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**Risks and Marketing in Online Transactions:  
A Qualitative Comparative Analysis**

**ABSTRACT**

The article focuses on the perspectives of holidaymakers who have used internet to book a part or the whole spectrum of their holidays' accommodation. Using Qualitative Comparative Analysis (QCA), the research examines the complex relations between product and web vendor risks, and marketing activities on consumer trust, also employing predictive validity. It examines the perspectives of 735 holidaymakers returning to Manchester International Airport, through the use of structured questionnaires. The findings reveal three sufficient configurations dealing with the focus on the impact of price and quality relationships, the influence of product and web-vendor risks on consumer trust, and the importance of marketing for the minimization of perceived risks in online tourism shopping. Theoretically, the study contributes on the understanding of online decisions' complexity, and explores the attributes that affect accommodation e-purchasing and associated linkages. Methodologically, it implements QCA, which is new in tourism and hospitality domain. It also progresses from fit to predictive validity, an analysis that only a handful of studies has implemented in the service industry.

**Keywords:** Complexity Theory; Perceived Risk Theory; Tourism and Hospitality; Marketing Strategies; Consumer Trust

## **Introduction**

There is a growing need for new knowledge, theories and models of Internet consumer behavior due to the evolution of electronic commerce as it becomes a vital aspect of customer relations and marketing strategy (Racherla et al., 2008; Close & Kukar-Kinney, 2010). The online purchasing behavior needs to be further understood (Herrero & San Martin, 2012) hence, it attracts increasing research attention (Mosteller et al., 2014). As several studies have pinpointed, the key to long-term success for e-retailers is to build consumer trust (Pavlou & Fygensen, 2006; Vos et al., 2014), but the latter is negatively influenced by the perceived risks (Hong & Cha, 2013) associated with both products (Ward & Lee, 2000) and web-vendors (Jiang et al., 2008). Thus, it is important to examine the risk factors affecting trust in Internet shopping, while the purchasing intentions of online consumers need to be further investigated.

In tourism and hospitality, the Internet has considerably altered consumers' behavior (Wen, 2009; Mendez et al., 2015) since it gave them the opportunity to directly interact and engage with suppliers, tourist destinations, and hotel firms (Buhalis & Law, 2008). Consumers also share experiences directly with other consumers through eWOM (electronic Word of Mouth) (Akehurst, 2009) something that increases the operational complexity in modern business. Social media (e.g. Facebook, YouTube, Twitter) play a significant part on these attributes since they become a major opportunity and challenge for many tourism and hospitality companies, whilst most of those enterprises actively participate in social media information exchange (Sparks, et al., 2013). The Internet has ultimately altered the booking share from which tourist agencies and especially hotels receive their business (Law & Cheung, 2006). Online shopping has changed tourist behavior since for travel

and hospitality suppliers it represented a new and potentially powerful communication means for product distribution (Law et al., 2004), contributing to the minimisation of the gap between consumers and suppliers (Buhalis, 1998), and ultimately increasing the sales for travel and hotel products (Inversini & Masiero, 2014). In addition, Information Technology gave the opportunity to tourism and hospitality companies to facilitate better knowledge for their consumers and their purchasing patterns (Okumus, 2013; Cohen et al., 2014). In 2011 the Internet generated world-wide revenue of more than 340 billion US dollars, establishing it as an important channel for distributing travel, tourism, and hospitality products (Amaro & Durate, 2015). Even if the popularity of Information Technology (IT) has led to extensive research on IT and tourism (San Martin & Herrero, 2012), the literature is somehow silent in terms of consumers and their online purchasing intentions (Buhalis & Michopoulou, 2011; Amaro & Durate, 2015). Thus, further research examining consumer motivations to buy tourism and hospitality products online is necessary (O'Connor & Murphy, 2004; Pappas, 2016).

The aim of this article is to examine the complexity of the attributes affecting online purchasing intentions in tourism and hospitality. More specifically, it evaluates the influence of product and web-vendor marketing activities and risks, and consumer trust on tourists who were asked as they returned from their vacations and purchased online the accommodation of their holidays. The study contributes to both the theoretical and methodological domains. In terms of the literature, it provides an understanding of the complexity formulation of online tourism and hospitality decisions. It further explores the attributes that affect online tourism and hospitality decisions and associated linkages. Methodologically, the study implements Qualitative Comparative Analysis (QCA), which is new in tourism domain and just a

handful of studies have generally employed it in the service sector. It also progresses from fit validity and provides predictive validity for the models suggested.

