

UNDERSTANDING TOURIST RECOMMENDATION THROUGH DESTINATION IMAGE: A CHAID ANALYSIS

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Submitted: 30.07.2011 Accepted: 28.09.2011

ABSTRACT

In spite of the efforts of marketers and managers to boost a favourable destination image, with a focus on encouraging tourists' revisit, other factors contribute to tourists' decision-making processes with regard to revisiting destinations. Moreover, recommendation from family and friends are considered to be the most credible source of information in the process of choosing a holiday destination, becoming relevant that studies on destination loyalty focus on this variable. Therefore, this research aims to identify the attributes which contribute to tourists' willingness to recommend a destination. The first stage of this study involved identifying the attributes to measure the image of Lagos in the Algarve region, an important Portuguese destination, through open-ended questions. In the second phase, the application of the Chi-Square Automatic Interaction Detector (CHAID) to survey responses from a sample of 379 tourists allowed to identify the features that explain the intention to recommend the destination. The results show that culture is the attribute with the strongest power to explain recommendation, highlighting the need for sun and sand tourism destinations to diversify their offer. Of the seven terminal nodes produced by CHAID, two segments with opposite trends were found, for which profiles were drawn.

KEYWORDS

CHAID Analysis, Destination Image, Recommendation, Tourists, Portugal.

RESUMO

Apesar de os decisores reunirem esforços na gestão de uma imagem favorável ao destino, outros fatores concorrem na decisão dos turistas em revisitar o destino. A recomendação por parte de amigos e familiares, considerada a fonte de informação mais credível no processo de decisão de escolha do local de férias, deverá ser outra componente da fidelização a abordar. Este estudo visa perceber quais os atributos que explicam a intenção de recomendação do destino.

Numa primeira fase, identificaram-se os atributos adequados para medir a imagem de Lagos (Algarve), enquanto importante destino de Portugal, através de questões abertas.

Numa segunda fase, a aplicação da técnica de dependência *Chi-Square Automatic Interaction Detector* (CHAID) a uma amostra de 379 turistas inquiridos permitiu identificar as variáveis que explicam a intenção de recomendação. Os resultados focam a importância da cultura, enfatizando a necessidade de diversificação da oferta dos destinos focada no sol e praia. Dos sete segmentos identificados pela análise CHAID, definiu-se o perfil dos turistas dos dois segmentos que correspondem a tendências opostas.

PALAVRAS-CHAVE

Metodologia CHAID, Imagem do Destino, Recomendação, Turistas, Portugal.



1. INTRODUCTION

Since the 1970s, destination image has been widely studied in view of its practical implications for marketing management, and branding (Stepchenkova and Mills, 2010). In this context, destination image has been identified as influencing destination loyalty, as well as tourist behaviour before, during and after a visit (Beerli and Martín, 2004; Bigné, Sánchez and Sánchez, 2001; Bosque, Martín, Collado and Salmones, 2009; Galí and Donaire, 2005; Hunt, 1975). In addition, destination loyalty has been studied through analyses of intention to revisit and, more recently, also through recommendation intentions (Bosque and Martín, 2008a; Chen and Gursoy, 2001; Dann, 1996; Gartner, 1993; Konecnik and Gartner, 2007; Pike and Ryan, 2004; Stepchenkova and Mills, 2010). Nevertheless, although the decision-makers are attempting to develop a favourable global image of their destinations, focusing on revisits, there are other factors to take into account with regard to tourists' decision to return to a destination, which can lead to a different choice of holiday location (Bigné et al., 2009; Konecnik and Gartner, 2007; Stepchenkova and Mills, 2010; Zauberman, Ratner and Kim, 2009). Thus, several authors have referred to 'willingness to recommend the destination' as a better indicator with which to assess destination loyalty (Chen, 2003; Chen and Gursoy, 2001). Indeed, regardless of whether or not they revisit a destination themselves, tourists can recommend the destination to their family and friends. Furthermore, the literature points to this variable as the most credible informative agent in the process of choosing a holiday destination. In this sense, research should focus on the features of a destination which explain recommendation behaviour (Bigné et al., 2009; Chen, 2003; Chen and Gursoy, 2001; Pike and Ryan, 2004; Simpson and Siguaw, 2008; Vassiliadis, 2008). Thereby, this research aims to identify, from a tourism perspective, the contribution of the image of the municipality of Lagos in the Algarve region, the Portuguese tourism destination with the largest number of overnights stays, to how likely tourists are to recommend it to relatives and friends. In accordance with the stated objective, this study proposes three research questions:

