Int. Journal of Business Science and Applied Management, Volume 1, Issue 1, 2006

Tourist Satisfaction and Destination Loyalty intention: A Structural and Categorical Analysis

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Abstract

This study explores the relationship between travel satisfaction and destination loyalty intention. The research was conducted with 486 tourists visiting Arade, a Portuguese tourist destination. Taking as the basis the use of structural equation modelling (SEM), the results substantiate the importance of tourism satisfaction as a determinant of destination loyalty. Also, a categorical principal components analysis (CATPCA) provides a detailed analysis of this cause-effect relationship by establishing that greater levels of satisfaction (measured by overall satisfaction in terms of holiday experience, destination attributes and met expectations) result in increased likelihood of future repeat visits and a keen willingness to recommend the destination to others. Clusters of tourists were also identified and characterized in relation to satisfaction levels and loyalty intentions. These analyses provide a useful background in the planning of future tourist marketing strategies.

Keywords: tourism, satisfaction, loyalty, SEM, CATPCA, clusters

1 INTRODUCTION

Tourism represents a key industry in the Portuguese economy. In 2004, Portugal received more than 12 million tourists with tourism representing approximately 8% of the GDP. Tourism also plays an important role in the Portuguese employment marketplace since more than 10% the population is employed in tourism-related sectors. Located in the south of Portugal, Algarve belongs to the top 20 travel destinations worldwide with the local economy relying mostly on the tourism-related activities. Despite the exceptionally favourable conditions for tourism (quality beaches, warm climate, hospitable and friendly community and multiculturally-attuned), Algarve has recently experienced some difficulty in maintaining its position as a preferred travel destination. Compared to 2004, the number of tourists entering Algarve decreased by 0.8% with lodging demand decreasing by 4.8% (AHETA, 2005). Although several external factors could be mentioned as passive reasons for this occurrence, the current condition of tourism in Algarve is much the result of emerging new holiday destinations that offer lower prices and, in some cases, higher quality facilities (AHETA, 2005).

Even though the study of consumer loyalty has been pointed out in the marketing literature as one of the major driving forces in the new marketing era (Brodie et al., 1997), the analysis and exploration of this concept is relatively recent in tourism research. Some studies recognise that understanding which factors increase tourist loyalty is valuable information for tourism marketers and managers (Flavian et al., 2001). Many destinations rely strongly on repeat visitation because it is less expensive to retain repeat tourists than to attract new ones (Um et al., 2006). In addition, Baker and Crompton (2000) show that the strong link between consumer loyalty and profitability is a reality in the tourism industry.

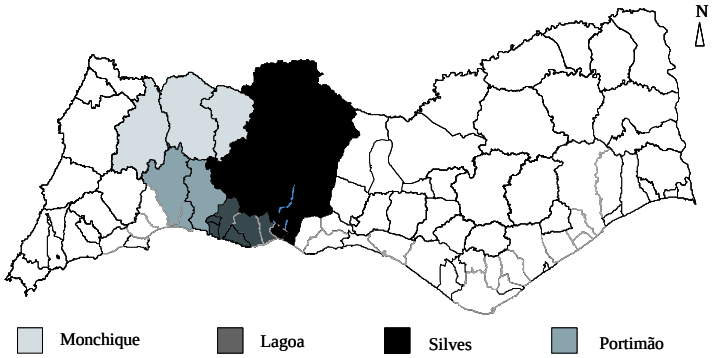
The study of the influential factors of destination loyalty is not new to tourism research. Some studies show that the revisit intention is explained by the number of previous visits (Mazurki, 1989; Court and Lupton, 1997; Petrick et al., 2001). Besides destination familiarity, the overall satisfaction that tourists experience for a particular destination is also regarded as a predictor of the tourist's intention to prefer the same destination again (Oh, 1999; Kozak and Rimmington, 2000; Bowen, 2001; Bigné and Andreu, 2004; Alexandros and Shabbar, 2005; Bigné et al., 2005). Other studies propose more comprehensive frameworks. Bigné et al. (2001) model return intentions to Spanish destinations through destination image, perceived quality and satisfaction as explanatory variables. Yoon and Uysal (2005) use tourist satisfaction as a moderator construct between motivations and tourist loyalty. Recently, Um et al. (2006) propose a model based on revisiting intentions that establishes satisfaction as both a predictor of revisiting intentions and as a moderator variable between this construct and perceived attractiveness, perceived quality of service and perceived value for money.