### **Complexity Theory**

The science of complexity studies, describes and explains the behavioral patterns of complex adaptive systems (Olmedo & Mateos, 2015). The complexity theory has been developed from chaos theory and focuses on research with complex characteristics. Complexity theory is based on ontological realism and supports the view that events occur independently of the researcher (Byrne, 1998). It “deals with systems that have many interacting agents and although hard to predict, these systems have structure and permit improvement” (Zahra & Ryan, 2007, p.855). Since ontology is characterized by nonlinearity there are no universal standards or necessary natural forms in society (Young, 1991). However, the system is not uncontrolled and even in chaotic situations there is some sort of order. Even if the system appears to work in a random and complex way with each element seeming to act independently, it finally operates within specific boundaries (Zahra & Ryan, 2007). As a result, complexity evolves over time (Byrne, 1998). According to Fitzgerald and Eijnatten (2002), complexity theory focuses on three aspects: (i) the simple behaviors emerging from complex systems (ii) the higher-level patterns produced by simple interactions, and (iii) the identification of recognizable patterns under a holistic examination of the complicated system. When the degree of complexity increases the behavioural patterns of the system are less amendable to predict (Fitzgerald & Eijnatten, 2002). The theory works with nonlinear system having a sensitivity to initial conditions, and this unpredictable behaviour is limited in a quasi-stable pattern (Olmedo & Mateos, 2015). In service industries, complexity theory and QCA are used in order to

sufficiently explain the customer attributes, evaluations and decision making processes by implementing alternative asymmetric combinations of indicators (Wu et al., 2014).

### *Complexity in tourism and hospitality*

Up till now, tourism research has not adequately focused on complexity since its approach was predominantly a reductionist one (McDonald, 2009). In tourism and hospitality, the behavior of travelers depends on numerous factors creating a complexity on its formulation. As a result, the relationships produced have an inherent nonlinearity preventing the direct relation of causes and consequences (Olmedo & Mateos, 2015). As suggested by Boukas and Ziakas (2014), tourist behavior can be affected by endogenous and exogenous system shocks. Even so, all tourism related factors create some emergent features since they include some kind of order in their operations (Olmedo & Mateos, 2015). Still, tourism complexity makes Newtonian (linear) thinking inadequate and indicates a need for asymmetric analysis (Laws & Prideaux, 2005).

Concerning tourism and hospitality research the methodological challenge lies on the identification of a way to express the complexity and layered nature of these dynamic behavioral patterns of consumers (Hollinshead, 2004; Todd, 2005). Sadly, research progress in tourism has lagged behind, as previous studies have only had a passing interest in complexity approaches, despite the significant contribution such examination could provide within the multidisciplinary environment tourism and hospitality operates (Farrell & Twining-Ward, 2004; Olmedo & Mateos, 2015). It is imperative that critical research should examine different research positions and methodologies, and provide a further understanding of the tourism and hospitality

complexity (Ankor, 2012; Reisinger & Steiner, 2005). Thus, the application of complexity theory can provide substantial information concerning tourist behavior (Russell & Faulkner, 2004), helping to better understand the dynamics of change (Faulkner & Russell, 2000).

### **Literature review**

In recent years, the importance of online experience in the tourism and hospitality industry has rapidly increased, since it has emerged as a crucial issue in developing favourable behavioral responses and outcomes in the online tourism environment (Huang et al., 2010; Nusair & Parsa, 2011). The rapid development of online retailing worldwide, has given consumers more choices than before on where and what they shop (Gao & Bai, 2014), still the complexity of consumer decision making is under-researched. Within this context, the study examines the perceptions of leisure travelers that use online booking for their accommodation and the complexity entailed in their decisions.

Appropriate advertizing may decrease the perceptions of product risk (Kopalle & Lehmann, 2006) and change the attitudes of consumers towards a specific product (Petty et al., 1983). Marketing can significantly influence consumer beliefs about product performance (Nerkar & Roberts, 2004), and finally determine their likelihood to buy (Leenders & Wierenga, 2008). In terms of online shopping, with the passage of time the variety of marketing channels is increasing, as is the complexity of consumers' purchasing behavior (Coughlan et al., 2001). As Woodside et al. (2011) suggest online marketing and dissemination of information through Internet can increase destination and hospitality firms' brand name maximising sales potential. Thus, the Internet has changed the ways tourism and hospitality companies promote,

distribute and price their products (Gazzoli et al., 2008). The majority of tourism organisations such as hotels, travel agencies and airlines have adopted Information Technology as a vital component of their promotional activities and marketing campaigns (Liang, 2014). Customers tend to switch between e-channels when buying products mainly because of the considerably increased financial, security and performance risks the Internet presents in comparison with offline shopping (Lee, 2009). Thus, they tend to buy the products and use the web-vendors that offer high quality and low risk (Chiu et al., 2011). As a result, e-retailers adjust their marketing strategies and focus on the minimization of product and web-vendor risks (Chikweche & Fletcher, 2010; Chiu et al., 2011). Still, little is known concerning the complexity of the impacts towards marketing strategies (e.g. the extent complexity influences marketing activities, branding, and selection patterns in terms of products and web-vendors) and perceived risks with respect to products and online channels.

