



PASOS. Revista de Turismo y Patrimonio Cultural

ISSN: 1695-7121

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Universidad de La Laguna  
España

Souza, Anderson; Silva, André; Barbosa, Maria de Lourdes  
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PASOS. Revista de Turismo y Patrimonio Cultural, vol. 14, núm. 5, octubre, 2016, pp. 1253-1266

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## Understanding consumers' reluctance to purchase hotel services online: what makes it so risky?

**Anderson Souza\* André Silva\*\* Maria de Lourdes Barbosa\*\*\***

Universidade Federal de Pernambuco (Brasil)

**Abstract:** The tourism product buying process, such as hotel services, is surrounded by risks. This occurs largely due to the intrinsic characteristics of the industry itself, particularly concerning the lack of physical evidence of the product offered. Thus, this study investigates the extent to which the acquisition of hotel services via the internet can still be perceived as a risky practice. Therefore, the purpose herein is to understand more deeply consumers' core hesitations toward the virtual environment. Data was collected through an online survey, carried out with 305 Brazilian consumers, and analyzed by using the Preference Ranking Organization Method for Enrichment Evaluation – PROMETHEE (Brans & Mareschal, 2002). The results led to the identification of four different consumer profiles that, in turn, appeared to be strongly associated with the main dimensions of risk pointed out by Forsythe and Shi (2003) as determinants of purchase behaviors in the digital environment: (1) Product Performance Risk, (2) Financial Risk, (3) Psychological Risk and (4) Time/Convenience Risk.

**Keywords:** Perceived Risk; Online Consumer Behavior; Hotel Services; Consumer Profiles; Tourism.

### ¿La comprensión de las reticencias de los consumidores a comprar servicios hoteleros en línea: qué la hace tan arriesgada?

**Resumen:** El proceso de compra de productos turísticos, tales como los servicios hoteleros, está rodeado de riesgos. Esto ocurre en gran parte debido a las características intrínsecas de la propia industria, particularmente en relación con la falta de evidencias físicas del producto ofrecido. Por lo tanto, este estudio investiga el grado en que la adquisición de servicios hoteleros a través del internet todavía puede ser percibida como una práctica de arriesgada. Por lo tanto, el objetivo aquí es entender más profundamente las principales dudas de los consumidores hacia el ámbito virtual. Los datos fueron recogidos a través de una encuesta en línea, realizada con 305 consumidores brasileños, y analizados mediante el Preference Ranking Organization Method for Enrichment Evaluation – PROMETHEE (Brans & Mareschal, 2002). Los resultados llevaron a la identificación de cuatro perfiles diferentes de consumidores que, a su vez, parecían estar fuertemente asociados con las principales dimensiones de riesgo señaladas por Forsythe y Shi (2003) como determinantes de los comportamientos de compra en el ámbito digital: (1) Riesgo de Rendimiento del Producto, (2) Riesgo Financiero, (3) Riesgo Psicológico y (4) Riesgo de Tiempo/Conveniencia.

**Palabras Clave:** Riesgo Percibido; Comportamiento del Consumidor en Línea; Servicios Hoteleros; Perfiles de Consumidores; Turismo.

### 1. Introduction

Tourism activity is characterized, in essence, by the offer of a set of services which, together, form the so-called tourism product. As argued by Otto and Ritchie (1996: 165), "tourism is essentially a services industry or, perhaps more accurately, an amalgam of service industries". Such a complexity, aligned

\* E-mail: son\_ander@hotmail.com

\*\* E-mail: andre.algs@hotmail.com

\*\*\* E-mail: lourdesbarbosa@gmail.com

with the changes currently observed in society, has influenced purchasing behaviors once post-modern consumers apparently interpret consumption relations differently.

Services as a whole, and specifically tourism services, present a more complex decision-making process when compared to the choice of goods. In other words, they can only be experienced in the right time, and at the exact place of production, which increases dramatically the level of difficulty to be interpreted and analyzed before the purchase behavior. These characteristics lead to the need to deepen the knowledge on how consumer's decision-making is developed, especially when it comes to factors such as the perception of risk.

Although the online environment appears to be surrounded by risks, consumers are only influenced by those risks they really perceive. That means that the non-perceived risks have no effect on consumer's choices (Schiffman & Kanuk, 1997). Thus, the decision of a tourism service, such as a hotel, for instance, may be determined by the degree of risk perceived by consumers during the selection and purchase process.

