependent variable was purchase intention while the independent variables were uncertainty-avoidance and collectivism (Equation 3). The results confirm both hypotheses as they indicate that UA and COL both exert significant and negative effects on purchase intention ($\beta_{UA \rightarrow PI}$*=-0.126, p<0.01;* $\beta_{COL \rightarrow PI}$*=-0.079, p<0.05*). Therefore, both cultural dimensions can be said to be significant predictors of consumer

purchase intention in e-commerce. The more collectivist the user, and the greater his/her aversion to risk, the lower the intention of purchase as uncertainty-avoidance exerts the greatest influence on purchase intention (see Table 8). These results are in line with the findings obtained in other investigations according to which collectivism and unceratinty-avoidance negatively affect purchasing behaviours in e-commerce platforms (Chen *et al.*, 2015; Frijns *et al.*, 2013; Grandón *et al.*, 2011; Ramzy and Eldahan, 2016; Yildirim *et al.*, 2016). This may be due to distrust of consumers characterised by high collectivist values who are linked to high levels of uncertainty-avoidance and often reject situations of uncertainty due to their low tolerance of unknown contexts such as e-commerce (Agarwal and Wu, 2018).

Table 8. Effects of uncertainty-avoidance and collectivism on purchase intention

	Coefficient	t-statistic	p-value	
Intercept	-0.031	-0.335	0.738	
UA	-0.126	-5.133	0.000	***
COL	-0.079	-2.196	0.029	**
COLxUA	0.008	1.319	0.188	n.s.
Sample size = 346				
Model *F*-statistic = 15.349				

*** Significance level: $p<0.01$

** Significance level: $p<0.05$

n.s. non-significance

5. Conclusions

Given the growing importance of cultural dimensions in the e-commerce purchasing process due to the globalised market-reach offered by the Internet (Constantinides *et al.*, 2010), the present study emphasises various factors that significantly influence consumer purchasing behaviour, perception of the risk and quality of the products offered via e-commerce platforms. Due to the information asymmetry that exists in this medium, and the fact that the consumer is unable to physically assess the products before their purchase, sellers offer cues designed to convey the quality of their products, reduce

consumer perceived risk and increase purchasing behaviour (Mavlanova *et al.*, 2016). However, depending on the cultural characteristics of each individual, these cues may be interpreted in different ways (Hoehle *et al.*, 2015).

To date, there are many varied studies analysing the effects of national cultural values on new-technology adoption (e.g., Alcántara-Pilar and Del Barrio-García, 2017; Yuen *et al.*, 2015; Zhang *et al.*, 2018), but there are very few that jointly analyse variables relevant to e-commerce such as perceived product quality, perceived risk and purchase intention from the perspective of individual cultural values (Shiu *et al.*, 2015). It is therefore valuable to attempt to understand the possible effects of the primary individual cultural dimensions—uncertainty-avoidance and collectivism—on technology adoption and use (Agarwal and Wu, 2018).

The present study seeks to explore whether these particular cultural dimensions exert a significant influence on perceived product quality, perceived risk and purchase intention in e-commerce platforms. It resorted to individual rather than national cultural dimensions because the culture of individuals is not measured by their national cultural index but by their personal attitudes and behaviours (Yoo *et al.*, 2011). Furthermore, since there is more than one type of risk in e-commerce platforms, the study examined perceived risk in terms of the six different types identified in the literature (time risk, performance risk, financial risk, psychological risk, social risk and privacy risk).

The findings confirm that, in the case of e-commerce platforms, culture does exert a significant influence on perceived product quality, perceived risk and purchase intention. The results also reveal that there is a positive relationship between uncertainty-avoidance and perceived product quality, and that, the latter is positively related to collectivism. This suggests that a high uncertainty-avoidance cultural score is a clear predictor of an individual's increased perception of product quality in e-commerce platforms, as indeed is suggested by the literature (Furrer *et al.*, 2000; Zhang *et al.*, 2018). Therefore, perceived product quality in e-commerce platforms will differ depending on the individual cultural values of each consumer.

The results also confirm that collectivism exerts a significant influence on perceived risk. This finding is consistent with that advanced in the existing

literature related to differences in perceptions of risk, according to whether the individual embraces collectivist or individualistic values (Park and Jun, 2003; Ramzy and Eldahan, 2016). Specifically, collectivist individuals perceive a higher level of risk in the e-commerce sphere. Finally, and also in line with the existing literature, the results reveal that the purchasing behaviour of individuals is significantly influenced by their uncertainty-avoidance and collectivism scores (Agarwal and Wu, 2018) as this relationship is negative. Thus, collectivist individuals with high levels of uncertainty-avoidance are more reluctant to make purchases via e-commerce platforms.