Risk is one of the key concepts in buying behavior (Faroughian et al., 2012; Jonas & Mansfeld, n.d.) which is defined as an attribute of an alternative decision reflecting the variance of its possible outcomes (Gefen et al., 2002). As Hong and Yi (2012) suggest, it is an important indication that consumers perceive the existence of risk whenever they alternate, postpone, or cancel their purchase, let alone the online consumers who perceive more risks than those shopping in stores, (i) because they cannot examine the product before they receive it, (ii) they are concerned about after-sales service, and, (iii) due to the jargon involved in the sale. According to the perceived Risk Theory (PRT), the potential risks associated with the purchasing process influence consumers' decisions (Yu et al., n.d.). The consumers try to reduce uncertainty when information is limited and when they do not expect potentially favorable consequences during the shopping process, through the development or

adoption of strategies for the reduction of risk (Bauer, 1960). In online environments, the consumers “seek and assess information regarding product performance through virtual product experience in order to reduce risk and increase certainty that the consequence of product performance will be favorable” (Yu et al., n.d., p.253). In PRT, the components of perceived risk are finance, product performance, physical, privacy and time loss related (Kaplan et al., 1974), but online transactions do not incur any physical risk, such as threat to human life (Lee, 2009). Thus in this study PRT has focused on the remaining four perceived risks, divided between product (financial) and web-vendor (privacy; time loss) risks, while the performance aspects have been examined for both products and e-channels.

Especially in products that are characterized by intangibility (such as in hospitality) the perceived risks increase considerably (Laroche et al., 2004), thus services are thought to be riskier to purchase than goods (Mitchell & Greatorex, 1993). The provided product information is important for the minimization of perceived purchasing risks, thus potential buyers tend to collect and consider more information about the sources’ trustworthiness when relatively high product risks are involved (Wang & Chang, 2013). Trust is based on the buyer’s expectations that the seller will not have an opportunistic attitude and take advantage of the situation, but will behave in a dependable, ethical and socially appropriate manner, fulfilling his commitments despite the buyer’s vulnerability and dependence (Gefen et al., 2003). The concept of trust was introduced by psychologists in 1950s, but despite its importance it has only recently introduced in tourism and hospitality industry (Wang et al, 2014). Trust is even more important for online than for offline retailers, since consumers perceive more risk in e-commerce due to their inability to visit a physical store and examine the product they are interested in buying (Li et al., 2014). Online hospitality retailers

place considerable emphasis on consumer trust, since they are more reluctant to purchase the products in which they are interested (Park et al., 2012; Del Chiappa et al., n.d.). As a result, the critical role of trust in the determination of consumers' purchasing intentions is affected by satisfaction with both products and online stores (Wu, 2013). Surprisingly, in tourism and hospitality industry there are only few studies that examine the relationship between website quality and e-trust (Wang et al., 2015).

### **Study tenets**

In service research contexts, “tenet” is the term in-use for expressing testable precepts of complexity theory, since the adequacy testing for complex configurations in predicting outcome scores does not usually include consistency metrics and does not test statistical hypothesis (Wu et al., 2014). The study set out to investigate important attributes that affect tourism decisions, as identified from the relevant literature (Ahn et al., 2004; Chikweche & Fletcher, 2010; Gefen et al., 2003; Hong & Yi, 2012; Sanchez et al., 2006; Sparks & Browning, 2011). Thus, all combinations of binary states (meaning their presence and absence) for the following five attributes were evaluated: product marketing activities, web-vendor marketing activities, product risks, web-vendor risks, and consumer trust.

Passing from linear to asymmetric analysis the configuration theory suggests that the same set of factors is possible to lead to different outcomes depending on the way these factors are arranged (Ordanini et al., 2014). As Greckhamer et al. (2008) suggest, the outcomes rarely result from one and only causal factor, since the same factor may produce different or even opposing effects in relation to the overall context. Considering the above, the study has formulated the following tenet:

T1: The same attribute can determine different tourism decisions depending on its configuration with the other attributes.