More complex models have the advantage of allowing a better understanding of tourist behaviour since more variables and their interactions can be taken into account. However, for more effective marketing interventions it is important to assess whether the destination models also consider the tourist's personal characteristics (Woodside and Lysonski, 1989; Um and Crompton, 1990). In fact, despite the use of more comprehensive models, so far, they have left unspecified the main personal characteristics (socio-demographic and motivational) of the more potentially loyal and satisfied tourists. The contribution of this study lies in bridging this research gap. This study integrates the main stream of previous research on destination loyalty intention proposing a causal relationship between this construct and satisfaction. However, besides estimating this causal model, the paper aims to identify how observed variables of the latent constructs are related and, next, find and describe segments of tourists based on these relations.

The study relies on the use of a structural equation model (SEM) procedure, through a categorical principal components analysis (CATPCA) and a cluster analysis. The model is estimated using data from a questionnaire answered by tourists visiting *Arade*, a Portuguese tourism destination, located in Algarve, in the western part of the province, which includes four municipalities Portimão, Lagoa, Monchique and Silves (Figure 1). On the one hand, this type of approach can help destination managers to determine segments of tourists which require special attention in the definition of future tourism intervention strategies. On the other hand, the complementary use of CATPCA and cluster analysis can be applied in further research in order to develop more complex models in which an increased number of latent variables and relations among them are considered.

This study is organised as follows. The next section provides an overview of previous research that has focused on destination loyalty and tourist satisfaction. Section 3 proposes a structural model that establishes the causal relationship between these constructs and defines the set of research hypotheses. Section 4 describes the research methods adopted. The final two sections discuss the results obtained and summarises the more important conclusions and implications of the study.

Figure 1: Algarve, Arade and its municipalities



2 LITERATURE REVIEW

The concept of loyalty has been recognised as one of the more important indicators of corporate success in the marketing literature (La Barbara and Mazursky, 1983; Turnbull and Wilson, 1989; Pine et. al., 1995; Bauer et. al., 2002). Hallowell (1996) provides evidence on the connection between satisfaction, loyalty and profitability. The author refers that working with loyal customers reduces customer recruitment costs, customer price sensitivity and servicing costs. In terms of traditional marketing of products and services, loyalty can be measured by repeated sales or by recommendation to other consumers (Pine et al., 1995). Yoon and Uysal (2005) stress that travel destinations can also be perceived as a product which can be resold (revisited) and recommended to others (friends and family who are potential tourists).

In his study about the desirability of loyal tourists, Petrick (2004) states that loyal visitors can be less price sensitive than first time visitors. This study shows that less loyal tourists and those visiting the destination for the first time tend to spend more money during the visit. However, these tourists report a high value in the measure "risk-adjusted profitability index", proposed by the author, and as such are not as desired as loyal tourists.

The determining factors of loyalty have been studied in the marketing literature. Bitner (1990), Dick and Basu (1994) and Oliver (1999) show that satisfaction from products or services affect consumer loyalty. Flavián et al. (2001) add that loyalty to a product or service is not the result of the absence of alternative offers. Instead, loyalty occurs because consumers increasingly have less free time available and therefore try to simplify their buying decision process by acquiring familiar products or services.