5.1 Theoretical implications

The findings of this study play a role in filling the gap in the specialised literature as to how individual cultural values shape perceptions of risk and product quality, as well as influence the purchasing behaviours of consumers in e-commerce platforms (Hoehle *et al.*, 2015; Shiu *et al.*, 2015; Zhang *et al.*, 2018). To date the research on this topic has placed a greater emphasis in applying cultural dimensions at a national level when analysing the adoption and use of e-commerce and specific consumer behaviour in this framework (Ganguly *et al.*, 2010; Hallikainen and Laukkanen, 2018; Ozdemir and Hewett, 2010; Ramzy and Eldahan, 2016).

However, it has been shown that resorting to national cultural dimensions to analyse individual behaviour is not entirely without shortfalls (Srite and Karahanna, 2006). Thus, this research offers a new perspective on analysing consumer behaviour when resorting to new online commercial techniques taking into account cultural values at the individual level. Likewise, the findings go beyond those of the existing literature as they take into account the direct effects that the cultural values (uncertainty-avoidance and collectivism) of the individual have on behaviour and perception instead of measuring the differences from the point of view of the moderating role of cultural values on different relationships associated with consumer behaviour as is done in most research (Alcántara-Pilar and Del Barrio-García, 2017; Cheng *et al.*, 2018; Hoehle *et al.*, 2015; Zhang *et al.*, 2018).

Moreover, the CVSCALE scale (Yoo *et al*., 2011) was taken into account when quantifying the effects of the individual cultural dimensions. This offers consistency and robustness to the study as it is a scale that possesses satisfactory psychometric properties and allows segmenting individuals within the same country into different groups. Therefore, the results of this study shed light, form a solid foundation and expand the literature on individual cultural differences.

On the other hand, all the results (except for the effect of uncertainty-avoidance on perceived risk) were significant, conveying consistency to the study by clearly demonstrating that the most relevant cultural values in the adoption and use of e-commerce can be direct predictors of perceived quality, perceived risk and purchase intention without the need of investigating other variables.

5.2 Practical implications

This research contributes to the understanding of e-commerce and the behaviour of consumers when making online purchases, taking into account their potential cultural differences. Specifically, the present study advances an analysis of the relationship between two individual cultural dimensions that are particularly relevant to the adoption and use of e-commerce platforms and the variables of perceived product quality, perceived risk and purchase intention. It offers marketers relevant information and confirms that consumers will perceive product quality and risk differently depending on their own personal cultural values. Therefore, marketing professionals should focus their efforts on paying attention to the individual cultural values that condition consumer perceptions of quality so as to mitigate the sensation of uncertainty (which, depending on the cultural values of each individual, may trigger perceived risk during browsing) and thus increase user purchase intention.

In line with the above, it is essential that vendors and e-commerce platform professionals convey quality cues appropriate to each of the individual cultural values. Among these, the present study has focused on consumer level of uncertainty-avoidance and whether they fall into individualist or collectivist categories in terms of how best to generate positive perceptions. On the basis

of the results of a thorough market study to identify the cultural profile of their target consumers, sellers and e-commerce professionals should pay particular attention to collectivist individuals and/or to those with high risk aversion as these consumers place a higher value on perceived quality of the products and reveal higher risk perception.

In short, when implementing customer systems for browsing, interaction and purchasing, professionals should take into consideration all aspects related to individual cultural differences so as to minimise any likelihood of uncertainty or mistrust and ensure that consumers feel comfortable when making any type of transaction. This, in turn, will increase their intention to purchase. The findings derived from this study are applicable to any platform operating in the digital environment, which means that professionals from less-frequented platforms may also be able to improve their services and systems and thus compete more effectively with the leaders of the sector.

5.3 Limitations and future research

The present study suffers from a number of limitations. First, it is based on real, well-known e-commerce platforms, which could have influenced the responses of the sample due to prior use. An experimental design based on fictitious platforms is a potential alternative that would enable the researchers to maintain control over the variables and thus reduce potential bias due past use.

The study also is limited to two individual cultural dimensions. Factoring-in more dimensions would provide a more comprehensive cross-cultural analysis of the type of platforms under study. It would therefore be compelling to conduct a similar analysis resorting to the totality of individual cultural dimensions advanced by Yoo *et al.* (2011) and to measure their effects on the variables included in the proposed model.