On the other hand, the same outcome is likely to be achieved through different configurations of causal factors, which is actually the concept of 'equifinality' (Ragin, 2000). This means that configuration complexity can affect the produced outcome leading different complex configurations to result the same outcome. Since the study focuses on the aspects that affect travelers' online decision making, the following tenet has been created:

T2: Complex configurations affect traveler evaluations for online tourism decisions.

As Wu et al. (2014, p.1651) indicate "a simple antecedent condition is a positive indicator in some configurations and a negative indicator in other configurations on high scores in an outcome condition". For example, online marketing activities may have a positive influence in consumption patterns, substantially increasing the product sales (Pappas, 2016). Conversely, due to the massive quantities of information that Internet shopping provides (Marom & Seidmann, 2011), online consumers can be easily confused by marketing activities leading to the reduction of sales (Tarnanidis et al., 2015). These observations lead to the following tenet:

T3: Within different configuration combinations simple conditions may positively or negatively affect online tourism decisions.

## **Method**

### *Participants*

The research focused on holidaymakers returning to Manchester international airport who had used the Internet in order to book their holidays' accommodation.

The research was conducted during June and July 2014. This study used the distribution of structured questionnaires as the most appropriate method of obtaining the primary data, since it offers high respondents' anonymity and the response rate, whilst a substantial amount of population can be examined in a short period of time (Sekaran & Bougie, 2013). This made feasible to ask a substantial amount of respondents to participate on research. Following Zhen, Zoebisch, Chen and Feng's (2006) sampling method, the respondents were selected through purposive sampling (holidaymakers using Internet for accommodation booking) combined with random sampling (random selection at Manchester Airport's bus and train station). The recruitment of participants in communal areas is a usual practice for researchers in order to reduce the survey bias (Hamilton & Alexander, 2013). The participants' selection is based on an exclusion question prior distributing the questionnaire, which asked whether they had used online purchasing of accommodation for their current vacations. The average time for questionnaire completion was five minutes. Although the proportion of missing data is low, listwise deletion (the entire record is excluded from the analysis) is used because this is the least problematic method of handling missing data (Allison, 2001).

#### *Sample determination and collection*

Appropriate representation is a fundamental criterion in determining the sample size. According to Akis et al., (1996), when there are unknown population proportions, the researcher should choose a conservative response format of 50 / 50 (meaning the assumption that 50 per cent of the respondents have negative perceptions, and 50 per cent have not) to determine the sample size. A confidence

level of at least 95 per cent and a 5 per cent sampling error were selected. As Akis et al., (1996) suggest, the sample size is:

$$N = \frac{(t - \text{table})^2 (\text{hypothesis})}{S^2} \Rightarrow N = \frac{(1.96)^2 (0.5)(0.5)}{(0.5)^2} \Rightarrow N = 384.16 \text{ **Rounded**}$$

**to 400**

The calculation of the sampling size is independent of the total population size, hence the sampling size determines the error (Aaker & Day, 1990). Participants were approached in the airport's train station (400 people), bus station (400 people), and car parking facilities (400 people). Of the 1,200 holidaymakers asked, 735 completed the questionnaire (response rate: 61.25 per cent). The overall statistical error for the sample population is 3.6 per cent.

### *Measures*

The questionnaire is based on prior research, and consisted of 38 Likert Scale (1 strongly agree/7 strongly disagree) statements, plus one exclusion question concerning online purchasing of tourist products. The full statements along with descriptive statistics are presented in Table 1. The reliability and validity of this selection rationale is supported by studies such as Kyle et al. (2003) and Gross and Brown (2008). The statements were selected from six different studies. These studies were those of: Chikweche and Fletcher (2010) for the statements evaluating the product and web-vendor marketing strategies, Sanchez et al. (2006) for the statements dealing with product risks, Ahn et al. (2004), and Hong and Yi (2012) for the statements focusing on web-vendor risks, and finally Gefen et al. (2003), and Sparks and Browning (2011) for the statements focusing on consumer trust.

[Please insert Table 1]

The study investigates the configurations through the use of fuzzy-set Qualitative Comparative Analysis (fsQCA). This is a theoretical method for the examination of relationships which are believed to have a bearing upon the outcome of interest and any potential binary set combinations generated from its predictors (Longest & Vaisey, 2008). QCA is considered to be a mixed-method technique, since it combines in the same analysis quantitative empirical testing (Longest & Vaisey, 2008) and qualitative inductive reasoning through case analysis (Ragin, 2000). QCA handles logical complexity by allowing for the fact that different combinations of characteristics may produce different results when combined with other events or conditions (Kent & Argouslidis, 2005). The study also had to estimate negated sets (presence or absence of a given condition; Woodside & Zhang, 2013). In a negated set, the membership calculation is made by taking one minus the score of membership of the examined case in the original fuzzy set (Skarmeas et al., 2014). As illustrated in Table 2, the absence of an attribute is indicated by the symbol “~”.