A few studies have already sought to understand the impact of risk perception for the consumer behavior in the tourism field. Some of these, in turn, focusing specifically on the lodging sector. Law (2009), for instance, in his study carried out with Hong Kong residents, found out that the more experienced with the virtual booking tools the consumers are, the less they value the travel agencies. However, Souza et al. (2012) claim that, to deal with the uncertain outcomes of the choice of a hotel service online, individuals certainly rely on a set of strategies. Accordingly, consumers tend to adopt some risk relievers they reckon that suit better the occasion.

Notwithstanding, Solomon (2002) points out that purchasing a certain service (and hotel services are no exception) may bring negative consequences to the consumer. On the other hand, it is advocated that, despite being usually related to negative results, the construct risk includes a wide spectrum of results, ranging from positive to negative. Therefore, it might be highlighted that not only the results of a service should be considered risky, but the whole process of searching for information, acquiring the service and experiencing must be taken into consideration.

Sitkin and Pablo (1992) stated that even a positive experience may result in disappointment, if it does not meet consumer's expectations. Because of this, risk has been considered a personal perception with regard to the likelihood of losses on the part of the consumer (Engel et al., 1995). In other words, it represents a function of the uncertainties and consequences surrounding the decision-making process (Stem et al., 1977). In order to overcome this fact, Wang et al. (2015) suggest that hoteliers should take advantage of their own websites as a marketing tool, hence, attempting to reduce the risks perceived in the choice of such an intangible product.

By doing so, customers would probably feel more confident not only with regard to the aspects of 'intangibility', but also to the means used for the purchase transaction. Undoubtedly, in certain cases the lack of a traditional (physical) retail environment still causes discomfort in some people. Consequently, this increases their likelihood of perceiving risks in online transactions when purchasing tourism services. Thus, this study investigates the extent to which the acquisition of hotel services via the internet can still be perceived as a risky practice and, furthermore, how the differences found in consumers' perceptions can be explained.

Therefore, the insights that emerge from this research might help broaden the knowledge on the topic, especially by understanding and proposing different consumer's profiles of risk. To date, the literature has focused on the uncertainties likely to affect the individuals' decision when buying goods and/or services as a whole. However, this study highlights that even the propensity to perceive certain risks, when it comes to the choice of hotel services virtually, might be related to the consumer's personal characteristics.

## 2. Theoretical Background

The studies related to consumer behavior bring several knowledge fields together in the attempt to understand individuals and groups' decision-making and buying process (Solomon, Russel-Bennett, & Previte, 2013). However, among the wide range of possibilities, the construct 'risk' still intrigues some scholars due to the emergence of new channels through which consumers currently can search for and acquire goods and services (Peterson & Merino, 2003; Forsythe & Shi, 2003; Souza, Melo, & Barbosa, 2012).

Risk perception was first addressed in the Seventeenth Century, based on the fortune games, when the likelihood of an event failure started to be considered. According to Douglas (1990), players had an estimated chance of gaining (or losing) depending on the level of risk assumed. Therefore, by that time, it was already recognized that the outcomes of a choice could only be known once the decision had been made. Later on, according to Taylor (1974), such logic became the basis for putting the risk into an outstanding position within the consumer behavior literature.

Notwithstanding, Bauer (1960) was responsible for introducing the concept of risk into the marketing literature when the paper entitled 'Consumer Behavior as Risk-Taking' was published. Followed by authors, such as Taylor (1974), several scholars recognized that consumer's choice should be seen as a phenomenon intrinsically surrounded by uncertainties and consequences. Though it has been claimed by some behavioral researchers that not all that is perceived by the subject is consistent with reality, Robins (2005) states that individual's behavior is directly related to the way he/she perceives reality. That is, human actions are strongly associated to individuals' perception toward reality, rather than reality itself.

In that sense, Cunningham (1967) stresses that risk may be something that really exists – a real risk, or else, a subjective phenomenon arising from individual's own perception toward a certain situation. By assuming this, Boshoff (2002) suggests that risk must be understood first at the individual level so that conclusions can be drawn about what really affects consumers' decisions. In turn, Cox and Rich (1964) argue that an event likely to prompt a person's negative and/or positive feeling toward a given object might not cause the same impact on other people. However, according to Kovacs (2006), some specific factors should be considered as risk perception enhancers. For instance, in the case of consumer behavior, the channel used for purchasing a product may represent a risk in itself.

Undoubtedly, the current virtualization of purchase channels has greatly impacted on the consumer decision-making process. Forsythe and Shi (2003) sought to shed light on the fact that, sooner or later, the internet would become 'the mall of tomorrow'. The benefits provided by the online means over the traditional retail stores were pointed out as the main reasons for the rapid growth of virtual purchase transactions in the last decades.