Acknowledgments

The authors appreciate the financial support provided via a Research Programme from the Faculty of Education, Economy and Technology of Ceuta and via a Research Initiation Scholarship from the Research and Transfer Plan of the University of Granada.

References

Agarwal, S. and Teas, R.K. (2002), "Cross-national applicability of a perceived quality model", *Journal of Product & Brand Management*, Vol. 11 No. 4, pp. 213-236.

Agarwal, J. and Wu, T. (2018), "E-commerce in emerging economies: A multi-theoretical and multilevel framework and global firm strategies", in Agarwal, J. and Wu, T. (Eds.), *Emerging Issues in Global Marketing. A Shifting Paradigm*, Springer, Cham, pp. 231-253.

AIMC (2018), "20º navegantes en la red", available at: https://www.aimc.es/otros-estudios-trabajos/navegantes-la-red/ (accessed 25 October 2018).

Ajzen, I. (1991), "The theory of planned behavior", *Organizational Behavior and Human Decision Processes*, Vol. 50 No. 2, pp. 179-211.

Alcántara-Pilar, J.M., Armenski, T., Blanco-Encomienda, F.J. and Del Barrio-García, S. (2018), "Effects of cultural difference on users' online experience with a destination website: A structural equation modelling approach", *Journal of Destination Marketing & Management*, Vol. 8, pp. 301-311.

Alcántara-Pilar, J.M. and Del Barrio-García, S. (2017), "El papel moderador del control de incertidumbre, la orientación a largo plazo y el individualismo en el efecto del riesgo percibido sobre la aceptación de un sitio web", *Innovar*, Vol. 27 No. 63, pp. 11-28.

Alnasser, M.S. (2014), *The Impact of E-service Quality on Attitude toward Online Shopping*, University Utara Malaysia, Kedah.

Ashraf, A.R., Thongpapanl, N.T. and Auh, S. (2014), “The application of the technology acceptance model under different cultural contexts: The case of online shopping adoption”, *Journal of International Marketing*, Vol. 22 No. 3, pp. 68-93.

Bai, Y., Yao, Z. and Dou, Y.F. (2015), “Effect of social commerce factors on user purchase behavior: An empirical investigation from renren.com”, *International Journal of Information Management*, Vol. 35 No. 5, pp. 538-550.

Barclay, D., Higgins, C. and Thompson, R. (1995), “The partial least squares (PLS) approach to causal modeling: Personal computer adoption and use an illustration”, *Technology Studies*, Vol. 2 No. 2, pp. 285-309.

Bauer, R.A. (1960), “Consumer behavior as risk taking”, in Hancock, R.S. (Ed.), *Dynamic Marketing for a Changing World*, American Marketing Association, Chicago, IL, pp. 389-398.

Bellman, S., Lohse, G.L. and Johnson, E.J. (1999), “Predictors of online buying behavior”, *Communication of the ACM*, Vol. 42 No. 12, pp. 32-38.

Byrne, B.M. (1998), *Structural Equation Modelling with LISREL, PRELIS, and SIMPLIS: Basic Concepts, Applications, and Programming*, Lawrence Erlbaum, Mahwah, NJ.

Chang, E.C. and Tseng, Y.F. (2013), “Research note: E-store image, perceived value and perceived risk”, *Journal of Business Research*, Vol. 66 No. 7, pp. 864-870.

Chen, J.V., Yen, D.C., Pornpriphet, W. and Widjaja, A.E. (2015), “E-commerce web site loyalty: A cross cultural comparison”, *Information Systems Frontiers*, Vol. 17 No. 6, pp. 1283-1299.

Cheng, F.F., Wu, C.S. and Leiner, B. (2018), “The influence of user interface design on consumer perceptions: A cross-cultural comparison”, *Computers in Human Behavior*, available at: https://doi.org/10.1016/j.chb.2018.08.015

Constantinides, E., Lorenzo-Romero, C. and Gómez, M.A. (2010), “Effects of web experience on consumer choice: A multicultural approach”, *Internet Research*, Vol. 20 No. 2, pp. 188-209.

Cyr, D. (2008), “Modeling website design across cultures: Relationships to trust, satisfaction, and e-loyalty”, *Journal of Management Information Systems*, Vol. 24 No. 4, pp. 47-72.