According to Ordanini et al. (2014), in set theory a sub relation with fuzzy measures is consistent when in a given attributional causal set the membership scores are equal or consistently less than the membership scores in the outcome set. Accordingly, the coverage includes the assessment of sufficient configurations’ empirical importance (Ordanini et al., 2014). Thus, consistency and coverage should be calculated as follows:

$$Consistency(X_i \leq Y_i) = \sum_i [\min(X_i; Y_i)] / \sum_i (X_i)$$

$$Coverage(X_i \leq Y_i) = \sum_i [\min(X_i; Y_i)] / \sum_i (Y_i)$$

where, for holidaymaker  $i$ ,  $X_i$  is the score for membership in the  $X$  configuration and  $Y_i$  is the score for membership in the outcome condition.

In QCA when the consistency index is above .80 and the coverage index is above .45 then membership scores in the outcome condition are considered high for almost all high scores in the antecedent statement, and a considerable number of cases fitting an asymmetric sufficiency distribution (Wu et al., 2014).

### *Fit and predictive validity*

The vast majority of studies evaluating specific models focus on the examination of the model fit (Gigerenzer & Brighton, 2009) in order to ensure that the data support the relationships amongst the observed variables and their respective factors (Pappas, 2015). Still, only a few studies focus on predictive validity (Wu et al., 2014), since a good fit to observations does not necessarily indicate the existence of a good model (Gigerenzer & Brighton, 2009). This study also focuses on the estimation of the predictive validity. For testing predictive validity, the process described by Wu et al. (2014) is followed: The research sample is divided in a holdout and a modeling subsample, and since the patterns of decision making are perceived as consistent indicators for the production of high scores, using half of the overall sample. The overall consistency exceeds .8 ( $C1=.839$ ) and the coverage is higher than .5 ( $C2=.574$ ). The results indicate that the model has good predictive validity.

## **Results**

Table 2 illustrates the distribution of holidaymakers' configuration best-fit cases, and presents the configurations addressed in at least one case. From the 32 possible combinations ( $2^5=32$ ), 28 of them had at least one case, since the study lacks

empirical instances for four configurations. According to QCA guidelines (Fiss, 2011), the latter configurations had to be excluded from the analysis, since their number is relatively small (four out of 32). Table 3 presents the results of fuzzy-test scores including all the variables considered in the analysis. Table 4 provides a QCA summary and presents the sufficient configurations of attributes for tourism decisions with coverage and consistency measures for each configuration, and for the final solution. The combinations that have consistency scores higher than .80 are included in the table. High consistency (solution consistency=.826) appears in the final solution, while its coverage is also high (total coverage=.762).

[Pleas insert Table 2]

[Please insert Table 3]

#### *Sufficient configurations affecting online purchasing intentions in tourism*

According to the results, three configurations can stimulate tourism decisions in online purchasing (Table 4). The first configuration indicates that product marketing activities, product risks and consumer trust with the absence of web-vendor marketing activities and risks, can have a considerable influence of accommodation decision making. This pathway provides a fair consistency (.828) even if it is the lowest one compared with the other two. The second configuration indicates that product and web-vendor risks, and consumer trust with the absence of product and web-vendor marketing activities substantially influence online purchasing intentions, having a consistency of .850. The last sufficient configuration has the highest consistency (.884) and includes marketing activities and risks with the absence of consumer trust.

[Please insert Table 4]

## **Discussion**

According to the research findings the first sufficient configuration (PMA\*~WMA\*PR\*~WR\*CT) focuses on product issues in terms of marketing activities, risks, and the consumer trust. This product oriented configuration confirms the study of Sanchez et al. (2006) suggesting that product elements such as price and quality crucially determine the consumers' purchasing decisions, while marketing can strengthen the perceived product quality and performance and finally determine the likelihood to buy (Leenders & Wierenga, 2008). The second configuration (~PMA\*~WMA\*PR\*WR\*CT) highlights the importance of PRT, focusing on the influence of product and web-vendor risks on consumer trust, and the determination of the final purchasing decision. The results are in agreement with the findings of several previous studies such as Faroughian et al. (2012), Gefen et al. (2002), and Hong and Yi (2012). The third solution (PMA\*WMA\*PR\*WR\*~CT) emphasizes on the importance of marketing for the minimization of perceived risks in online tourism and hospitality shopping. This aspect also pinpointed from the studies of Chikweche and Fletcher (2010) and Chiu et al. (2011) gives evidence for the importance of marketing activities and adds up to our knowledge for the complexity of the impacts towards marketing strategies and perceived risks with respect to tourism products and online channels.