- 1. How is the global image of a destination related to destination loyalty?
- 2. Which image attributes explain tourists' decision to recommend a destination to their family and friends?
- 3. Are there sociodemographic differences between different groups of tourists, with regard to their willingness to recommend a destination to their family and friends?

2. LITERATURE REVIEW

Gunn (1972), Mayo (1973) and Hunt (1975) were the first researchers to study and reveal the importance of the concept of destination image. Nowadays, there is a widespread consensus regarding the importance of the role of destination image in tourist behaviour (Bigné et al., 2001; Beerli and Martín, 2004; Bosque and Martín, 2008a; Bosque et al., 2009; Hunt, 1975; Tasci and Gartner, 2007). Indeed, destination image plays an important role in tourist behaviour during the various moments which make up a tourist's experience: in the decision-making process of choosing a destination (a priori image); in the process of comparing expectations with experience, preceding the state of satisfaction and perceived quality (image in loco); and in the process of revisiting and recommending the destination to friends and family (a posteriori image) (Galí and Donaire, 2005). Thus, a tourist begins to formulate a destination image before the decision to visit the destination is made, but this image can change during their visit, as well as after their return. There is no consensus regarding a specific definition of destination image, as it is studied by researchers from various disciplines (Jenkins, 1999). However, more recent investigations show that the study of the construct should include three components: cognitive, affective and behavioural/conative. The cognitive component relates to the individual's beliefs and knowledge about the attributes of the destination; the affective component refers to the feelings that the individual associates with the destination (Baloglu and McCleary, 1999; Beerli and Martín, 2004; Bosque and Martín, 2008b); and the behavioural/conative component is related to the individual's actual conduct or intention to revisit and to recommend the destination to their friends and family (Bosque and Martín, 2008a; Bosque et



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al., 2009; Dann, 1996; Gartner, 1993; Konecnik and Gartner, 2007; Pike and Ryan, 2004; Stepchenkova and Mills, 2010). In this context, these dimensions contribute to the formation of a global destination image that several researchers consider to be greater than the sum of its parts (Baloglu and McCleary, 1999; Echtner and Ritchie, 1993).

According to Echtner and Ritchie (1993), destination image can be measured through a functional-psychological continuum, encompassing individual and holistic impressions. Thus, on the side of attributes, different perceptions of the individual characteristics of the destination are presented, from the most functional (e.g. prices, transportation, lodging, climate) to the most psychological (e.g. hospitality, safety, reputation). In a holistic context, a functional perception is considered a mental picture of the physical characteristics of the destination, while psychological impressions can be described as the atmosphere of the destination. The model proposed by these authors also allows the identification and differentiation of common functional and psychological attributes from distinctive or unique features (e.g. unique events). In this regard, despite the fact that several authors have suggested that Echtner and Ritchie's approach (1993) includes only the cognitive dimension and not the affective dimension of destination image (Bigné, Sánchez and Sanz, 2009), other researchers assume that the model encompasses both components (Stepchenkova and Morrison, 2008; Stepchenkova and Mills, 2010). Thereby, with regard to functional and psychological attributes, destination image can be measured using the open-ended questions proposed by Echtner and Ritchie (1993).