Dai, B., Forsythe, S. and Kwon, W. (2014), “The impact of online shopping experience on risk perceptions and online purchase intentions: Does product category matter?”, *Journal of Electronic Commerce Research*, Vol. 15 No. 1, pp. 13-24.

Dimoka, A., Hong, Y. and Pavlou, P.A. (2012), “On product uncertainty in online markets: Theory and evidence”, *MIS Quarterly*, Vol. 36 No. 2, pp. 395-426.

Dowling, G.R. and Staelin, R. (1994), “A model of perceived risk and intended risk-handling activity”, *Journal of Consumer Research*, Vol. 21 No. 1, pp. 119-134.

Engelen, A. and Brettel, M. (2011), “Assessing cross-cultural marketing theory and research”, *Journal of Business Research*, Vol. 64 No. 5, pp. 516-523.

Escobar-Rodríguez, T. and Bonsón-Fernández, R. (2017), “Analysing online purchase intention in Spain: Fashion e-commerce”, *Information Systems and e-Business Management*, Vol. 15 No. 3, pp. 599-622.

Espejel, J., Fandos, C. and Flavián, C. (2007), “The role of intrinsic and extrinsic quality attributes on consumer behaviour for traditional food products”, *Managing Service Quality: An International Journal*, Vol. 17 No. 6, pp. 681-701.

Eurostat (2018), “Statistics Explained: E-commerce statistics for individuals”, available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=E-commerce_statistics_for_individuals&oldid=417477 (accessed 18 February 2019).

Fandos, C. and Flavián, C. (2006), “Intrinsic and extrinsic quality attributes, loyalty and buying intention: An analysis for a PDO product”, *British Food Journal*, Vol. 108 No. 8, pp. 646-662.

Faqih, K.M.S. and Jaradat, M.I.R.M. (2015), “Assessing the moderating effect of gender differences and individualism-collectivism at individual-level on the

adoption of mobile commerce technology: TAM3 perspective", *Journal of Retailing and Consumer Services*, Vol. 22, pp. 37-52.

Featherman, M.S. and Pavlou, P.A. (2003), "Predicting e-services adoption: A perceived risk facets perspective", *International Journal of Human-Computer Studies*, Vol. 59 No. 4, pp. 451-474.

Ferreira, T., Pedrosa, I. and Bernardino, J. (2017), "Business intelligence for e-commerce: Survey and research directions", in Rocha, A., Correira, A.M., Adeli, H., Reis, L.P. and Costanzo, S. (Eds.), *Recent Advances in Information Systems and Technologies*, Springer, Cham, pp. 215-225.

Flavián-Blanco, C. and Guimalíu-Blasco, M. (2007), "Un análisis de la influencia de la confianza y del riesgo percibido sobre la lealtad a un sitio web: El caso de la distribución de servicios gratuitos", *Revista Europea de Dirección y Economía de la Empresa*, Vol. 16 No. 1, pp. 159-178.

Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39-50.

Forsythe, S. and Shi, B. (2003), "Consumer patronage and risk perceptions in Internet shopping", *Journal of Business Research*, Vol. 56 No. 11, pp. 867-875.

Frijns, B., Gilbert, A., Lehnert, T. and Rad, A.T. (2013), "Uncertainty avoidance, risk tolerance and corporate takeover decisions", *Journal of Banking & Finance*, Vol. 37 No. 7, pp. 2457-2471.

Furrer, O., Liu, B.S.C. and Sudharshan, D. (2000), "The relationships between culture and service quality perceptions. Basis for cross-cultural market segmentation and resource allocation", *Journal of Service Research*, Vol. 2 No. 4, pp. 355-371.

Ganguly, B., Dash, S.B., Cyr, D. and Head, M. (2010), "The effects of website design on purchase intention in online shopping: The mediating role of trust and the moderating role of culture", *International Journal of Electronic Business*, Vol. 8 No. 4-5, pp. 302-330.

Gerow, J.E., Galy, E., Thatcher, J.B. and Srite, M. (2010), “Within-culture variation and information technology”, in Hunter, G. and Tan, F. (Eds.), *Technological Advancement in Developed and Developing Countries: Discoveries in Global Information Management*, IGI Global, Hershey, PA, pp. 337-364.

Gong, W., Li, Z.G. and Stump, R.L. (2007), “Global Internet use and access: Cultural considerations”, *Asia Pacific Journal of Marketing and Logistics*, Vol. 19 No. 1, pp. 57-74.

