

# ONLINE SHOPPING BEHAVIORAL INTENTION OF EXPATRIATES VS CITIZENS: ROLES OF UNCERTAINTY AVOIDANCE, VALUE AND INNOVATION CHARACTERISTICS

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## ABSTRACT

*The role of culture in predicting online consumer behavior for expatriates is disregarded in marketing studies. This gap needs to be bridged in online shopping research because of the cultural diversity of market segments targeted by online retailers. Indeed, the ethnic diversity in a country enhances cultural differences, and this also applies for countries having a great number of expatriates.*

*This research aims to verify the impact of a cultural dimension that is uncertainty avoidance, on online shopping intentions by citizen and expatriate consumers. A model is adapted by integrating perceived online shopping value and uncertainty avoidance to extend the diffusion of innovation model. A survey has been distributed among 473 consumers belonging to different nationality, age and gender groups. Results showed empirical evidence supporting the impact of compatibility, relative advantage, complexity, online shopping value and uncertainty avoidance on behavioral intentions. The comparison of the impact of uncertainty avoidance on behavioral intentions, between expatriates and citizens, shows a significant difference between the two segments. Managerial implications are thus proposed to enhance the effectiveness of marketing tactics in this regard.*

**Keywords:** Online Shopping, Western Cultures, International Market.

## INTRODUCTION

Due to globalization, cross-cultural interactions are increasing which gives more significance to expatriates' behavior (Gudmundsdóttir, 2015). The immense expansion of ethnic subgroups in several countries, "tapping into non-mainstream-culture markets" provides opportunities of growth for business (Levy, Gvili & Hino, 2021). This study follows this trend in the context of e-commerce in Saudi Arabia that is characterized by the existence of high percentage of expatriates from different cultures. Indeed, as per the statistics displayed in Global Media Insights (2020), expatriates' percentage in 2018 is more than 30% with an estimated total of 10,736,293. They belong to many cultures and nationalities, such as Syrians (2.5 million), Indians (1.54 million), Pakistani (1.06 million), Egyptians (1,062,999), Yemenis (1 million), and various western countries (118,111). Yang, Ding & D'Alessandro (2018) advocate that people's heterogeneity caused by ethnic variations could be greater than across countries, especially in terms of motivations and decision making in the shopping context. Thus, the cultural influence in the Saudi market is worth studying. Besides, e-commerce is globally growing as the percentage of consumers using the Internet is becoming more important (Kim, 2021). The Number of Internet users has grown from 20.4 million in 2017 to 22.7 million in 2019 (STATISTICA, 2019). However, studies about the predictors of e-commerce adoption in KSA are scarce. It is important to know whether the cultural difference explains the intensity of e-commerce adoption, noting that e-

commerce conventions and practices were mainly developed in congruence with Western cultures (Van Slyke, Lou, Belanger & Sridhar, 2010). Alkhowaiter (2020) suggests that the interaction between technological and cultural variables needs to be considered in studies about acceptance and use of electronic commerce. Other factors, like perceived value, are largely presented as predictors of e-commerce adoption (Kumar & Reinartz, 2016; Wu, Chen, Chen & Cheng, 2014). Three theoretical backgrounds are underlying this research. The first is the diffusion of innovation theory, which proposes a comprehensive set of variables as characteristics of a new technology and as predictors of the adoption of a new product. The second is the Hofstede framework proposing that culture may affect consumption. The third is the theory of consumption value which highlights the role of perceived value as a focal variable predicting consumer behavior. This follows the idea related to the value-oriented nature of the contemporary marketing philosophy and fills the lack of value explanation from the consumer perspective in marketing theory (Tanrikulu, 2021).

Online shopping is relatively disregarded in prior marketing studies investigating the role of culture in predicting online consumer behavior for expatriates compared to citizens in one country. This gap is still not bridged in online shopping literature although the cultural diversity of each country's market targeted by online retailers. Indeed, the ethnic diversity in a country enhances cultural differences (Yang et al., 2018); and this also applies for countries having a great number of expatriates.