### **Confirmation of tenets**

As the results suggest, the provided explanation of the three sufficient configurations presented in Table 4 is high (total coverage =.762). In addition, product risks appear in all three solutions, while the other four do not appear in all sufficient configurations. This finding further underlines the importance of product risks in online tourism and hospitality decisions. With the inclusion of web-vendor risks appearing in the second and third configuration, this evidence emphasizes the importance of risks in online decision making, strengthening the importance of PRT in tourism and hospitality. Product and web-vendor marketing activities appear on the first and third sufficient configuration, while consumer trust appears on the first and second solution.

Overall these findings support the first tenet (T1): The same attribute can determine different tourism decisions depending on its configuration with the other attributes.

It is necessary to highlight that QCA is not based on variables but on cases, thus the provided solutions deal with: (i) a combination of outcome related variables, and (ii) the association of variable groups with that combination (Ordanini et al., 2014). As previously mentioned, the first sufficient configuration is product oriented and indicate the importance of product issues on consumer trust. The second is associated with risks and consumer trust, also highlighting the importance of PRT in online decision making. The final sufficient solution is connected with the potential contribution of marketing activities for the reduction of perceived risks.

These findings give substantial grounds for the confirmation of the second tenet (T2): Complex configurations affect traveler evaluations for online tourism decisions.

The study analysis provides contrarian cases since the outcome of the provided solutions depends on the attributes included or excluded. For example in the third configuration marketing activities are present, while in the second one they are excluded, giving to PRT the dominant role for online decision making. Moreover, consumer trust is important for product oriented decisions (first configuration) and its formulation through risk factors (second configuration), but it is excluded when marketing activities impact the formulation of perceived risks.

Thus, the findings support the third tenet (T3): Within different configuration combinations simple conditions may positively or negatively affect online tourism decisions.

### **Study implications**

In the theoretical domain, this study broadens our understanding of online tourism shopping and the formulation of consumers' purchasing intentions. Using QCA the identification of three pathways through the combination of five different factors (product marketing activities, web-vendor marketing activities, product risks, web-vendor risks, and consumer trust), helps to better comprehend the process of decision-making and its influence on online tourism decisions, and assists on the optimisation of online retailing in tourism and hospitality. Moreover, it reveals that the inclusion of different factors substantially impacts on the e-consumers' decision-making, while it highlights the importance of product and web-vendor marketing activities and perceived risks as significant factors for online shopping.

In terms of methodology, this research uses QCA for the identification of pathways, and the involvement of different combinations of factors in order to provide a specific outcome (Cheng et al., 2013; Skarmeas et al., 2014). The implementation of

QCA in the tourism domain is new (to the best of the author's knowledge, the only other study is that of Ordanini et al. (2014), focusing on hotel service innovation), and very few studies generally employ it in the service sector (see Woodside & Zhang, 2013; Wu et al., 2014). The study also demonstrates its predictive validity, something that only a handful of service oriented studies have done (Wu et al., 2014), highlighting the sufficiency of the provided models.

Concerning managerial aspects, this research produces several implications. Taking under consideration the three sufficient configurations, maybe the most important managerial implication is associated with the product and web-vendor marketing activities of tourism e-retailers. As also emphasised by Nerkar and Roberts (2004) marketing crucially influence and transform the perspectives of consumers concerning products and services. The enterprises that activate online should emphasise on the promotion of tourism web-vendor benefits, and strengthen their branding through direct online marketing. This may include the distribution of information via personal e-mails to potential or previous customers in terms of new products and services, optimisation of web-vendor usability, and easiness of e-use. This promotional activity can also include aspects of risk reduction combined with the beneficial impacts of online tourism shopping. Another suggestion could be the provision of e-vendor comparison of information and characteristics with other similar e-vendors existing in the market.

As also suggested by the research findings, the cornerstone for e-purchasing remains the trust of consumers in products and e-vendors. It is imperative for the e-retailers to provide specific services that reduce the online consumers' uncertainties. Due to the intangibility of tourist products these could include ad-hoc information about destinations and products, post-purchase services, quality guarantees etc. Under

this prism, e-retailers will be able to better accommodate their customers, instil them with confidence and trust, and develop the perspective that they honestly care for them.