Therefore, it must be recognized that, to some extent, that 'tomorrow' about which the authors made reference, over a decade ago, seems to have come. Accordingly, Souza et al. (2012) reinforce the relevance of understanding the phenomenon of risk in a more specific way, following the new virtual reality that has been set. Furthermore, certain economic sectors, such as tourism, have proved to be heavily dependent on the online environment to develop their trading strategies (Cantallos & Salvi, 2014).

Saw, Goh and Isa (2015) argue that, among other things, the pervasiveness of the internet have made online reservation a predominant method to book hotel rooms. Because of this, firms have sought to set up new strategies to adjust themselves to the ongoing market demands. At the same time, studies have been developed worldwide in order to understand what affects tourism/hotel consumers' behavior virtually. However, according to Sun (2014), there is still a lack of academic knowledge regarding the antecedents of perceived risks for services, specifically referring to the hotel sector. In the attempt to fill in this gap, the author proposed that both firm-level and individual-level antecedents directly influenced consumer's perception of risk.

Viglia et al. (2014) state that, in this case, the internet should be considered a valuable tool in order to help shape companies' strategies. Nonetheless, they suggested that, in terms of reducing the perception of risk, two factors are of relevance when it comes to the choice of a hotel online: (a) the average evaluation of the establishment, and (b) the number of reviews. Based on that, it was evident that the consumers' preference increases with the number of reviews, independently of the average evaluation being high or low. That proves how intriguing the acquisition of hotel services has become lately.

Although the literature in the field of consumer behavior have already made substantial progress in terms of defining certain risk typologies and dimensions (Bianchi & Andrews, 2012), it is clear that the advent of internet as a shopping means for the tourism sector – as shown in the aforementioned examples, points to a whole new era. Thus, Forsythe and Shi (2003) concluded that, when it comes to online purchases, consumers are generally faced with four specific (and critical) dimensions of risk, which will also be considered in this study: (1) Product Performance Risk, (2) Financial Risk, (3) Psychological Risk and (4) Time/Convenience Risk.

Product performance risk relates to the individual's concern regarding the correct function of a product (Dholakia, 1997; Schiffman & Kanuk, 1997; Cases, 2002). For instance, in the case of the hotel sector, consumers may fear not receiving the proper service that had previously been acquired through the internet (Boshoff, 2002; Laroche et al., 2004). According to Forsythe and Shi (2003), in most situations,

this type of risk arises from the shoppers' recognition of their inability to accurately judge the quality of the product online. In this case, Bateson and Hoffman (2001), suggest that hotel companies should provide consumers with greater amounts of information regarding the establishment's guarantee policies which, in turn, would assure the services quality perception.

On the other hand, any event that may result in extra expenditure of money by the consumer as a consequence of his/her choice is defined as financial risk (Roselius, 1971; Schiffman & Kanuk, 1997; Laroche et al., 2004). Forsythe and Shi (2003) argue that, considering the online purchase situation, this type of risk includes the possibility that one's credit card information may be misused by the product provider, or else, stolen by evil-minded people.

According to Caswell (2000), a significant number of consumers believe that it is not difficult to have credit card information stolen online. It means that both hotel services and credit card providers shall invest in online transaction safety, in order to assure consumers that their privacy will be kept safe. As with previous dimension, providers' guarantee policies must be extremely clear to help relieve risk perception.

However, at the same time the possibility of privacy invasion may bring financial problems to the consumers, it can also result in psychological loss. Generally, the psychological risk is related to the likelihood of a purchase being incongruent with one's own personality and self-image (Murray & Schlacter, 1990; Roehl & Fesenmaier, 1992). According to Kovacs (2006), for some people, a wrong choice can bring harm to their ego.

Nevertheless, in the case of virtual purchases, some authors claim that the internet may favor users' privacy violation, since it is considered an open channel (Maignan & Lukas, 1997; Jacobs, 1997; Benassi, 1999). Forsythe and Shi (2003) state that, the lack of control on what can be done with the consumers' personal information, gives rise to the perception of psychological risk in the online environment. In brief, when it comes to the online purchase behavior, the psychological risk differs from the financial one as the latter is exclusively related to monetary loss, whilst the former covers the individual's concern with regard to his/her overall information.

Finally, time/convenience risk is considered the chance of a person to waste time in searching for information, submitting order and/or navigating in different websites to purchase what he/she needs (Forsythe & Shi, 2003). In the case of hotel services, that task seems to be even harder, especially considering its intangible and inconsistent nature. Although most people tend to book the hotel services in advance, some may prefer not to engage in such a regular practice, and purchase the services direct from the provider, at the establishment.