This research aims to contribute to culture and e-commerce literature from a consumer behavior perspective, in different standpoints. On the one hand, it arranges for answers to appeals for further investigations into the role of individual and cultural differences in the context of online customer behavior (Meyers-Levy & Loken, 2015; Zhou, Lu & Wang, 2011). Indeed, scholars have noted that shopping is still a post-modern cultural phenomenon. Gilboa & Mitchel (2020) notice that retailers targeting international market segments need to comprehend cultural differences for diverse consumers in order to adapt targeted marketing decisions. They consider that shopping is under covered in the literature examining the role of culture in marketing phenomena. This gap has been treated by studies in brick-and-mortar mall shopping (Gilboa & Mitchel, 2020; Djelassi, Godefroit-Winkel & Diallo, 2018). It is still an issue in online shopping literature although the cultural diversity of the international market targeted by online retailers. Even in one country, the ethnic diversity enhances cultural differences (Yang et al., 2018).

On the other hand, this research proposes a comprehensive model by integrating the online shopping value, the innovation characteristics of Rogers's Diffusion of Innovation Theory and one cultural character: uncertainty avoidance. This variable is particularly important for expatriates who may feel in a vulnerable situation when trying innovations in a host country, compared to locals who may feel more secure in their homeland. Moreover, this variable is in line with the risk which is one important feature of e-commerce and e-shopping. The uncertain alternative to physical shopping does not involve an instantly real contact with the purchased product. The contact is delayed and the only information about it is based on pictures and written descriptions. Furthermore, online shopping is associated with a high level of uncertainty since it does not allow "sensory product inspection and occurs in a non-store milieu", contains indiscernible threats and requires e-shoppers to "provide their personal and financial information to an unseen party" (Huang, Schrank & Dubinsky, 2004). Thus, a certain risk or uncertainty is estimated to be greater in online shopping due to the absence of a physical contact, which restrains consumers over the online transaction (Büttner & Göritz, 2008).

The integration of only one cultural dimension is explained by our choice to avoid overcomplicating the proposed model. Indeed, the model already includes five independent variables, two mediating dimensions, one dependent variable and one moderator. Including all the five dimensions of culture will make the model too complex to be suitably handled. Moreover, using less variables will reduce the risk of absence of discriminant validity.

The choice of uncertainty avoidance is justified by the fact that this dimension is the most commonly applied (Van Slyke et al., 2010) and that it is tied to the nature of innovation adoption, which involves risk taking. This will give theoretical support to the proposed model.

We consider consumer oriented electronic commerce independently to the nature of the used device (mobile, tablet, laptop or personal computer). The value of the e-shopping is proposed as a variable depending on the perceived innovation characteristics of e-commerce and as a variable predicting behavioral intention toward e-commerce. The use of internet transactions rather than the brick-and-mortar purchasing process will occur because an additional value is expected. Besides, the value concept is a crucial variable because creating value for customers is generally the purpose of any sustainable business (Kumar & Reinartz, 2016).

The originality of this research is Threefold. First, the integration of perceived online shopping value, as a factor mediating the innovation characteristics of e-commerce, has not been verified in prior studies. Second, the impact of culture is very important because the Saudi market has a high percentage of expatriates from different cultures. Third, the comparison between citizens and expatriates, regarding the effect of uncertainty avoidance on the online behavioral intention, is a new topic studied in this research

This paper starts by a literature review presenting the diffusion innovation theory as a framework explaining the behavior toward online shopping and its perceived value. The outcome of this section is the conceptual model and hypotheses. Then, it entails the methodology of data collection and measures. Finally, it presents the results and discussion before concluding.

## LITERATURE REVIEW

### Diffusion of Innovation Theory

According to the diffusion of innovation theory (Rogers, 1980 & 1995), five innovation characteristics may explain the innovation adoption, namely “compatibility”, “complexity”, “observability”, “trialability”, and “relative advantage”.