González-Mieres, C., Díaz-Martín, A.M. and Trespalacios-Gutiérrez, J.A. (2006), “Antecedents of the difference in perceived risk between store brands and national brands”, *European Journal of Marketing*, Vol. 40, pp. 61-82.

Grandón, E.E., Nasco, S.A. and Mykytyn, P.P. (2011), “Comparing theories to explain e-commerce adoption”, *Journal of Business Research*, Vol. 64 No. 3, pp. 292-298.

Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010), *Multivariate Data Analysis*, Pearson Prentice Hall, Upper Saddle River, NJ.

Hallikainen, H. and Laukkanen, T. (2018), “National culture and consumer trust in e-commerce”, *International Journal of Information Management*, Vol. 38 No. 1, pp. 97-106.

Hernández-Rodríguez, C. and Cano-Flores, M. (2017), *Comercio Electrónico: Aportaciones para la Gestión Empresarial*, Red Iberoamericana de Academias de Investigación, México.

Hoehle, H., Zhang, X. and Venkatesh, V. (2015), “An espoused cultural perspective to understand continued intention to use mobile applications: A four-country study of mobile social media application usability”, *European Journal of Information Systems*, Vol. 24 No. 3, pp. 337-359.

Hofstede, G. (1980), *Culture Consequences: International Differences in Work-related Values*, Sage Publications, Beverly Hills, CA.

Hofstede, G. (2001), *Culture's Consequences. Comparing Values, Behaviors, Institutions and Organizations across Nations*, Sage Publications, Thousand Oaks, CA.

Hofstede, G., Hofstede, G.J. and Minkov, M. (2010), *Cultures and Organizations: Software of the Mind. Revised and Expanded*, McGraw-Hill, New York, NY.

Hulland, J. (1999), "Use of partial least squares (PLS) in strategic management research: A review of four recent studies", *Strategic Management Journal*, Vol. 20 No. 2, pp. 195-204.

Hung, C.L. and Chou, J.C.L. (2014), "Examining the cultural moderation on the acceptance of mobile commerce", *International Journal of Innovation and Technology Management*, Vol. 11 No. 2, pp. 1-19.

Hwa-Froelich, D.A. and Vigil, D.C. (2004), "Three aspects of cultural influence on communication", *Communication Disorders Quarterly*, Vol. 25 No. 3, pp. 107-118.

Jacoby, J. and Kaplan, L.B. (1972), "The components of perceived risk", in Venkatesan, M. (Ed.), *Proceedings of the Annual Conference of the Association for Consumer Research*, Association for Consumer Research, Chicago, IL, pp. 382-393.

Jarvenpaa, S.L. and Todd, P.A. (1996), "Consumer reactions to electronic shopping on the world wide web", *International Journal of Electronic Commerce*, Vol. 1 No. 2, pp. 59-88.

Jiang, Z. and Benbasat, I. (2005), "Virtual product experience: Effects of visual and functional control of products on perceived diagnosticity and flow in electronic shopping", *Journal of Management Information Systems*, Vol. 21 No. 3, pp. 111-147.

Johnston, K. and Johal, P. (1999), "The Internet as a 'virtual cultural region'. Are extant cultural classification schemes appropriate?" *Internet Research*, Vol. 9 No. 3, pp. 178-186.

Karahanna, E., Williams, C.K., Polites, G.L., Liu, B. and Seligman, L. (2013), "Uncertainty avoidance and consumer perceptions of global e-commerce

sites: A multi-level model", *Drake Management Review*, Vol. 3 No. 1, pp. 12-47.

Kasemsap, K. (2016), "Advocating electronic business and electronic commerce in the global marketplace", in Dixit, S. and Sinha, A.K. (Eds.), *E-Retailing Challenges and Opportunities in the Global Marketplace*, IGI Global, Hershey, PA, pp. 1-24.

Kassim, N. and Abdullah, N.A. (2010), "The effect of perceived service quality dimensions on customer satisfaction, trust, and loyalty in e-commerce settings: A cross cultural analysis", *Asia Pacific Journal of Marketing and Logistics*, Vol. 22 No. 3, pp. 351-371.

Kirkman, B.L., Lowe, K.B. and Gibson, C.B. (2006), "A quarter century of culture's consequences: A review of empirical research incorporating Hofstede's cultural value framework", *Journal of International Business Studies*, Vol. 37 No. 3, pp. 258-320.