2.1. THE RELATIONSHIP BETWEEN DESTINATION IMAGE AND DESTINATION LOYALTY

Gartner (1993) links the conative image of a destination with behaviour. Indeed, destination image studies state that this dimension is dependent on the cognitive and affective dimensions, as it is related to the decisions to visit and recommend a destination (Gartner, 1993; Konecnik and Gartner, 2007; Stepchenkova and Mills, 2010). Furthermore, studies on tourist behaviour have related this component of the image to loyalty (Bigné et al.,

2009; Bigné et al., 2001; Bosque and Martín, 2008a; Chen and Gursoy, 2001; Chi and Qu, 2008; Lee, Graefe and Burns, 2007), that can be measured through 'actual conduct' or 'behavioural intentions'. 'Actual conduct' refers to effective repeat visits and recommendations. "Behavioural effective intentions" relate to the willingness to revisit and the willingness to recommend (Baker and Crompton, 2000). Indeed, it is possible to study behaviour through the analysis of intentions, if action, purpose, context and time are identified in a similar way to that which is expected to be the individual's effective behaviour (Belk, 1975; Pike and Ryan, 2004).

Due to the fact that several studies have found a direct relationship between destination image and destination loyalty (Bigné et al., 2001; Bosque and Martín, 2008a), as well as an indirect relationship between them (Chi and Qu, 2008), it seems that it is important to study the variables of revisits and recommendations separately. In fact, in addition to destination image, other factors influence tourists' choice of whether or not to revisit, such as: their motivations and interests; cultural background; emotional state; self-image (Konecnik and Gartner, 2007; Stepchenkova and Mills, 2010); and the search for novelty and variety (Bigné et al., 2009; Chen and Gursoy, 2001).

Moreover, Zauberman et al. (2009) have shown that, after a very intense tourist experience, individuals tend not to want to repeat it, aiming instead to preserve the memory, unless all of the original elements remain the same. In addition, recommendation from relatives and friends constitute the most credible informative agent in the process of choosing a holiday destination, and as a result, special attention should be paid to this particular variable. Therefore, it is relevant to study the destination features that lead to this behaviour in the future (Bigné et al., 2009; Chen, 2003; Chen and Gursoy, 2001; Pike and Ryan, 2004; Simpson and Siguaw, 2008; Vassiliadis, 2008). Similarly, an analysis tourists' sociodemographic of characteristics, differentiating between those who intend to recommend the destination and those who do not, may prove useful when orientating branding and communication strategies towards specific segments (Simpson and Siguaw, 2008).



3. METHODOLOGY

This research follows the advice of the literature which suggests the use of two complementary methodologies to measure destination image: unstructured (qualitative) and structured (quantitative) methods (Baloglu and McCleary, 1999; Echtner and Ritchie, 1993; Gallarza, Saura and García, 2002; Jenkins, 1999).

3.1. SETTING

Lagos is one of the 16 municipalities in the Algarve region (Southern Portugal), and because of its coastal location, it offers mainly sun and beach tourism. In fact, the Bay of Lagos, which is over four kilometers long, is one of the largest bays in Europe. In order to cope with its dependence on sun and beach tourism and its related destination image, the strategic plan of the municipality of Lagos proposes the area's historical connection to the 'Age of Discovery' and the sea as a strategic opportunity to differentiate the destination.

3.2. INSTRUMENTS AND DATA

In the first phase of this study, in order to capture the main attributes which could be used to measure the image of Lagos, in mid-July 2009, 50 tourists were surveyed in its downtown area. The first two questions of this questionnaire were adapted from Echtner and Ritchie's study (1993), as follows: (1) What images or characteristics come to mind when you think of Lagos as a holiday destination?, and (2) How would you describe the atmosphere or mood that you would expect to experience while visiting Lagos? In the second phase, the results of the first phase were used to develop a questionnaire which was subjected to a pre-test. After this procedure, this questionnaire was distributed among 379 tourists, in August 2009, in the municipality of Lagos. The cluster sampling method was used. This is a random procedure in which all individuals within a particular area or location are considered as a cluster (Hill and Hill, 2008).