Compatibility is the extent to which the innovation fits with the consumer’s skills, experiences, usage practices, values, and needs (Rogers, 1995). It involves the meaning of a variable of the unified theory of acceptance and use of technology: the facilitating condition, which has been defined by Venkatesh, Thong & Xu (2012) as the existence of technical arrangements to support the system use. Muñoz, Valentinetti, Rodríguez & Nieto (2018) distinguish between two types of compatibility. The first is the value compatibility, that is defined as the fit between the innovation and the potential user’s values and norms. The second is the practical compatibility referring to the suitability with the adopter’s actual practices.

Complexity describes the perception concerning the relative difficulty of using and understanding the new product or practice (Rogers, 1995). It is simply the negative side of the ease of use (Davis, Bagozzi & Warshaw, 1989) or effort expectancy (Venkatesh, Thong & Xu, 2012).

Observability is the extent to which others notice the results of the new practice or innovation (Rogers, 1995). It is still unique, compared the other technology adoption and acceptance models. Venkatesh, et al., (2012) have taken the interaction with others in the context of the use and adoption of new technologies in a different perspective. They used the influence of others on the decision to adopt the innovation and entitled it the social influence.

Trialability is the extent to which the new product or practice can be experiment-ed in limited conditions (Bae & Chang, 2012).

Relative advantage is the perception of the degree to which the new product or practice is better than existent ones (Rogers, 1995; Bae & Chang, 2012). This concept has a similarity with the perceived usefulness proposed in the Technology Acceptance Model (Asu & Ichim, 2017). The difference is in the tendency to measure it in a comparative way by Roger’s approach.

These five characteristics have been used in different frameworks as variables which directly influence brand equity (Nørskov, Chrysochou & Milenkova, 2015), behavioral intention or attitudes toward e-commerce (Wu & Wang, 2005) and mobile commerce (Chung, 2014; Tanakinjal, Deans & Gray, 2010). One of the originality points of this research is the verification of their impact on the perceived value of online shopping.

### **The Impact of a Cultural Dimension: Uncertainty Avoidance**

Culture is among the factors influencing consumer behavior (Jensen & Wagner, 2018). It is the collective mind indoctrination distinguishing between members of various societies, through “individualism vs. collectivism”, “time orientation”, “masculinity”, “power distance”, and “uncertainty avoidance” (Hofstede, 1983). These dimensions are assumed to be a predictor of “the way populations accept or reject innovations” (Ng-Kruelle, Swatman, Hampe & Rebne, 2006).

Cultural differences, particularly uncertainty avoidance, may be a factor explaining consumer choices (Jensen & Wagner, 2018) and intentions regarding electronic channels (Chung, 2014; Ng-Kruelle et al., 2006; Hsiao, Yen & Li, 2012). Alkhowaiter (2020) suggests that the interaction between technological and cultural variables needs to be considered in studies about acceptance and use of electronic commerce. Hsiao, et al., (2012) have proposed to verify the hypothesis according to which buyers with high levels of uncertainty avoidance focus on safety of transactions. This is also advocated by prior studies that found an association between uncertainty avoidance and the inclination to use traditional shopping vs. e-shopping (Gilboa & Mitchel, 2020; De Mooij, 2017).

In order to sidestep the over complexity of the research model, we focus on the most important cultural variable in the context of innovation and risk taking: Uncertainty avoidance. Researchers have found that consumers with high levels of uncertainty avoidance are less prone to accept new technologies because of the risk involved (Van Slyke et al., 2010).

Uncertainty avoidance underlines the level of discomfort and doubt expressed by an individual. Cultures characterized by high levels of uncertainty avoidance, try to find ways to minimize the effect of unusual circumstances by following rules and regulations (Ng-Kruelle & Swatman et al., 2006). Jensen & Wagner (2018) advocate that uncertainty avoidance is particularly relevant. Indeed, when culture is characterized by high levels of uncertainty avoidance, people are not predisposed to adopt change. This cultural dimension refers to the extent to which people are uncomfortable in uncertain circumstances leading to risk aversion (Jensen & Wagner, 2018). Ng-Kruelle, et al., (2006) discussed the impact of cultural dimensions, including uncertainty avoidance, on the acceptance of e-passports. Chung (2014) have particularly tested the impact of cultural dimensions on mobile commerce innovation attributes and intentions. He found that uncertainty avoidance has a direct impact on the behavioral intent to adopt mobile commerce.