Kirkman, B.L. and Shapiro, D.L. (2005), "The impact of cultural value diversity on multicultural team performance", in Shapiro D.L., Von Glinow, M.A. and Cheng, J.L. (Eds.), *Advances in International Management: Managing Multinational Teams*, Elsevier, London, pp. 33-67.

Kumar, A., Mangla, S., Luthra, S., Rana, N. and Dwivedi, Y. (2018), "Predicting changing pattern: Building model for consumer decision making in digital market", *Journal of Enterprise Information Management*, Vol. 31 No. 5, pp. 674-703.

Kusumah, R. (2015), "Analyze the effect of trust, price, quality and perceived risk toward consumer purchase behavior in online shops Instagram", *Jurnal Berkala Ilmiah Efisiensi*, Vol. 15 No. 5, pp. 355-366.

Lee, K.L. and Choi, H. (2019), "Predictors of electronic word-of-mouth behavior on social networking sites in the United States and Korea: Cultural and social relationship variables", *Computers in Human Behavior*, Vol. 94, pp. 9-18.

Lee, J.A., Garbarino, E. and Lerman, D. (2007), “How cultural differences in uncertainty avoidance affect product perceptions”, *International Marketing Review*, Vol. 24 No. 3, pp. 330-349.

Li, Y., Wei, Z., Zhao, J., Zhang, C. and Liu, Y. (2013), “Ambidextrous organizational learning, environmental munificence and new product performance: Moderating effect of managerial ties in China”, *International Journal of Production Economics*, Vol. 146 No. 1, pp. 95-105.

Lim, K.H., Leung, K., Sia, C.L. and Lee, M.K. (2004), “Is eCommerce boundary-less? Effects of individualism-collectivism and uncertainty avoidance on Internet shopping”, *Journal of International Business Studies*, Vol. 35 No. 6, pp. 545-559.

Lowry, P.B., Zhang, D., Zhou, L. and Fu, X. (2010), “Effects of culture, social presence, and group composition on trust in technology-supported decision-making groups”, *Information Systems Journal*, Vol. 20 No. 3, pp. 297-315.

Lu, B., Fan, W. and Zhou, M. (2016), “Social presence, trust, and social commerce purchase intention: An empirical research”, *Computers in Human Behavior*, Vol. 56, pp. 225-237.

Ma, S., Chai, Y. and Zhang, H. (2018), “Rise of cross-border e-commerce exports in China”, *China & World Economy*, Vol. 26 No. 3, pp. 63-87.

Magnusson, P., Peterson, R. and Westjohn, S.A. (2014), “The influence of national cultural values on the use of rewards alignment to improve sales collaboration”, *International Marketing Review*, Vol. 31 No. 1, pp. 30-50.

Mahajan, P. and Agarwal, M. (2015), “Exploring the potential of e-commerce in the digital age: Challenges and opportunities for commerce education”, *The IUP Journal of Information Technology*, Vol. 11 No. 4, pp. 46-56.

Malhotra, N.K., Kim, S.S. and Agarwal, J. (2004), “Internet Users’ Information Privacy Concerns (IUIPC): The construct, the scale, and a causal model”, *Information Systems Research*, Vol. 15 No. 4, pp. 336-355.

Mavlanova, T., Benbunan-Fich, R. and Lang, G. (2016), “The role of external and internal signals in e-commerce”, *Decision Support Systems*, Vol. 87, pp. 59-68.

McCoy, S., Galletta, D.F. and King, W.R. (2005), “Integrating national culture into IS research: The need for current individual level measures”, *Communications of the Association for Information Systems*, Vol. 15 No. 1, pp. 211-224.

Mumel, D. (1999), *Vedenje Porabnikov*, University of Maribor, Maribor.

Murphy, P.E. and Enis, B.M. (1986), “Classifying products strategically”, *Journal of Marketing*, Vol. 50 No. 3, pp. 24-42.

Nath, R. and Murthy, N.R.V. (2004), “A study of the relationship between Internet diffusion and culture”, *Journal of International Information Management*, Vol. 13 No. 2, pp. 123-132.

Nicolau-Juliá, D., Expósito-Langa, M. and Tomás-Miquel, J.V. (2015), “Exploración y explotación de conocimiento en el ámbito empresarial. Validación de escalas en un sector industrial de bajo perfil tecnológico”, *Investigaciones Europeas de Dirección y Economía de la Empresa*, Vol. 21 No. 3, pp. 139-147.