In short, the aforementioned risk dimensions were discussed in this paper once they met the singularities of the virtual environment. Consequently, they can also apply to the choice of hotel services online. As the internet has become more and more frequently used by consumers to manage their tourism purchases, understanding the impact of these specific dimensions on the decision-making process is of great relevance to both academic and managerial fields.

### 3. Methods

This research is characterized as a descriptive-transversal study, whose development was performed on the basis of data collected through an online survey, carried out with a non-probabilistic sample of Brazilian hotel services consumers. During the period data was collected, approximately two months, a total of 305 participants accessed the survey's webpage and filled in the study's questionnaire individually. For that purpose, the snowball sampling technique was employed, which means that participants' social networks were the main sources for recruiting new participants to the study.

The data-collection tool, administered to the participants, was composed of nine questions, of which five were intended to assess consumers' opinions regarding risk perception related issues and purchase habits. Accordingly, three scales were basically used at this point. However, to achieve the goals of this study, data arising from only two of them was taken into consideration. The choice of these scales was based on their suitability to the general purpose of the investigation, and their reliability.

The first scale, four-item likert type, proposed by Cox and Cox (2001), assessed the extent to which the respondents considered that the choice of a hotel service online would (a) definitely be risky, (b) lead to bad results, (c) have uncertain consequences or, yet, (d) make them feel anxious. On the other hand, the second one, also a four-item likert type, proposed by Forsythe and Shi (2003), was intended to analyze the factors that might prevent these consumers from acquiring hotel services online (e.g.

difficulty to judge the quality of the service). Finally, the four remaining ones dealt with participants' social-demographic information.

Once an acceptable sample size was achieved, data started to be analyzed by using the Preference Ranking Organization Method for Enrichment Evaluation – PROMETHEE (Brans & Mareschal, 2002). Such a method, largely adopted to support the evaluation of the decision-making process, was employed in this study to create a certain structure that could help understand the problems faced by consumers in terms of hotel services choice virtually.

The decision to adopt this method and, consequently, its techniques was made due to its accuracy to analyze the variables surrounding the problem of decision-making process. Thus, instead of using traditional statistics methods, there was a chance to apply this type of model, once such a supportive multicriteria method to decision tends to help clarify the evaluation of the alternatives investigated. It is also noteworthy that, in most cases, these alternatives appear to be conflicting. Therefore, the adoption of the PROMETHEE method was considered more appropriate, in terms of selecting and over-classifying the variables that could affect the most the consumer's decision-making process. All of this based on the decision-maker's own profile and propensity to assume risks.

The aforementioned method led to conclusions regarding the nature of the problem investigated herein. According to Clemen and Reilly (2001) and Figueira et al. (2005), the core purpose of PROMETHEE is to identify some relevant objectives and criteria for the problem being analyzed. Accordingly, alternative ways of action were proposed, providing scholars and practitioners with the proper strategies to be adopted by firms in order to solve consumer's decision-making problems. Roy (2005) points to the increase in the level of choice consistency as a direct consequence of structuring the decision-making process.

According to Roy (1994), multicriteria methods, such as PROMETHEE, in general adopt different perspectives of analysis. For instance, the *unique criterion synthesis approach* can be used in order to evaluate a set of decision-making criteria that, when aggregated because of their value index, reveals the utility of each of these alternatives. In other words, the alternative to present higher value index is considered most useful for the decision-maker.

On the other hand, an *interactive judgment approach* can also be adopted whenever the purpose of the study is to seek an alternative that will prove to be superior to others in all criteria established. Thus, such a 'dominant alternative' is first revealed through the aggregation of decision-makers' preferences. Consequently, some interactive and successive mathematics are employed in order to disclose that outstanding one. Finally, the most effective alternative, in terms of decision-making problem solving, is defined.

Another possibility is to use the *over-classification approach*, whose purpose is to define the best alternative to solve the decision-making problem by directly comparing the alternatives available. In this case, the objective is to reveal that one that appears to be superior to others through their direct confrontation. Thus, it is possible to determine the most effective solution for the decision-making problem by establishing a sort of hierarchical-relation matrix between each of the alternatives.

Therefore, the perspective adopted in this research was the over-classification one. Belton and Stewart (2002) argue that the great feature of this approach lies in its potential of establishing a certain level of relationships among preferences and alternatives in terms of decision-making problem solving. Thus, based on a set of criteria previously defined, the consumers' choice could be assessed in a more reliable way, decreasing the levels of error likelihood.

Furthermore, in order to shed light on those possible relations, the multicriteria PROMETHEE II was employed which, according to Almeida (2013), could be considered an effective option for generating a complete pre-order of the examined alternatives by using the preference (P) and indifference (I) threshold.