*H1: Uncertainty avoidance has an impact on behavioral intentions toward e-shopping.*

It is expected that the impact of uncertainty avoidance is more important for expatriates. Lazarova, Westman & Shaffer (2010) consider cultural novelty resulting from the expatriation as dissimilar to the culture of the home country. For expatriates, cultural novelty is a stressing factor generating more uncertainty. It needs complex adjustments to the new rules and procedures. Indeed, the inadequacy between the new culture and the expatriates' initial ways of thinking that have been anchored are considered as important discrepancies (Dimitrova, Chia, Shaffer & Tay-Lee, 2020). These inconsistencies have a tendency to enhance the importance of uncertainty reduction *via* the expatriate self-regulation and adjustments. Expatriates use restoration stratagems to minimize these discrepancies (Kumar, Budhwar, Patel & Varma, 2019). The uncertainty management model considers the cognitive phenomenon of uncertainty as a sense of lack of control in the host culture

because of the reduced predictive ability (Gudmundsdóttir, 2015). Individuals try to reduce this phenomenon by managing anxiety through accumulating knowledge in order to adapt to new situations.

*H2: The impact of uncertainty avoidance on behavioral intention toward e-shopping is more intense for expatriates.*

## **E-shopping Value: Definition, Antecedents, and Consequences**

Value is the overall consumer's subjective judgment of the utility of services or goods, on the basis of a cognitive assessment regarding the trade-off between what the consumer takes and what he sacrifices (Zeithaml, 1988). For customers, it is one of the goals related to relationship exchanges in online commerce (Wu et al., 2014). Perceived value has two complementary facets: intrinsic and extrinsic ones. They are respectively conceptualized as hedonic and utilitarian dimensions (Picot-Coupey, Krey, Huré & Ackermann, 2021; Babin, Darden & Griffin, 1994).

Shoppers seeking for utilitarian values expect "convenience, ease, and time saving" while those searching for hedonic values expect "joy, relaxation, and fun" (Kim, 2021).

Studies verified the impact of perceived value on consumer's intentions in brick-and-mortar stores (Babin & Attaway, 2000), as well as online stores (Chang & Tseng, 2013; Malhotra & Rigdon, 2002; Overby & Lee, 2006).

Utilitarian and hedonic values have been tested as antecedents of consumer behavioral intentions (Wu, Huang, Chen, Davison & Hua, 2018; Wu & Chang, 2016).

Utilitarian value perceptions have been verified as a variable explaining behavioral intentions and loyalty in physical shopping settings (Babin et al., 1994; Babin & Attaway, 2000) and online ones (Mathwick et al., 2002; Mishra, 2018).

Also, hedonic motivations are considered as a factor explaining the online purchase intentions (Davis et al., 2014). Izogo & Jayawardhena (2018) developed a framework of online shopping experience. Their model is judged as comprehensive since it integrates customer experience literature and customer engagement theory. They found that eight online shopping experience sub-dimensions have the potential to activate cognitive and affective states triggering behavioral outcomes. These subdimensions are "emotional lift attributes", "entertainment attributes", "product related", "cost related experiential attributes", "convenience and usability experiential attributes", "trust related experiential attributes", "expertise related experiential attributes", and "task-related experiential attributes". They are classified into two intrinsic dimensions, namely playfulness and aesthetics, and two extrinsic ones: service excellence and customer return on investment. Kim (2021) focused on motivations explaining attitude and behavioral intentions toward mobile grocery shopping. They found that utilitarian motivations predict the attitude, which in turn explains behavioral intentions.

Thus, extrinsic (utilitarian) and intrinsic (hedonistic) elements of the shopping value are both important as factors leading to shopping behaviors off-line (Babin et al., 1994; Garrouch et al., 2020 & 2012) and online (Mathwick et al., 2002; Izogo & Jayawardhena, 2018). Accordingly, they are expected to have a positive impact on the online shopping behavioral intentions in Saudi Arabia.