As referred to above, research shows that the satisfaction that tourists experience in a specific destination is a determinant of the tourist revisiting. Baker and Crompton (2000) define satisfaction as the tourist's emotional state after experiencing the trip. Therefore, evaluating satisfaction in terms of a travelling experience is a post-consumption process (Fornell, 1992; Kozak, 2001). Assessing satisfaction can help managers to improve services (Fornell, 1992) and to compare organisations and destinations in terms of performance (Kotler, 1994). In addition, the ability of managing feedback received from customers can be an important source of competitive advantage (Peters, 1994). Moreover, satisfaction can be used as a measure to evaluate the products and services offered at the destination (Ross and Iso-Ahola, 1991; Noe and Uysal, 1997; Bramwell, 1998; Schofield, 2000).

Recently, more holistic models have been used to explain destination loyalty in tourism research. Yoon and Uysal (2005) propose a model which relates destination loyalty with travel satisfaction and holiday motivations. This study finds a significant cause-effect relationship between travel satisfaction and destination loyalty as well as between motivations and travel satisfaction. Oh (1999) establishes service quality, perceived price, customer value and perceptions of company performance as determinants of customer satisfaction which, in turn, is used to explain revisit intentions. Bigne et al. (2001) identify that returning intentions and recommending intentions are influenced by tourism image and quality variables of the destination. Kozak (2001) model intentions to revisit in terms of the following explanatory variables: overall satisfaction, number of previous visits and perceived performance of destination. In a recent paper, Um et al. (2006) propose a structural equation model that explains revisiting intentions as determined by satisfaction, perceived attractiveness, perceived quality of service and perceived value for money. In this study repeat visits are determined more by perceived attractiveness than by overall satisfaction.

Another important conclusion from the study carried out by Um et al. (2006) is that the revisit decision-making process should be modelled in the same way as modelling a destination choice process. This implies that the personal characteristics of tourists, such as motivations and socio-demographic characteristics also play an important role in explaining their future behaviour. Despite sharing equal degrees of satisfaction, tourists with different personal features can report heterogeneous behaviour in terms of their loyalty to a destination (Mittal and Kamakura, 2001).

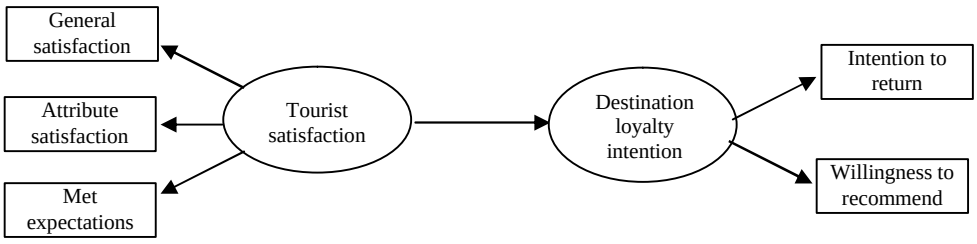
Motivations form the basis of the travel decision process and therefore should also be considered when analysing destination loyalty intentions. Beerli and Martín (2004) propose that "motivation is the need that drives an individual to act in a certain way to achieve the desired satisfaction" (Beerli and Martín, 2004:626). Motivations can be intrinsic (push) or extrinsic (pull) (Crompton, 1979). Push motivations correspond to a tourist's desire and emotional frame of mind. Pull motivations represent the attributes of the destination to be visited. Yoon and Uysal (2005) take tourist satisfaction to be a mediator variable between motivations (pull and push) and destination loyalty.

The effect of socio-demographic variables in the tourist decision process is also an issue which has received some attention. Some studies propose that age and level of education influence the choice of destination (Goodall and Ashworth, 1988; Woodside and Lysonski, 1989; Weaver et al., 1994; Zimmer et al., 1995). Font (2000) shows that age, educational level, nationality and occupation represent determinant variables in the travel decision process.

3 CONCEPTUAL MODEL AND RESEARCH HYPOTHESES

The proposed structural equation model of the tourist loyalty intention is presented in Figure 2. The model establishes a direct causal-effect relationship of *tourist satisfaction* on *destination loyalty intention*. This connection is supported by earlier studies as those carried out by Kozak and Rimmimington (2000), Bigné et al. (2001, 2005), Gallarza and Saura (2005), Yoon and Uysal (2005) and Um et al (2006).