Ozdemir, V.E. and Hewett, K. (2010), “The effect of collectivism on the importance of relationship quality and service quality for behavioral intentions: A cross-national and cross-contextual analysis”, *Journal of International Marketing*, Vol. 18 No. 1, pp. 41-62.

Park, J. and Jun, J.K. (2003), “A cross-cultural comparison of Internet buying behavior: Effects of Internet usage, perceived risks, and innovativeness”, *International Marketing Review*, Vol. 20 No. 5, pp. 534-553.

Patterson, P.G. and Mattila, A.S. (2008), “An examination of the impact of cultural orientation and familiarity in service encounter evaluations”, *International Journal of Service Industry Management*, Vol. 19 No. 5, pp. 662-681.

Pavlou, P.A. and Chai, L. (2002), “What drives electronic commerce across cultures? A cross-cultural empirical investigation of the theory of planned behavior”, *Journal of Electronic Commerce Research*, Vol. 3 No. 4, pp. 240-253.

Putrevu, S. and Lord, K.R. (1994), “Comparative and noncomparative advertising: Attitudinal effects under cognitive and affective involvement conditions”, *Journal of Advertising*, Vol. 23 No. 2, pp. 77-91.

Rai, A., Maruping, L. and Venkatesh, V. (2009), “Offshore information systems project success: The role of social embeddedness and cultural characteristics”, *MIS Quarterly*, Vol. 33 No. 3, pp. 617-641.

Ramzy, O. and Eldahan, O.H. (2016), “An empirical investigation of e-commerce in Egypt: The impact of culture on online purchasing”, *Global Business Review*, Vol. 17 No. 5, pp. 1011-1025.

Samaha, S.A., Beck, J.T. and Palmatier, R.W. (2014), “The role of culture in international relationship marketing”, *Journal of Marketing*, Vol. 78 No. 5, pp. 78-98.

Shiu, E., Walsh, G., Hassan, L.M. and Parry, S. (2015), “The direct and moderating influences of individual-level cultural values within web engagement: A multi-country analysis of a public information website”, *Journal of Business Research*, Vol. 68 No. 3, pp. 534-541.

Sinha, I. and Mukherjee, S. (2016), “Acceptance of technology, related factors in use of off branch e-banking: an Indian case study”, *The Journal of High Technology Management Research*, Vol. 27 No. 1, pp. 88-100.

Snoj, B., Korda, A.P. and Mumel, D. (2004), “The relationships among perceived quality, perceived risk and perceived product value”, *Journal of Product & Brand Management*, Vol. 13 No. 3, pp. 156-167.

Soyez, K. (2012), “How national cultural values affect pro-environmental consumer behavior”, *International Marketing Review*, Vol. 29 No. 6, pp. 623-646.

Srite, M. and Karahanna, E. (2006), “The role of espoused national cultural values in technology acceptance”, *MIS Quarterly*, Vol. 30 No. 3, pp. 679-704.

Stathopoulou, A. and Balabanis, G. (2019), “The effect of cultural value orientation on consumers’ perceptions of luxury value and proclivity for luxury consumption”, *Journal of Business Research*, Vol. 102, pp. 298-312.

Sun, S., Lee, P. and Law, R. (2019), “Impact of cultural values on technology acceptance and technology readiness”, *International Journal of Hospitality Management*, Vol. 77, pp. 89-96.

Swigger, K., Alpaslan, F., Brazile, R. and Monticino, M. (2004), “Effects of culture on computer-supported international collaborations”, *International Journal of Human-Computer Studies*, Vol. 60 No. 3, pp. 365-380.

Tan, H. and Guo, J. (2005), “Some methods to depress the risks of the online transactions”, in *Proceedings of the 7th International Conference on Electronic Commerce*, ACM, New York, NY, pp. 217-220.

Tan, Y.H. and Thoen, W. (2010), “A logical model of trust in e-commerce”, *Electronic Markets*, Vol. 10 No. 4, pp. 258-263.

Taylor, S.A. and Baker, T.L. (1994), “An assessment of the relationship between service quality and customer satisfaction in the formation of consumers’ purchase intentions”, *Journal of Retailing*, Vol. 70 No. 2, pp. 163-178.

Turban, E., King, D., Lee, J.K., Liang, T. and Turban, D.C. (2015), *Electronic commerce. A Managerial and Social Networks Perspective*, Springer, Cham.

Van Noort, G., Kerkhof, P. and Fennis, B.M. (2008), “The persuasiveness of online safety cues: The impact of prevention focus compatibility of web content on consumers’ risk perceptions, attitudes, and intentions”, *Journal of Interactive Marketing*, Vol. 22 No. 4, pp. 58-72.