*H3: Behavioral intention toward e-shopping is influenced by perceived value dimensions, namely utilitarian (H3a) and hedonic (H3b) values.*

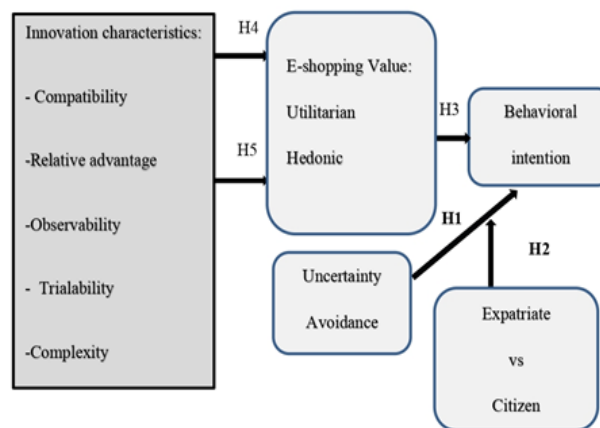
Purchasing online involves many benefits, such as the availability of a wide range of products and brands compared to off-line stores, as well as utilitarian incentives like discount. It also involves less sacrifice in terms of time and effort (Wu et al., 2014). With the view considering value as a trade-off between gains and losses (Zeithaml, 1988), the value can be positively influenced by the favorable characteristics of innovation, which are trialability, relative advantage

and observability. Regarding trialability, Demangeot & Broderick (2010) verified that consumers perceive and evaluate online shopping environments in terms of exploratory potential, in addition to the shopping experience sense making. They explain that the perception and evaluation based on a Gestalt approach could be at two levels: the individual pages and the navigation experience through a sequence of webpages accessed in one episode or visit. They highlight the importance of information seeking in online shopping, operationalized by primary characteristics, including informativeness and ease of understanding. The latter is assessed negatively in the diffusion of innovation model which uses the complexity of the innovation. Indeed, Sohn, Seegebarth & Moritz (2017) verified the visual complexity as a negative antecedent of individuals' satisfaction and as a factor enhancing perceived time/effort costs in the case of mobile shopping. That is, the influence on perceived value will be negative if the innovation characteristic is considered as a sacrifice like the complexity.

*H4: The perceived utilitarian value of online shopping is positively influenced by the innovation characteristics of e-commerce: compatibility (H4a), relative advantage (H4b), observability (H4c), trialability (H4d), while it is negatively influenced by the complexity of using e-commerce (H4e).*

*H5: The perceived hedonic value of online shopping is positively influenced by the innovation characteristics of e-commerce: compatibility (H5a), relative advantage (H5b), observability (H5c), trialability (H5d), while it is negatively influenced by the complexity of using e-commerce (H5e).*

Figure 1 summarizes the hypotheses previously advanced.



**FIGURE 1**  
**CONCEPTUAL MODEL**

## MATERIALS AND METHODS

### Measurements

Measurement scales of all the study variables are adapted from literature. They are multi-item scales assessed using a five-point Likert scale. The scale assessing behavioral intentions is adapted from Nysveen, Pedersen & Thorbjørnsen (2005) and includes three items.

The five characteristics of innovation have been adapted by Chung (2014) based on the Rogers' framework and contextualized to the e-commerce situation. The scale includes 24 items. The only difference with the scale of Chung (2014) is that we inverted the items of complexity in the measurement model verification step. Indeed, the initial items measured the ease of use rather than the complexity. When reinverted in the structural model verification step, they will measure the difficulties concerning online shopping.

We selected three items measuring the uncertainty avoidance based on the work of Deb (2018), which adapted the scale of Hofstede (1983).

E-shopping value was measured based on a reduced scale of Voss, Spangenberg & Grohmann (2003). Three items using a 5-point semantic differential scale for the utilitarian value and three items for the hedonic one.

### Sampling Procedure

To enhance the variety of the sample and then the accuracy of the findings, we used two sampling procedures.