Figure 2: The proposed hypothetical model



The model also shows the observed variables used to measure the latent constructs *tourist satisfaction* and *destination loyalty intention*. As will be described in the following Section, the observed variables were chosen based on previous research. In addition, the application of the structural equation modelling procedure will demonstrate that these variables adequately represent the corresponding constructs.

As stressed by Yoon and Uysal (2005), satisfaction should be perceived from a multidimensional perspective, i.e., more than one observed variable should be considered. Chon (1989) demonstrates that both the perceived evaluative outcome of the holiday experience at the destination and associated expectations are important elements in shaping tourist satisfaction. Customer satisfaction can be estimated with a single item, which measures the overall satisfaction (Fornell, 1992; Spreng and Mackoy, 1996; Bigné et al., 2001). Besides the global perception about the outcome alone, the degree of satisfaction can be evaluated through specific service attributes (Mai and Ness, 2006). Additionally, satisfaction can be evaluated using the theory of expectation/confirmation in which expectations and the actual destination outcome are compared (Oliver, 1980; Francken and Van Raaji, 1981; Chon, 1989; Bigné et al., 2001). That is, if expectations exceed perceived outcome then a positive disconfirmation is obtained, leaving the tourist satisfied and willing to repeat the visit; if a negative disconfirmation occurs the tourist feels dissatisfied and will look for alternative travel destinations. Based on these studies, three observed variables (also referred to as indicators) are used in order to measure *tourist satisfaction* in this paper: (1) general destination satisfaction; (2) mean satisfaction level in terms of destination attributes; and (3) whether destination expectations were met.

Oliver (1999) states that loyalty is a construct that can be conceptualised by several perspectives. Cronin and Tayler (1992), Homburg and Giering (2001) measure the construct "future behavioural intention" by using two indicators: the intention of repurchase and the intention to provide positive recommendations. In tourism research, similar approach is adopted and tourist loyalty intention is represented in terms of the intention to revisit the destination and the willingness to recommend it to friends and relatives (Oppermann, 2000; Bigné et al., 2001; Chen and Gusoy, 2001; Cai et al., 2003; Niininen et al., 2004; Petrick, 2004). Therefore, two indicators, "revisiting intention" and "willingness to recommend" are used as measures of *destination loyalty intention*.

As referred to in the literature review, socio-demographic variables and motivational variables can influence the travel decision. This study also aims to analyse whether this relationship is true when considering revisiting a destination. In specific, besides estimating the conceptual model proposed in Figure 2, this study looks to show that tourists, stating a more favourable revisiting intentions and recommendation behaviour, are expected to be the most satisfied, possessing different socio-demographic characteristics and motivations to travel.

Accordingly to the above considerations, the following research hypotheses are formulated:

H_1: Tourist satisfaction holds a positive influence on tourist loyalty

H_2: "General destination satisfaction", "mean satisfaction level in terms of destination attributes" and "the extent to which expectations were met" are adequate measures of *tourist satisfaction*

H_3: "Revisiting intention" and "willingness to recommend" are adequate measures of *destination loyalty intention*

H_4: Destination loyalty intention is different according to socio-demographic characteristics of tourists

H_5: Destination loyalty intention is different according to travel motivations

4 METHODOLOGY

The questionnaire

The data for this study were collected from 486 personal interviews based on a structured questionnaire carried out from March to July 2004. The questionnaire, comprising five sections, was designed to analyse tourist motivations and perceptions towards *Arade*. Section 1 enquired about the basic background data on the tourist's vacation at this destination, that is, lodging municipality (Portimão, Lagoa, Monchique or Silves), type of lodging (hotel, apartment, private home, other), length of the stay, main push motivation to travel to *Arade* (leisure/recreation/holidays, visiting friends, business, health) and main form of transportation used in the region (rental car, private car, public transports, other).