The questionnaire consisted of three groups of questions. Group 1 involved the 20 attributes yielded in the first stage of this study. In order to measure their level of agreement with these attributes, individuals were asked to respond to each item using a five-point Likert agreement scale ranging from 1 (strongly disagree) to 5 (strongly agree) (Baloglu and McCleary, 1999; Bigné et al., 2009). In order to measure global image, the respondents were asked to rate Lagos using a five-point scale anchored at 1 (strongly negative) and 5 (strongly positive) (Baloglu and McCleary, 1999; Bigné et al., 2009). Group 2 embodied two questions which were related to the behavioural component: (1) Would you return to Lagos as a tourist in the next 12 months?, and 2) Would you recommend Lagos as a tourist destination to your family and friends? The respondents were asked to respond using a fivepoint Likert scale, ranging from 1 (definitively not) to 5 (definitively yes) (Baker and Crompton 2000; Bigné et al., 2009; Bosque and Martín, 2008a; Opperman, 2000; Pike and Ryan, 2004). Group 4 referred sociodemographic to information.

The sample included 182 males (8.8% between 18 and 24 years old, 79.1% 25 and 64, and 12.1% 65 or older), and 197 females (10.7% between 18 and 24, 75.1% 25 and 64, and 14.2% 65 or older), making a total of 379 respondents. In terms of country of origin, 67.0% were foreign tourists and 33.0% were Portuguese tourists. In this sample, 51% of the participants had a university degree, 40% had completed secondary education, 7% had completed their primary education, and the other respondents had no level of education.

3.3. DATA ANALYSIS METHODS

The *Chi-square Automatic Interaction Detector* (CHAID) dependency technique was used in order to find the attributes of Lagos (predictor variables) which can be used to explain why tourists choose to recommend this destination to family and friends (dependent variable).

CHAID is especially suitable for use with categorical variables, and produces segments that are mutually exclusive and exhaustive by performing chi-square tests with Bonferroni adjustment. Thus, the CHAID algorithm aims to find a classification of population groups which is able to describe the dependent variable as well as possible (Kass, 1980).

This technique results in the creation of a tree diagram in which the root node includes the

whole sample and each node represents a segment of the sample. During this procedure, the associations between a dependent variable and a set of independent variables are first This examined. criterion-based technique possesses several advantages in comparison with non-criteria methods, such as cluster analysis, which consider all of the variables interdependently (Chen, 2003).

The chi-square test helped to define the profile of the segments which in the CHAID analysis showed opposite trends. All of the analyses were implemented using SPSS 17.0 (Statistical Package for the Social Sciences) software.

4. MAIN RESULTS

The first section of the questionnaire (applied in the second phase of the study) included the attributes which were mentioned by 20% or more of the tourists surveyed in the first phase, as well as the attributes which were most commonly quoted in the literature, using the collection put together by Gallarza et al. (2002). Table 1 presents the final 20 attributes, with a Cronbach's alpha of 0.837, indicating that the measure is reliable. The respondents declared the highest level of agreement with the attributes "pleasant weather" (93.9%) and "good beaches" (92.8%). The items "good shopping opportunities" (52%) and "good sports facilities" (36.9%) received the lowest percentage of agreement.