First, paper and pencil surveys have been distributed in institutions with high diversity of employees, especially hospitals which are known for the multiethnicity of their human resources. Indeed, administrative and health employees are citizens of different countries, such as Saudi Arabia, Philippines, Bangladesh, Soudan, Egypt, Tunisia, and India. Second, an electronic version using Google Survey has been initially distributed to working MBA students who have been asked to diffuse the link *via* social networks and emails among their relatives, friends, and professional colleagues. The resulting database included many profiles based on gender, age, and occupation. This procedure resulted in 473 valid observations: 200 are males and 273 are females. The age and nationality structure of the sample is displayed in Table 1 below.

Segment	Age				Total
	18 – 29	30 – 40	41 – 50	50+	
Missing	1	0	0	0	1
Citizens	127	102	52	10	291
Expats	28	76	61	16	181
Total	156	178	113	26	473

## RESULTS

### The Measurement Model

After carrying out an exploratory factorial analysis using SPSS, a confirmatory factor analysis with AMOS 24 helped verifying the validity of the final measurement model.

Table 2 entails the indicators of reliability (Cronbach Alpha, Composite Reliability, CR), and validity: Average Variance Extracted (AVE) and Standardized Loadings (SL).

Results show that the quality of the measurement model is satisfactory after the removal of two dimensions of innovation characteristics because of their lack of convergent and discriminant validity: observability and trialability.

For the final measurement model, Chi-square is equal to 349.076 knowing that degree of freedom equals 167. Goodness of Fit Index (0.935), AGFI (0.911) and NFI (0.941) are all above the acceptability level (0.9). Besides, RMSEA (0.048) is less than 0.05

The reliability and convergent validity are verified since Cronbach Alpha values, loadings and CRs are superior to 0.7 (Table 2). In addition, AVEs are above 0.5.

Variables	Items	SL	CR	AVE	Cronbach's alpha
Behavioral intention	BI1	0.665	0.830	0.621	0.896
	BI2	0.864			

	BI3	0.822			
Uncertainty avoidance	UA1	0.792	0.798	0.569	0.795
	UA2	0.684			
	UA3	0.782			
Complexity	C1	0.807	0.894	0.738	0.891
	C2	0.861			
	C3	0.907			
Relative advantage	RA1	0.746	0.829	0.618	0.854
	RA2	0.781			
	RA3	0.829			
Compatibility	COMPAT1	0.784	0.866	0.683	0.871
	COMPAT2	0.889			
	COMPAT3	0.802			
Hedonic value	UH1	0.824	0.844	0.648	0.836
	UH2	0.923			
	UH3	0.643			
Utilitarian Value	Uv1	0.864	0.884	0.717	0.883
	Uv2	0.862			

To check discriminant validity, we compared AVE square roots with correlations. In all cases, AVEs showed superior values (Table 3).

	Behavioral intention	Complexity	Relative advantage	Utilitarian value	Hedonic Value	Compatibility	Uncertainty avoidance
Behavioral Intentions	0.788						
Complexity	0.599	0.859					
Relative advantage	0.683	0.572	0.786				
Utilitarian Value	0.555	0.428	0.598	0.847			
Hedonistic Value	0.506	0.396	0.524	0.725	0.805		
Compatibility	0.484	0.383	0.395	0.421	0.344	0.826	
Uncertainty avoidance	0.326	0.349	0.386	0.335	0.274	0.345	0.754

## The Structural Model

The structural model showed satisfactory fit indicators as their values are above 0.9: GFI (0.903), NFI (0.910), and IFI (0.936). In addition, RMSEA (0.069) and Chi-square/DF (3.249) have acceptable values. Thus, this model provides a valid framework explaining the behavioral intention regarding online shopping.

Table 4 shows the path indicators allowing the verification of the acceptance or rejection of Hypotheses.