### **Conclusions, limitations and future research**

This study uses QCA in an effort to examine the complexity of the attributes affecting online tourism and hospitality decision making, investigating the influence of product and web-vendor marketing activities and risks and consumers' trust for holidaymakers returning from their vacations. Still, the limitations of the study need to be highlighted. The first limitation derives from the study's contribution itself, due to the lack of QCA studies in the tourism sector. In order to examine the full potential of QCA in tourism, more QCA research involving complexity theory in additional tourism contexts needs to be implemented, even if QCA's binary function (ability to use presence/absence data only), is a limitation that needs to be taken under consideration. Second, the examination of some other attributes such as time of shopping, amount of money spent in tourism and hospitality products, and comparison of online vs offline tourism and hospitality spending, can produce different outcomes. Thus, if this study is repeated to examine some other factors influencing tourism decisions the research implementation should be made with caution. Third, further research into different kinds of holidaymakers (packaged vs individual tourists) in origin countries (e.g., France, Germany, Sweden) may produce different outcomes. Thus, the interpretation of findings should be made carefully. Finally the inclusion of respondents' personal characteristics such as socio-demographic characteristics (e.g., level of education and income), disposable income available for tourism activities, and frequency of participation in tourism activities,

could further contribute to the understanding of tourism and hospitality decision making and perception variations. Such examination could provide useful findings for the formulation of decision making perspectives and the appreciation of purchasing behavior.

Methodologically, the ability of QCA to identify and demonstrate sufficient configurations in a specific aspect can also be of complementary use with other techniques like correlation and conjoint analysis. Moreover, QCA can further examine the effect of the behavioral complexity of consumers in tourism and hospitality decisions from exogenous (e.g., political and financial instability) and endogenous (e.g., career stage, expression of self esteem) factors. All the above provide fruitful grounds for establishing QCA in the tourism and hospitality domain.

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Table 1: Descriptive statistics

	<b>Statement</b>	<b>Means</b>	<b>Std. Dev.</b>
	<i>Product Marketing Activities</i>		
PMA1	Direct marketing activities (i.e. direct mail and e-mails) influence my online purchasing decisions	2.29	.563
PMA2	The 'above the line' promotional activities (i.e. TV and radio advertisements) influence my online purchasing decisions	3.02	.573
PMA3	The tourism product's branding influences my online purchasing decisions	2.18	.437
PMA4	The online promotions influence my decision to select the tourist product/package I intend to buy	2.35	.254
PMA5	The offline promotions influence my decision to select the tourist product/package I intend to buy	2.97	.659
	<i>Web-Vendor Marketing Activities</i>		
WMA1	Direct marketing activities (i.e. direct mail and e-mails) by web-vendors influence the e-channel I select when buying tourism products	2.05	.580
WMA2	The 'above the line' promotional activities (i.e. TV and radio advertisements) by web vendors influence the e-channel I select when buying tourism products	2.72	.681
WMA3	The branding of web-vendors influences the e-channel I select when buying tourism products	1.78	.366
WMA4	The online promotions influence my decision to select a particular e-channel when buying a tourist product/package	2.15	.482
WMA5	The offline promotions influence my decision to select a particular e-channel when buying a tourist product/package	2.63	.395
	<i>Product Risks</i>		
PR1	I think about the risk of not having made a good purchase bearing in mind the price I pay	1.75	.705
PR2	The tourist product/package I purchase should be reasonably priced	1.42	.823
PR3	The price is the main criterion for my purchasing decision	2.43	.634
PR4	When buying a tourist product/package I consider the potential risks in the way the product/package is organised	1.70	.492
PR5	When buying a tourist product/package I consider the potential risk that I will not receive what I expected	1.55	.420
PR6	When buying a tourist product/package I consider its quality compared with other relevant tourist products/packages	1.51	.389
	<i>Web-Vendor Risks</i>		