Accordingly, the over-classification method – PROMETHEE II was used to analyze consumer's decision-making process in terms of online hotel services purchase. Gomes and Gomes (2012) claim that this sort of analysis shall be carried out in two distinctive phases. Therefore, initially participants' preference over-classification matrix had to be set up. Once this first task was accomplished, next step was the analysis of the alternatives that had not been over-classified. Finally, a complete ranking matrix regarding the choice of hotel services online was proposed, according to the decision-makers' own preferences (Vincke, 1992).

Almeida (2013) reinforces that PROMETHEE II must be based on the analysis of the net flow  $\Phi(a)$ , which, in this study, was obtained through the following equation:

$$\Phi(a) = \Phi^+(a) - \Phi^-(a) \quad (3.1)$$

Where:

$$\Phi^+(a) = \sum_{b \in A} [\varpi(a, b)] \quad (3.2)$$

$$\Phi^-(a) = \sum_{b \in A} [\varpi(b, a)] \quad (3.3)$$

In which:

$$\varpi(a, b) = \sum_{i=1}^n [p_i F_i(a, b)] \quad (3.4)$$

Where:

$$\sum_{i=1}^n p_i = 1 \quad (3.5)$$

$F_i(a, b)$  = the function of difference  $[g_i(a) - g_i(b)]$  among every single alternative in relation to every criterion  $i$ .

The outputs obtained through the over-classification matrix, shown in the Table 4, depict the intensity of a certain preference alternative 'a' over other alternatives 'b'. In that sense, the higher the alternative is rated, the more appropriate it appears to be in portraying consumer's preferences when it comes to the decision-making process. Thus, in this study the alternatives were ranked in a decreasing order on the basis of the following relations:

Preference:  $aPb$  if  $\Phi(a) > \Phi(b)$

Indifference:  $aIb$  if  $\Phi(a) = \Phi(b)$

Furthermore, in order to assure the reliability of the results of this study, the SMART (Simple Multi-Attribute Rating Technique) method was also employed, specifically the SMATER (centroid approach), which consisted of:

Analysis	Tasks
Step 1	Identifying the problem to be analyzed, as well as the decision-makers, also considered herein as part of the problem.
Step 2	Formulating the structure of the attributes, in which the objectives could be placed hierarchically, according to the problem/decision-maker. So that it could be possible, the most relevant attributes for the problem analyzed had to be previously defined.
Step 3	Defining the alternatives to be analyzed regarding the decision-making process.
Step 4	Setting up decision-making criteria, which consisted of obtaining the outcomes of each alternative, in relation to each criterion analyzed, and based on a consequence matrix for each them.
Step 5	Excluding less important alternatives (on the opinion of consumers), without reducing the matrix representativeness significantly. A satisfactory amount of alternatives would be expected to assure the process of getting constants from the scales administered, without adding value to less important criteria.
Step 6	Evaluating intra-criterion through the identification of each decision-making criteria value. For that, criteria had to be converted into the same scale patterns. Once a linear function was established, the best and worse consequence matrix could be depicted in a scale ranging from 0 to 1.
Step 7	Processing a swing technique to rank criteria. Consequently, criteria were ranked based on the evaluation of their effectiveness, according to decision-maker's preferences.
Step 8	Once the swing process was done, scale constants came up and the information were converted into weights. At this point, extra analyses were no longer needed.

The last phase of the aforementioned process (step 8) was carried out by using the ROC (ranking ordered centroid) method, whose results were obtained by considering an equation of ‘n’ criteria, in which  $w_1 > w_2 > \dots > w_i > \dots > w_n$ .

Where:

$$\begin{aligned} w_1 &= (1+1/2+1/3+\dots+1/n) / n \\ w_2 &= (0+1/2+1/3+\dots+1/n) / n \\ w_3 &= (0+0+1/3+\dots+1/n) / n \\ w_n &= (0+0+0+\dots+1/n) / n \end{aligned}$$

That is,

$$w_i = 1/n \sum_{j=i}^n \left( \frac{1}{j} \right) \quad (3.6)$$

Thus, the weights assigned to each of these criteria were obtained by applying the SMARTER method, which consisted in ranking the criteria according to the importance demonstrated by the decision-makers, herein represented by the consumers surveyed, whose relative significance was considered based on the Rank Order Centroid – ROC (Gomes & Gomes, 2012).

The methodology adopted in this study led to the proposition of different consumer’s profiles. These, in turn, came from the respondents’ answers with regard to their perception of risks in the acquisition of hotel services on the virtual environment. Hence, the over-classification tool used herein gave rise to a matrix of decision-making process by seeking certain relations between the alternatives (profiles) and criteria (potential risks) investigated in this study.