Dependent	Independent	Estimate	S.E.	C.R.	P	Hypotheses
Behavioral Intention	Uncertainty avoidance	0.140	0.047	2.978	0.003	H1
	Utilitarian Value	0.212	0.084	2.527	0.012	H3A
	Hedonic value	0.405	0.074	5.441	0.00	H3B



Utilitarian value	Compatibility	0.258	0.129	1.997	0.046	H4a
	Relative advantage	0.294	0.131	2.236	0.025	H4b
	Complexity	-0.102	0.051	2.007	0.045	H4e
Hedonic value	Compatibility	0.265	0.114	2.325	0.020	H5a
	Relative advantage	0.136	0.115	1.184	0.237	H5b
	Complexity	-0.089	0.045	1.978	0.048	H5e

H1 is accepted since uncertainty avoidance showed a positive and significant impact on behavioral intentions ( $\beta=0.140$ ,  $p=0.003$ ). This dependent variable is also influenced by the utilitarian ( $B=0.212$ ,  $p=0.012$ ) and hedonic ( $B=0.405$ ,  $P=0.00$ ) online shopping values. Therefore, H3 is accepted.

The three remaining dimensions of the Roger's innovation attributes are significantly related to the utilitarian online shopping value. Compatibility ( $B=0.258$ ,  $p=0.046$ ) and relative advantage ( $B=0.294$ ,  $p=0.025$ ) have a positive impact, while complexity ( $B=-0.102$ ,  $p=0.045$ ) has a negative one. These results allow us accepting H4a, H4b and H4e.

The online shopping hedonic value is not influenced by the relative advantage of using online shopping ( $p=0.237$ ). H5b is rejected. In contrary, compatibility ( $B=0.265$ ,  $p=0.02$ ) and complexity ( $B=-0.89$ ,  $p=0.048$ ) have both significant impacts. However, the first have a positive influence, while the second have a negative impact. H5a and H5e are accepted.

Regarding the moderating influence of the citizenship (citizens vs. expatriates), a chi-square comparison test has been carried out between the free model and the con-strained one. The difference between them is significant (Chi-square difference= 252.295; Df difference= 158;  $p=0.000$ ). Then, we verified the parameter difference of the path between uncertainty avoidance and behavioral intentions (Table 5). This difference is significant at a level of 1%. The uncertainty avoidance has a more intense impact for expatriate compared to Saudi citizens. H2 is accepted.

Dependent	Independent	Citizens		Expats		Comparison test z-score
		Estimate	P	Estimate	P	
Behavioral Intentions	Uncertainty avoidance	0.034	0.576	0.538	0.003	-2.619***

## DISCUSSION

This research empirically tested an adapted model of e-commerce adoption for consumers in Saudi Arabia. It showed empirical evidence supporting the idea that uncertainty avoidance is a factor explaining the adoption of online shopping. This is in line with the results of Chung (2014), who found the same result in the case of mobile commerce. It also confirms prior studies that found an association between uncertainty avoidance and the inclination to prefer traditional shopping over e-shopping (Gilboa & Mitchel, 2020; De Mooij, 2017). The impact of this cultural dimension on behavioral intentions is shown to be greater for expatriates compared to citizens. This result is in accordance with the idea that ethnicities and cultural variations are as important as, and even greater than, differences across countries, especially in the shopping decision making (Yang et al., 2018). It also confirms the results and discussions about expatriate behavioral differences (Gudmundsdóttir, 2015; Lazarova et al., 2010; Dimitrova et al., 2020; Kumar et al., 2019). Indeed, discrepancies between two countries for expatriates enhance an uncertainty reduction tendency *via* self-regulation and adjustment mechanisms (Dimitrova et al., 2020; Kumar et al., 2019). These inner mechanisms associate uncertainty to a lack of control because of a low predictive ability (Gudmundsdóttir, 2015).

hedonic and utilitarian online shopping values have positive impacts on behavioral intentions. This result is in line with previous studies about shopping values in brick-and-mortar stores (Garrouch et al., 2020; Djelassi et al., 2018; Babin & Attaway, 2020) and in electronic ones (Mathwick et al., 2002; Izogo & Jayawardhena, 2018). This supports the importance of the creation of value in an online purchase experience as a way to boost the usage of this type of shopping, at the macro level, and loyalty to a shopping platform, in the micro level. The importance of the hedonic value as a factor explaining behavioral intentions can add insights to e-commerce managers who rely mainly on the functionality of the online shopping platform and give a trivial role to factors creating intrinsic values.