Sections 2 and 3 involved thirty attributes of the destination that were assessed in terms of importance (section 2) and satisfaction (section 3). The assessed attributes, which represent the attributes of the destination (pull factors) included: beaches, spas, hospitality, authenticity, accessibilities, historical centres, traffic, forms of transportation, sports facilities, landscape, monuments, urban planning, restaurants, traditional architecture, animation, lodging, shopping areas, cultural events, tourist information, food, leisure areas, public safety, gardens/green spaces, pedestrian areas, competence and kindness, parking, water supply system, waste recovery system, cleanliness and traffic signs. These attributes were selected because they are the most quoted in the tourism literature (Uysal, Mclellan and Syrakaya, 1996; Iso-Ahola and Mannel, 1987; Fodness, 1994; Mohsin and Ryan, 2003; Shoemaker, 1989; Cossens, 1989). In both cases, the attributes were assessed with a five-point Likert type scale. This scale ranged from "totally irrelevant" (1) to "extremely important" (5) in terms of importance and from "very unsatisfied" (1) to "very satisfied" (5) in terms of satisfaction.

Section 4 looked to measure the overall tourism experience in *Arade* by asking respondents about the overall satisfaction with the journey, intention to revisit and recommendation intention, and whether the expectations about the journey were met or not. Finally, section 5 draws on questions about socio-demographic characteristics: gender, age, marital status, occupation, educational qualification and nationality.

Sample procedures and participants

The target population of this study involves Portuguese and foreigner tourists visiting *Arade* and stating in one of the four municipalities of this tourist region. From this population, a sample was selected using a quota sampling method with interviews performed by trained interviewers, instructed to select respondents as randomly as possible (not based on personal preferences), at different locations and at different times. This sampling method was applied because it is not possible to obtain a list of all tourists visiting *Arade* during this period, which would enable the use of a stratified sampling method (the random version of the quota sampling method). The number of tourists to be included in each quote was defined proportionally to the type of tourist in the target population (Portuguese and foreigner) and its distribution according to the four municipalities. A minimum of 30 interviews in the smallest quote (Portuguese tourists lodged in Monchique) was anticipated in order to perform statistical tests, if necessary. The sample dimension for the remaining quotes was determined proportionally giving rise to a total of 486 interviews.

Since non-random sampling does not ensure a representative sample, the main socio-demographic features of the target population of tourists (INE-National Institute of Statistics, 2004) were compared with the analogous features of the sample. Three socio-demographic characteristics of the target population were available for this comparison: gender, age and educational qualifications. This analysis shows that the sample is not significantly different from the target population in terms of gender because in both cases the majority of tourists were female (around 51% of the population; around 54% of the sample). In terms of age and educational qualifications, older tourists with lower qualifications were expected. In fact, the proportion of tourists older than 65 in the target population was 16.5% although this percentage represents only 3.2% in the sample. Similarly, 19.4% of target tourists have a degree whereas in the sample this percentage was much higher (50.6%). Note that the sample represents a target population for both Portuguese nationals and foreign tourists according to the municipality where they were lodged. Around 30% of respondents were Portuguese tourists, around 59% were lodged in Portimão, 29% in Lagoa, 6% in Silves and 6% in Monchique. Table 1 shows the main socio-demographic characteristics of respondents and also some features of the visit. Most tourists were female, possessed college or high school qualifications, belonged to the 25-44 age interval, were foreign (mainly English), and married. In the majority of cases, tourists were lodged in Portimão, in a hotel, motivated mainly by reasons related to leisure/recreation and holidays and travelled by rental car during their stay.

"Runs tests" were carried out in order to assess whether the observations for each variable could be considered as having a random pattern. For all variables in the table, this hypothesis was not rejected (runs tests: $p > 0.05$). This observation is required in order to form statistical inferences, though absent in sub-represented groups, namely, older tourists with lower education qualifications.