#### 4. Results

This study was carried out on a sample of Brazilian hotel services consumers, who usually adopt the internet as a means of purchase. In total, 305 participants were surveyed online during a two month period (February/March 2015). From these, 54% were women whilst 46% were men. Respondents were questioned about some specific reasons that should contribute to increase (or not) their perception of risks when purchasing hotel services over the internet.

In order to operationalize the analysis, the original sample was first divided into four groups of risk which, later on, would end up representing different consumer profiles, as shown in Table 1. These profiles were obtained by evaluating the importance given by the consumers surveyed to each of the forthcoming statements. These, in turn, were all related to the purchase of hotel services online.

**Table 1: Group of risks perceived in the purchase of hotel services online.**

Risk	Description
GR1	Getting hotel services online is risky.
GR2	Getting hotel services online can lead to bad results.
GR3	Getting hotel services online has uncertain consequences.
GR4	Getting hotel services online makes me feel anxious.

Source: Adapted from Cox and Cox, 2001.

According to participants’ responses, at least one of the aforementioned variables could clearly express their hesitation to acquire a hotel service virtually. Based on that assumption, data analysis led to the proposition of four distinctive consumer profiles, as follows – **GR1**: the frightened, who admits that the choice of a hotel service in the virtual environment is totally risky, **GR2**: the insecure, who believes that the choice of a hotel service online can lead to bad outcomes, **GR3**: the distressed, who does not demonstrate confidence to cope with uncertainties embedded in the choice of a hotel service over the



internet, and GR4: the anxious, whose stress and anxiety levels tend to be increased as a result of the decision-making process engagement.

Once these profiles were defined, the next step was to compare them with the main reasons, pointed by Forsythe and Shi (2003), for consumers not engaging on (or avoiding) such a purchase behavior online. Therefore, the forthcoming table (Table 2) shows the set of criteria analyzed, which, in turn, is probably related to the motives for these consumers to be framed in one of the profiles previously mentioned.

**Table 2: Potential risks that might prevent internet users from shopping online.**

Criterion	Description
CR1	For not trusting that my credit card number will be secure.
CR2	For being difficult to judge the quality of the service.
CR3	For not trusting that my personal information will be kept private.
CR4	Because it is faster/easier to purchase locally.

Source: Adapted from Forsythe and Shi, 2003.

Based on the responses given by the participants to the potential risks that might prevent them from shopping online, groups were divided according to the relevance observed in each criterion. Consequently, by using the SMARTER method, a matrix of importance was revealed. As Table 3 shows, consumers were classified in accordance with the level of importance attributed to the criteria previously discussed. For that purpose, the Rank Order Centroid – ROC was employed.

**Table 3: Weights attributed to the criteria analyzed.**

Criterion	Weights
CR2	0,5208
CR1	0,2708
CR3	0,1458
CR4	0,0625

Source: Data collection, 2015.

After obtaining these weights, participants' responses were normalized before the over-classification PROMETHEE II could be run. Table 4 shows the results of the normalized mean scores. As noted, these scores represent the weighted means for each criteria analyzed by the consumers.

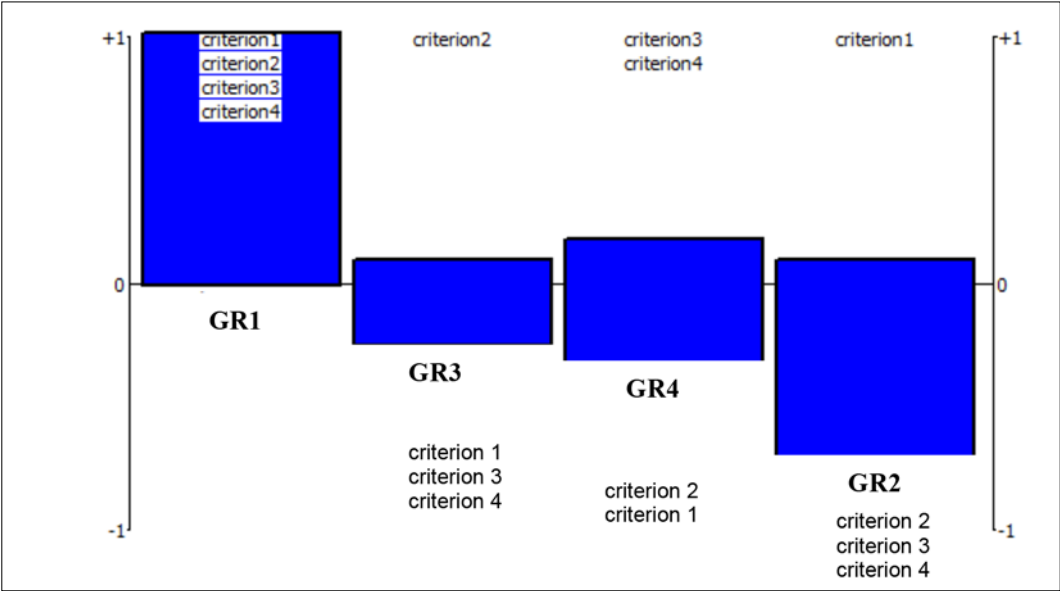
**Table 4: Participant's responses means after normalization.**