Our findings extend earlier literature about intrinsic (hedonic) and extrinsic (utilitarian) values by testing uncovered antecedents of value in an online shopping context. Two valid dimensions of innovation attributes determine the utilitarian and hedonic online shopping value: compatibility and complexity. This result has not been tested in prior literature. The explanation of this impact is based on the value theory, which states that value is an outcome of the comparison or the ratio between grants and expenses (Zeithaml, 1988). Complexity is a psychological cost decreasing the perceived value. In contrary, ease of use is a generates benefits, which leads to an increase of online shopping value, whether it is hedonic or utilitarian. The existent literature has focused on the favorable side by testing the impact of the ease of use rather than complexity. The former has been verified as a factor explaining utilitarian value (Chen, Chang & Chen, 2017). Compatibility is verified as a facilitator of benefits, which leads to an increase of online shopping value, whether it is hedonic or utilitarian. The same logic applies as an explanation of the verified impact of relative advantage on the utilitarian dimension of online shopping value. This is further explained by the nature of this attribute, which is assimilated to the benefits, convenience and performance of the innovation compared to its substitutes. This comparative aspect makes it more related to the cognitive attitudes rather than the affective ones, which explains the non-significance of the path between relative advantage and hedonic value.

Complexity has a negative impact on utilitarian value. This innovation characteristic is considered as an enhancer of perceived sacrifices, while compatibility is a possible hinder of this perception. The relative advantage is a benefit of e-commerce, which explains its positive impact of the utilitarian value. This idea corresponds to the main definition of value in its cognitive perspective.

## CONCLUSION

Our research has tackled an uncovered link between online shopping innovative attributes and online shopping value. Results extended earlier literature about intrinsic (hedonic) and extrinsic (utilitarian) values by testing two understudied antecedents of value in an online shopping context: compatibility and complexity. In addition, this study contributes by integrating uncertainty avoidance as an independent variable and verifying that it directly influences behavioral intentions toward e-shopping. Moreover, a comparison is carried out between two samples: KSA citizens and expatriates. Results show that three dimensions of Roger's innovation attributes have an impact on online shopping value, which influence behavioral intentions.

The cultural impact is twofold. First, uncertainty avoidance has an impact on behavioral intentions. Second, its impact is different between citizens and expatriates in KSA. Indeed, the uncertainty avoidance is more influential for expatriates. These results allow extending e-commerce literature by integrating perceived value and the moderation of the citizenship variable.

Managerial implications are proposed. Reassuring the expatriates segment is a priority that allows attenuating their uncertainty toward the commercial website. This involves highlighting the information about return and refund policies which should be flexible and adapted to the needs of expatriates.

Complexity is still a burden for e-shopping, which leads us to recommend websites to make a continuous effort of simplifying shopping and paying procedures. This should be starting from the e-shopper perspective, which can be taken into consideration by making continuous studies on panel of consumers about the simplicity of the shopping and payment procedures.

One of the limitations of this research is the number of items in the survey, which made it tiring for the sample. However, the model does not include many important variables like security, privacy risks and trust. Besides, the online shopping value involves experiential aspects that have been studied in marketing literature (Chen, Chang & Chen, 2017). These variables have not been included in the proposed model. So, it is interesting to include the experiential consumption aspects proposed by Hirschman & Holbrook (1982) and operationalized by Mathwick, et al., (2002). Therefore, one of the future research propositions is to verify the contribution of aesthetic aspects of e-commerce websites or applications.

To extend the knowledge about the impact of culture in the e-commerce market, we propose to focus on the link between perceived value and behavioral intention, and to verify the cultural differences between expatriate nationalities in KSA. First, we need to collect enough individuals of each expatriate nationality group. Second, we propose to use the framework of Schwartz (1992), which uses human values as beliefs about required end states transcending definite situations.

Future studies may focus on the comparison between computer-based and smartphone-based e-commerce. Further, regarding the smart phone-based e-commerce, it is interesting to compare the results between web-based and application-based e-commerce.

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## Conflicts of Interest

The authors declare no conflict of interest.

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