Attributes	Agree + Strongly Agree	Median
Pleasant weather	93.9%	5
Good beaches	92.8%	5
Good restaurants	92.1%	4
Good gastronomy	89.9%	4
Good accommodation	89.2%	4
Friendly and receptive residents	88.1%	4
Pleasant marina	87.3%	4
Safe city	84.6%	4
Attractive natural landscape	83.6%	4
Good access	83.3%	4
Quiet city	78.6%	4
Attractive historical center	75.7%	4
Calm sea	73.3%	4
Good value for money	70.0%	4
Interesting cultural heritage	68.6%	4
Good bus system	58.0%	4
Good nightlife	55.5%	4
Interesting cultural events	53.6%	4
Good shopping opportunities	52.0%	4
Good sports facilities	36.9%	3
Overall average percentage	75.4%	-

Table 1: Tourists' agreement with the attributes of Lagos

Source: Own

4.1. RELATIONSHIP BETWEEN GLOBAL IMAGE AND THE BEHAVIOURAL COMPONENT

With regard to the global image of Lagos as a destination, it is important to note that the frequencies are higher in the response categories of "positive" (63.3%) and "strongly positive" (27%). As for the behavioural component, of the total number of tourists interviewed (n = 379), 35.1% declared their strong intention to revisit the

destination within 12 months, while 60.7% were certain that they would recommend the destination to their relatives and friends. Aiming to understand the relationship between the global image of Lagos as a destination and the behavioural component, several ordinal variables were crossed using the chisquare test, discerning whether or not they were independent. In order to follow the standard procedures for this test, it was necessary to group together some response categories of the five-point



Likert scales applied in the questionnaires, as some of the response categories held only low When frequencies. crossing the variables "willingness to recommend the destination to family and friends" and "global image", the chi-square test revealed a significant dependent relationship (chisquare = 18.080; *p-value* = 0.000). With regard to the variables "willingness to revisit the destination" and "global image", the chi-square test revealed a nonsignificant relationship between them (chi-square = 2.193; *p-value* = 0.139). Therefore, with regard to research question 1, there is no significant relationship between the "willingness to revisit the destination" and "global image", although there is a significant relationship between "willingness to recommend the destination to family and friends" and "global image". In this sense, and according to previous studies, it is relevant to analyse which attributes contribute to tourists' decisions to recommend a destination (Vassiliadis, 2008; Chen, 2003; Chen and Gursoy, 2001), taking into account the fact that other factors, in addition to a destination's positive image, influence the decision to revisit (Bigné et al., 2009; Konecnik and Gartner, 2007; Stepchenkova and Mills, 2010).

4.2. THE CONTRIBUTION OF IMAGE TO RECOMMENDATION

In order to apply the CHAID methodology, it was decided to amalgamate the five original response categories into two categories ("no agreement" and "agreement") for the dependent variable, and into three categories ("no/undecided", "probably yes" and "definitely yes") for the independent variables. This procedure was followed because some categories gather few answers. Criteria were also defined for tree growth: a minimum of 50 cases for parent nodes and 25 cases for child nodes.

It should be noted that of the 379 cases which were considered to be valid for CHAID analysis, 7.1% had no intention to recommend Lagos to their friends and family, or were undecided, while 32.2% said that they would "probably" recommend it and 60.7% were sure that they would do so (Figure 1). The tree presents seven terminal nodes (node 4 and

nodes 7-12), suggesting seven segments of tourists. In response to **research question 2**, five predictors out of the original set of 20 provided a significant explanation of the dependent variable, which led to the tree being divided into three levels: "interesting cultural heritage" (chi-square = 43.450; *p-value* = 0.000); "good value for money" (chi-square = 11.321; *p-value* = 0.001; chi-square = 8.060; *p-value* = 0.005), "interesting cultural events" (chi-square = 9.329; *p-value* = 0.002); "calm sea" (chi-square = 8.217; *p-value* = 0.004) and "good sports facilities" (chi-square = 6.139; *p-value* = 0.013), meaning that the variable "good value for money" was responsible for two partitions (Figure 1).