	CR1	CR2	CR3	CR4
GR1	0,9028	1,9431	0,4562	0,1522
GR2	0,8640	1,7386	0,4283	0,1373
GR3	0,8450	1,8625	0,4363	0,1420
GR4	0,8390	1,8523	0,4408	0,1457

Source: Data collection, 2015.

Furthermore, the most relevant criteria in terms of decision-making, according to respondents' opinion, were obtained by the adoption of the PROMETHEE Rainbow analysis. As observed in the Figure 1, for each consumer profile proposed in this study, some specific criteria demonstrated to influence in a stronger way the decision-making process, when it comes to the purchase of hotel services virtually.

**Figure 1: Analysis of the most important criteria for hotel services acquisition over the internet.**



Source: Data collection, 2015.

As a consequence, the PROMETHEE Rainbow analysis resulted in the following definitions. Table 5 shows the most relevant criteria which, in turn, are related to specific profile of consumers who tend to perceive risks while searching for, choosing and deciding a hotel establishment that better fits their personal needs online.

**Table 5: Consumer profiles *versus* relevant criteria in purchasing hotel services virtually.**

Profiles	Most Relevant Criteria
<b>Frightened</b>	For not trusting that my credit card number will be secure.
	For being difficult to judge the quality of the service.
	For not trusting that my personal information will be kept private.
	Because it is faster/easier to purchase locally.
<b>Insecure</b>	For not trusting that my credit card number will be secure.
<b>Distressed</b>	For being difficult to judge the quality of the service.
<b>Anxious</b>	For not trusting that my personal information will be kept private.
	Because it is faster/easier to purchase locally.

Source: Authors' proposal, 2016.

Accordingly, when associating the risks most frequently perceived in online purchases to a hotel choice situation, it becomes clear that consumers' profile leads to specific factors which, in turn, might explain their decision-making process. As observed, the results indicate that, according to each of the aforementioned profiles, participants demonstrated to be directly affected by their perception of risks in different ways. For instance, the '**anxious**' showed a greater concern for the *Psychological* and *Time/Convenience Risks*.

On the other hand, while the 'distressed' manifested a higher concern with regard to the *Product Performance Risk*, the 'insecure' seemed to consider the *Financial Risk* a more relevant factor instead. Finally, it was found that the 'frightened' was the only profile of consumer who, apparently, demonstrated to be greatly affected by all the four previous dimensions, namely: *Product Performance Risk*, *Psychological Risk*, *Financial Risk* and *Time/Convenience Risk*.

## 5. Conclusions

The aforementioned results contribute to the improvement of the knowledge about the perception of risks in the purchase of hotel services online. They certainly provide the essential insights that lead to the proposal of an innovative framework, such as the one presented herein, which allows the readers to understand clearly the relationships between risk perception and the acquisition of the sort of services addressed in this paper. All of this discussed in light of the virtual environment. Therefore, this study complements the work of several outstanding scholars, such as Bauer (1960), one of the pioneers in the study of the subject, and his followers, in terms of providing new insights about the risk construct.

The model, proposed in this paper, was tested based on the perspective of marketing and consumer behavior theories. Its core feature is the demonstration of the existing association between consumers, grouped according to their consumption profiles, and the perception of risks related to the purchase of hotel services via the internet. This sort of knowledge is of great relevance, especially considering the advances and dissemination of technology in the last three decades, which, certainly, contributed to the growth of the e-commerce in the services sector.

According to the literature, the acquisition of hotel services is surrounded by risks due to the complexity that characterizes the nature of the product. That is, the essence of the lodging sector is strongly related to the sales of 'the experience of being' in a hotel. Therefore, it demands completely different marketing approaches. Currently, it is necessary not only to create perceptions of tangible aspects of the services, but also to provide solid evidences of the intangible experience that the seller intends to offer to their customers. Such an assumption applies both to the offline and to the online environments.