Völckner, F. and Hofmann, J. (2007), “The price-perceived quality relationship: A meta-analytic review and assessment of its determinants”, *Marketing Letters*, Vol. 18 No. 3, pp. 181-196.

Wang, Q., Peng, C.H., Sia, C.L., Tong, Y. and Ku, Y.C. (2016), “Website location strategies review under Hofstede’s cultural dimensions”, in Nah, F.F.H. and Tan, C.H. (Eds.), *HCI in Business, Government, and Organizations: eCommerce and Innovation*, Springer, Cham, pp. 258-269.

Wells, J.D., Valacich, J.S. and Hess, T.J. (2011), “What signal are you sending? How website quality influences perceptions of product quality and purchase intentions”, *MIS Quarterly*, Vol. 35 No. 2, pp. 373-396.

Wen, J., Hu, Y. and Kim, H.J. (2018), “Impact of individual cultural values on hotel guests’ positive emotions and positive eWOM intention: Extending the cognitive appraisal framework”, *International Journal of Contemporary Hospitality Management*, Vol. 30 No. 3, pp. 1769-1787.

Xiao, G. and Kim, J.O. (2009), “The investigation of Chinese consumer values, consumption values, life satisfaction, and consumption behaviors”, *Psychology & Marketing*, Vol. 26 No. 7, pp. 610-624.

Yang, H., Yu, J., Zo, H. and Choi, M. (2016), “User acceptance of wearable devices: An extended perspective of perceived value”, *Telematics and Informatics*, Vol. 33 No. 2, pp. 256-269.

Yaveroglu, I. and Donthu, N. (2002), “Cultural influences on the diffusion of new products”, *Journal of International Consumer Marketing*, Vol. 14 No. 4, pp. 49-64.

Yildirim, E., Arslan, Y. and Barutçu, M.T. (2016), “The role of uncertainty avoidance and indulgence as cultural dimensions on online shopping expenditure”, *Eurasian Business & Economics Journal*, Vol. 4 No. 4, pp. 42-51.

Yoo, B., Donthu, N. and Lenartowicz, T. (2011), “Measuring Hofstede’s five dimensions of cultural values at the individual level: Development and validation of CVSCALE”, *Journal of International Consumer Marketing*, Vol. 23 No. 3, pp. 193-210.

Yoon, C. (2009), “The effects of national culture values on consumer acceptance of e-commerce: Online shoppers in China”, *Information & Management*, Vol. 46 No. 5, pp. 294-301.

Yu, S., Hudders, L. and Cauberghe, V. (2018a), “Are fashion consumers like schooling fish? The effectiveness of popularity cues in fashion e-commerce”, *Journal of Business Research*, Vol. 85, pp. 105-116.

Yu, S., Hudders, L. and Cauberghe, V. (2018b), “Selling luxury products online: The effect of a quality label on risk perception, purchase intention and attitude toward the brand”, *Journal of Electronic Commerce Research*, Vol. 19 No. 1, pp. 16-35.

Yuen, Y.Y., Yeow, P.H.P. and Lim, N. (2015), “Internet banking acceptance in the United States and Malaysia: A cross-cultural examination”, *Marketing Intelligence & Planning*, Vol. 33 No. 3, pp. 292-308.

Zeithaml, V. (1988), “Consumer perceptions of price, quality and value: A means-end model and synthesis of evidence”, *Journal of Marketing*, Vol. 52 No. 3, pp. 2-22.

Zendehdel, M., Paim, L.H. and Delafrooz, N. (2016), “The moderating effect of culture on the construct factor of perceived risk towards online shopping behavior”, *Cogent Business & Management*, Vol. 3 No. 1, pp. 1-13.

Zhang, X. and Maruping, L.M. (2008), “Household technology adoption in a global marketplace: Incorporating the role of espoused cultural values”, *Information Systems Frontiers*, Vol. 10 No. 4, pp. 403-413.

Zhang, Y., Weng, Q. and Zhu, N. (2018), “The relationships between electronic banking adoption and its antecedents: A meta-analytic study of the role of national culture”, *International Journal of Information Management*, Vol. 40, pp. 76-87.

Zheng, X., Ghoul, S.E., Guedhami, O. and Kwok, C.C.Y. (2013), “Collectivism and corruption in bank lending”, *Journal of International Business Studies*, Vol. 44 No. 4, pp. 363-390.