WR1	It is important that the Website vendor provides detailed information	1.82	.537
WR2	It is important that the Website vendor provides accurate information	1.97	.599
WR3	It is important that the Website vendor can be depended upon to provide whatever is promised	1.70	.846
WR4	It is important that the Website vendor creates a feeling of confidence in users through the reduction of uncertainty (i.e. joint problem-solving)	1.52	.735
WR5	It is important that the Website vendor understands and adapts to the user's specific needs	1.69	.623
WR6	It is important that the website vendor deals with high quality products	2.46	.410
WR7	It is important that the Website vendor deals with various tourism products	2.88	.455
WR8	Purchasing online would involve a trivial payment procedure when compared with more traditional ways of shopping	2.21	.361
WR9	Purchasing online would involve taking more time to seek out information when compared with more traditional ways of shopping	5.28	.450
WR10	Purchasing online involves the risk of credit loss when compared with more traditional ways of shopping	2.55	.782
WR11	Purchasing online involves the risk of loss of private information when compared with more traditional ways of shopping	4.06	.698
WR12	Purchasing online involves after sales service warrantee risks when compared with more traditional ways of shopping	3.87	.438
WR13	In general, providing credit card information through online shopping is riskier than providing it over the phone to an offline vendor	4.85	.482
WR14	Purchasing online involves the risk of fraudulent behaviour on the part of the website owner(s)	1.88	.711
	<i>Consumer Trust</i>		
CT1	The tourist product/package I purchased is trustworthy	1.85	.573
CT2	The tourist product/package I purchased is reliable	1.69	.824
CT3	The tourist product/package I purchased fills me with confidence	1.65	.466
CT4	The tourist product/package I purchased gives me the impression that it is of good quality	1.57	.553
CT5	Shopping online is a trustworthy method of shopping	2.95	.688
CT6	The Website vendor I use gives the impression that they are honest	2.87	.548
CT7	The Website vendor I use gives the impression that they care for their users	2.41	.492
CT8	The Website vendor I use gives the impression that they have the ability to fulfil my needs	2.56	.776

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Table 2: Binary set configurations: Distribution of best-fit cases

	<b>Configurations</b>	<b>Cases</b>	<b>Percentage</b>
1	PMA*WMA*~PR*~WR*~CT	74	10.06
2	~PMA*WMA*~PR*~WR*CT	71	9.66
3	~PMA*WMA*PR*WR*~CT	66	8.98
4	PMA*WMA*PR*~WR*CT	62	8.43
5	PMA*~WMA*~PR*WR*CT	58	7.89
6	PMA*~WMA*PR*WR*CT	49	6.67
7	PMA*~WMA*PR*~WR*~CT	42	5.71
8	~PMA*WMA*PR*WR*CT	35	4.76
9	PMA*~WMA*~PR*~WR*CT	32	4.35
10	~PMA*~WMA*PR*~WR*CT	31	4.22
11	PMA*WMA*PR*~WR*~CT	30	5.85
12	PMA*WMA*~PR*WR*~CT	27	3.67
13	PMA*WMA*PR*WR*CT	24	3.26
14	PMA*~WMA*PR*WR*~CT	21	2.86
15	~PMA*~WMA*~PR*WR*CT	17	2.31
16	PMA*~WMA*PR*~WR*CT	17	2.31
17	~PMA*~WMA*PR*WR*~CT	15	2.04
18	PMA*WMA*PR*WR*~CT	13	1.77
19	~PMA*WMA*~PR*WR*CT	12	1.63
20	~PMA*WMA*~PR*~WR*~CT	9	1.22
21	~PMA*~WMA*PR*WR*CT	9	1.22
22	~PMA*~WMA*~PR*~WR*CT	6	0.82
23	~PMA*WMA*PR*~WR*~CT	5	0.68
24	PMA*WMA*~PR*WR*CT	3	0.41
25	PMA*WMA*~PR*~WR*CT	3	0.41
26	PMA*~WMA*~PR*~WR*~CT	2	0.27
27	PMA*~WMA*~PR*WR*~CT	1	0.14
28	~PMA*~WMA*PR*~WR*~CT	1	0.14
	<b>Total</b>	<b>735</b>	<b>100</b>

Table 3: Fuzzy-set scores: Pairwise Correlations

	Means	Std. Dev.	Product Marketing Activities	Web-vendor Marketing Activities	Product Risks	Web-vendor Risks	Customer Trust
1	.64	.487	1				
2	.43	.509	.404**	1			
3	.55	.428	.497**	.139**	1		
4	.51	.527	.385*	.074	.122	1	
5	.46	.411	.187*	.185*	.049*	.204*	1

\*The significance is at 0.05 level ( $p < .05$ )

\*\* The significance is at 0.01 level ( $p < .01$ )

Table 4: Sufficient configurations for purchasing online

Models	Raw Coverage	Unique Coverage	Consistency
PMA*~WMA*PR*~WR*CT	0.145920	0.053871	0.828475
~PMA*~WMA*PR*WR*CT	0.177569	0.094723	0.850387
PMA*WMA*PR*WR*~CT	0.214756	0.139679	0.883752

PMA : Product marketing activities ; WMA : Web-vendor marketing activities; PR : Product risks; WR: Web-vendor risks; CT: Consumer trust  
 Total converge: 0.762; Solution consistency: 0.826