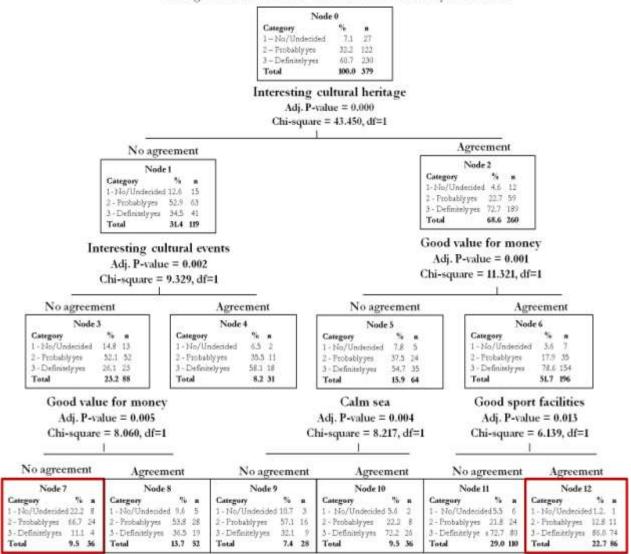
The final tree has an estimated risk of .298, with a standard error of 0.023, which means that the overall percentage of correct classification is 70.2%, being considered to be a good result (Escobar, 1998). As the number of cases was less than 1000, a cross-validation method was applied, which involved dividing the initial data into 10 different sub-samples, validating it, and estimating the errors of incorrect classifications (Pestana and Gageiro, 2009). In this study, the model presents a risk ratio for the overall sample (.298), which is close to the average of the estimated errors for each of the sub-samples (.325), not precluding the application of the model to other samples from the same population.

Analyzing figure 1, the main inference is based upon a comparison of segment II (node 7) and VII (node 12). Segment II includes tourists who have a less favourable image of the destination, with regard to the attributes of "interesting cultural heritage", "interesting cultural events" and "good value for money". This segment includes a smaller percentage of tourists who were certain that they would recommend the destination in the future (11.1%). In turn, the opposite trend occurs in segment VII. This group has a more favourable image of the destination, with regard to the attributes "interesting cultural heritage", "good value for money" and "good sports facilities", and it is also the group with the highest percentage of individuals who were sure that they would recommend the destination to others (86%).



Figure 1 - Tourists' willingness to recommend the destination to family and friends - CHAID Analysis

Willingness to recommend the destination to family and friends



Source: Own

4.3. PROFILE OF THE SEGMENTS

The CHAID analysis results show the importance of the profiles of different segments which present opposite trends with regard to destination image and the participants' willingness to recommend the destination to family and friends. Indeed, the use of the chi-square test with Bonferroni adjustment, as suggested by Keppel (1991), allowed to define the differences between the profiles of segments II and VII, based on age (chi-square = 10.239; *p-value* = 0.001), country of origin (chi-square = 11.868; *p*- value = 0.008) and level of education (chi-square = 5.674; *p-value* = 0.017). Neither sex (chi-square = 1.811; *p-value* = .178) nor marital status (chi-square = .253; *p-value* = .615) represent significant differences between both segments.

This analysis allows the authors to answer **research question 3**, by showing that there are significant differences between the opposite segments which were analysed, based on their sociodemographic characteristics (Table 2).



Table 2: Profile of the segments

Variables	Segment II – node 7	Segment VII – node 12
Age	<= 35 years	>= 36 years
(chi-square = 10.239 ; <i>p-value</i> = 0.001)	(63.9%)	(67.4%)
Country of origin	Portugal	UK (27.9%)
(chi-square = 11.868; <i>p-value</i> = 0.008)	(30.6%)	Portugal (27.9%)
Level of education	University	(up to) Secondary Education
(chi-square = 5.674; <i>p-value</i> 0.017)	(66.7%)	(57%)
Sex*	Male	Female
(chi-square =1.811; <i>p-value</i> =.178)	(52.8%)	(60.5%)
Marital status*	MARRIED	MARRIED
(chi-square =.253; <i>p-value</i> =.615)	(55.6%)	(60.5%)