Table 1: Demographic characteristics of the sample and journey features

Characteristic	Distribution of Answers
Tourist's gender	Female: 53.6 %; male: 46.4%
Tourist's age	15 – 24: 19.1%; 25 – 44: 50.0%; 45 – 64: 27.7% ; older than 65: 3.2%
Tourist's educational qualification	Elementary: 6.2%; Secondary: 44.2%; College or higher: 50.6%
Tourist's nationality	Portuguese tourists: 28%; Foreign tourists: 72% (45% English)
Tourist's marital status	Married: 62.4%; single: 32.2%; divorced: 4.5%; widowed: 0.8%
Tourist's occupation	Managerial and professional occupations: 20.6%; associate professional and technical: 18.3%; students; 17%; sales and customer services or administration and secretarial: 14%; skilled trades: 13.3%; other: 16.8%
Lodging municipality	Portimão: 59%; Lagoa: 29%; Monchique: 6%; Silves: 6%
Type of lodging	Hotel: 48.3%; apart hotel: 9.6%; private house: 18%; other: 24.1%
Length of the stay	Mean = 12 days; standard deviation = 6 days
Main travel motivation to *Arade*	Leisure/recreation/holidays: quoted by 91.6% of respondents; visiting friends: quoted by 10.9% of respondents; business: quoted by 3.7% of respondents; health: quoted by 3.9% of respondents
Main form of transportation used in the journey	Rental car: 39.8%; private car: 29.3%; public transports: 26.8%; other: 4.1%

Latent constructs and observed variables

Table 2 shows the latent constructs, observed variables and questionnaire items used to measure each observed variable of the proposed model and the corresponding scales.

Table 2: Latent construct, observed variables, questions and scales

Latent Constructs	Observed Variables	Questions	Scale
Tourist satisfaction	General satisfaction	What is your overall satisfaction level as a tourist experiencing *Arade*?	1 – very unsatisfied 2 – unsatisfied 3 – not satisfied nor unsatisfied 4 – satisfied 5 – very satisfied
	Attribute satisfaction	In terms of satisfaction, how would you rate the following *Arade attributes*? **(*)**	1 – very unsatisfied 2 – unsatisfied 3 – not satisfied nor unsatisfied 4 – satisfied 5 – very satisfied
	Met expectations	Were your expectations met?	1 – no 2 – yes
Destination loyalty	Intentions in revisiting	Do you intend to revisit *Arade* in the future?	1 – no 2 – maybe; 3 – yes
	Willingness to recommend	Would you recommend *ARADE* to your friends and family?	1 – no 2 – maybe; 3 – yes

(*) Mean of satisfaction level with the thirty attributes.

Statistical data analysis procedures

This study applies three methods of multivariate statistical analysis: structural equation modelling (SEM), categorical principal components analysis (CATPCA) and cluster analysis. The research hypotheses *H1* to *H3* are tested according to the SEM procedure. By describing the tourist segments produced by the cluster analysis, *H4* e *H5* are assessed.

Firstly, the proposed hypothetical model is estimated by using a SEM procedure via the *Analysis of Moment Structures* software (AMOS 5) (Arbuckle and Wothke, 1999). This software package is used because it works inside the software SPSS 14, which was available to the research team and used to treat the data. AMOS has a simple interface, and only requires the path diagram to specify the model, generating indexes and tests that are necessary to assess the estimated model.

Questionnaire items described in Table 2 represent observed variables for *tourist satisfaction* and *destination loyalty intention*. To correct for non-normality of the observed variables, the Weighted Least Squares (WLS) method of estimation (Schumacker and Lomax, 1996) is adopted. The model fit analysis follows similarly to Hair et al's approach (1995). According to this study, the measurement model and the structural model should be evaluated separately, after examining the overall model fit. Three types of *overall model fit* measures are examined: absolute fit, incremental fit and parsimonious fit. The Chi-square goodness-of-fit test is the best known index of absolute fit and used as a general indicator of how well the proposed model complies with the available data. Chi-square values should be low and not statistically significant for the purpose of goodness of fit. In addition to the Chi-square test, other measures of overall model fit are also used. Excluding the cases of the root mean square residual (RMSR) (Steiger, 1990) and the root mean square residual of approximation (RMSEA) (Steiger, 1990), in which lower values are considered desirable (zero suggesting a perfect fit), the remaining measures range from 0 (no fit) to 1 (perfect fit) and the normed Chi-square measure (Joreskog, 1969) range from 1 to 5, ideally.