Compared to physical products, services are more difficult to be interpreted and analyzed by the potential consumers prior to the purchase. However, that aspect seems to be greatly increased when it comes to the e-commerce reality. In this case, the services provider faces the pressure to create specific perceptions so that the consumers feel capable to experience the outcomes of the service in advance. Not rare, firms tend to adopt strategies that elicit positive feelings into their potential consumers, thus, also attempting to reduce their perception of risks.

Given this context, the identification of distinct consumer profiles for the lodging sector, and their consequent association with the main dimensions of risk proposed by Forsythe and Shi (2003), seems to be appropriate. By comparing the reasons that would prevent consumers from acquiring hotel services virtually to these dimensions, it was evident that those motives should not be taken for granted. Rather, this paper demonstrated that they could also turn into some purchase criteria, hence, contributing to the emergence of more accurate marketing strategies in the sector.

Despite having started to be addressed back in the sixties, indeed perceived risk is a topic that still needs further comprehension, once the internet brought the field of consumer behavior to a new era. Thus, this study will certainly enable researchers to step forward toward a new body of knowledge. At the same time, the forthcoming section presents some of the possible implications of this research for the tourism industry, highlighting certain aspects that managers and practitioners of the hotel sector should take into consideration.

## 6. Managerial implications

For those companies that operate within the e-commerce, it is extremely necessary to acknowledge that, even for individuals who usually buy products through the internet, this is a means still perceived as highly risky. Accordingly, it is of great importance that they provide customers with a set of risk reduction strategies so that these consumers may feel more confident when purchasing online. In addition, it is also recommended that the firms attempt to get familiar with the consumers' own

strategies. Thus, it becomes essential to recognize each distinctive customer's profile in order to obtain competitive advantage.

The specific nature of the purchases generally made over the internet, as well as individuals' characteristics, calls for the emergence of new strategies to reduce the perception of risks in the virtual environment. These, in turn, appear to be far beyond the traditional ones described in the literature. Furthermore, it is important to note which specific types of risk are associated with the e-commerce itself, since the traditional ones have usually been related to the product, neglecting the role of the purchase means as a relevant factor in this process.

Therefore, this study offers a set of insights that might help identify consumer's profiles, relating them to the risks often perceived in the acquisition of hotel services via the internet. The access to this knowledge shall lead companies to the development of specific risk relievers that meet the needs for this type of operation. Thus, guaranteeing greater safety and reliability to the consumers and, consequently, improving the e-commerce within the hotel industry. Having presented the managerial implications of this study, the following section will address its main limitations.

## 7. Study limitations

Despite the innovativeness of the theoretical scheme proposed herein, which emerged from the outcomes of the empirical study and the implications of its findings, it is important to recognize some of the core limitations of this research, as follows:

- Regarding the descriptive phase of the research, it is assumed that the studied sample is insufficient for the generalization of the findings, since it is a non-probabilistic sample, hence the results should be interpreted with caution. However, those results must not be neglected, as they provide a starting point for further discussions, by delineating new perspectives to the literature, providing insights, and serving as a source of hypotheses for future researches. Accordingly, it is expected that, through the adoption of different methodologies and random samples, the results obtained may become generalizable, thus bringing a larger contribution to this field of study.
- The use of the internet as a means to collect data, as addressed in the study methodology section, has been largely a subject of much academic discussion. The central question when it comes to this topic is whether the same methods, when administered through the internet, would produce similar results as if applied to the offline environment.
- The purpose of this study was to analyze the association between the dimensions of risk, perceived in the purchase of hotel services virtually, and certain profiles of consumer. However, it might be acknowledged that some other factors may also influence this relationship, which, in turn, might not have been addressed in this investigation (e.g. cultural aspects). Since these factors were beyond the scope of the study, they were not considered.
- Finally, this research aimed to analyze a limited number of variables, having a narrow and well-defined focus – the identification of the association among them. Therefore, there was no intention to establish any relation of causality. Once pointed out those main limitations, the forthcoming section presents a few insights in the attempt to guide future studies related to this subject.

## 8. Suggestions for future research

Notwithstanding the contributions of this study, there is a wide range of possibilities that might broaden the topic. Thus, a few suggestions for future researches are proposed hereafter:

- The replication of this study, given the importance of testing the model by other researchers in order to evaluate whether similar results would come out from other samples and/or populations.
- Developing other studies, with different methodological approaches, which might lead to generalizable results if a probabilistic sample is employed.
- The conduction of cross-cultural studies, in order to assess the opinion of consumers from different countries, with regard to their perception of risks toward the purchase of hotel services over the internet.

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*Recibido:* 19/11/2015

*Reenviado:* 23/03/2016

*Aceptado:* 04/04/2016

*Sometido a evaluación por pares anónimos*