*Non-significant (*p-value* < 0.045 - Bonferroni adjustment)

Source: Own

5. CONCLUSIONS

In spite of the efforts of marketers and managers to develop a favourable image of destinations, with the aim of encouraging tourists to revisit, there are several other factors that contribute to the process of deciding to revisit a destination, even when it has achieved a positive image. Regardless of whether or not they choose to revisit, tourists can recommend the destination to their friends and family, as recommendation are the most credible informative agent in the process of choosing a holiday destination (Bigné et al., 2009; Chen and Gursoy, 2001; Konecnik and Gartner, 2007; Stepchenkova and Mills, 2010). Therefore, the present research aimed to understand which attributes of a destination image explain the willingness to recommend a destination to relatives and friends.

Indeed, this study has empirically shown that, regardless of whether or not a destination has a positive image, other factors influence the decision to revisit it. The results show that there is no significant dependent relationship between the variables "willingness to revisit the destination" and "global image", thus verifying that there is a dependent relationship between the variables of "willingness to recommend the destination to family and friends" and "global image". This fact is in line with the conclusions of previous research which has noted the importance of understanding which attributes lead tourists to recommend a destination to their friends and family (Chen, 2003; Chen and Gursoy, 2001; Vassiliadis, 2008).

have opposite trends in the CHAID analysis based on age, country of origin and level of education, provide relevant information which could be used to identify and understand different levels of tourist loyalty. Thus, this instrument can help the destination to deliver products and services which are likely to boost tourists' desire to recommend it to their relatives and friends. The results also allow to conclude that, in Lagos, regardless of the higher values which are related to the level of agreement in the association between the destination and the attributes "good beaches" and "pleasant weather", in the CHAID analysis these attributes do not affect the variable "willingness to recommend the

From a marketing perspective, the CHAID

methodology allows researchers to detect the

attributes that significantly explain the dependent

variable "willingness to recommend the destination

to family and friends", providing useful information

to decision-makers in order to help them to develop

strong brands and communication strategies

directed towards specific segments, supported by

tourists' effective perceptions of the destination.

Indeed, the results show that the greater the

concordance in the association between the defined

attributes and the destination, the stronger the

disagreement in the association between the

attributes identified and the destination corresponds

recommendation behaviour. In this context, the

profiles of the two segments, which were found to

uncertainty

recommend it. In contrast, a

regarding

future

intention to

а

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greater



destination to family and friends". Indeed, these results indicate the growing need to diversify the products which a destination (such as Portugal) can supply in order to be competitive, in addition to sun and sand (Aguiló, Alegre and Sard, 2007; Crouch and Ritchie, 1999), by focusing on culture (Chen and Gursoy, 2001; Valle, Guerreiro, Mendes and Albino, 2011; Vassiliadis, 2008).

5.1. STUDY LIMITATIONS AND FURTHER INVESTIGATION

This research focuses on the tourism perspective, with a view to developing effective marketing strategies for holiday destinations. In relation to this aim, there are some limitations associated with this study. First, the analysis was limited to tourists, and did not include other stakeholders involved in the study of destination image, such as residents, investors, traders, hoteliers and restaurateurs, business people and tourisiers (Jafari, 1987), and local powers. The distribution of the questionnaires during the month of August, which is considered to be the high season for tourism in the Algarve, is also a limitation, as this study will provide a predominantly seasonal perspective (Baloglu and McCleary, 1999). Finally, the methodological value of this study is based mainly on its potential as a reference tool to improve the decision-making process with regard to management and marketing strategies for holiday destinations. Therefore, the replication of this study in different destinations and the incorporation of the perspectives of other stakeholders are advised.

ACKNOWLEDGMENTS:

This paper is partially funded by FCT (Foundation for Science and Technology), as the authors are members of the CIEO Research Centre for Spatial and Organizational Dynamics. The authors would like to thank the Municipality of Lagos for its contribution to the research.

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