The measurement model specifies the relationship between the latent constructs and the corresponding observed variables. The *measurement model fit* assesses the reliability and validity of the latent variables (Hair et al., 1995; García and Martinez, 2000). *Reliability* analysis refers to whether the observed variables, chosen to indicate the construct, are really measuring the same (unobserved) concept. In this study, we determine two measures of reliability for each construct: the construct composite reliability and the variance extracted from each construct. Scharma (1996) considers 0.7 as the adequate minimum acceptance level for the composite reliability and 0.5 for the variance extracted. On the other hand, *validity* focuses on whether one observed variable truly measures the construct

intended by the researcher. The validity of the observed variables holds true if these are significant, or at least moderately significant, on hypothesised latent variables (Bollen, 1989).

The structural model specifies the relationships between the latent constructs. In analysing the *structural model fit*, we test the standardised parameter estimate that links the two latent constructs in terms of its sign and statistical significance. In addition, the squared multiple correlation coefficient for the structural equation associated to the latent variables is examined. This coefficient is similar to the coefficient of determination used in multiple regression analysis and shows how well the data supports the proposed relationship.

Next, using CATPCA, we explore the relationship between each observed variable measuring the latent constructs *tourist satisfaction* and *destination loyalty intention*. The use of this technique complements information taken from the structural equation model. As reported in Table 2, all observed variables are qualitative (categorical) and CATPCA is a multivariate technique developed to analyse categorical variables (Meulman and Heiser, 2004). This method is basically an exploratory technique that uncovers the associations among the categories of qualitative variables in large contingency tables. CATPCA uses a mathematical algorithm that provides an optimal quantification to each category of the qualitative variables that allows for their graphical representation. As the name of the method suggests, CATPCA performs a principal components analysis (PCA) for categorical variables. Through this method, each category of the qualitative variables have an optimal quantification in each dimension (or component) produced by this special type of PCA. For each category, the optimal quantifications in the retained dimensions are the coordinates that allow the representation of the category in the geometrical display. These geometrical displays make data interpretation easier since they reveal similar variables or categories. Specifically, categories that are related are represented as points close together on the graph. Unrelated categories appear distant on the graph.

As the classic PCA, CATPCA produces dimensions which are quantitative variables that capture the information (variability) contained in the initial observed variables. Standard outputs of both methods include the eigenvalue associated to each retained dimension and the total amount of explained variance. Each eigenvalue is perceived as a measure of the importance of the corresponding dimension in capturing the information provided by the original observed variables. In turn, the total amount of explained variance informs how well the set of retained dimensions captures, as a whole, the initial set of qualitative variables. In this study we follow the Kaiser (1960) criterion that suggests that only dimensions with eigenvalues higher than 1 should be retained.

Lastly, the graph produced by CATPCA suggests distinct groups of tourists based on scores obtained from this method. We validate these groups via a cluster analysis through a k-means cluster optimisation method. The use of a cluster analysis in this context is recommended because although CATPCA can identify specific groups present in the data it is unable to specify their common features (Maroco, 2003). The statistical analysis concludes with a description of the main features for each group (segment) of tourists. In this study, CATPCA and cluster analysis were performed with SPSS 14.

5 RESULTS

Structural equation modelling

Figure 3 shows the estimated standardised path coefficients on the model itself. All estimates are statistically significant ($p = 0.000$). The selected overall fit indices are reported in Table 3. As can be observed, the Chi-square statistic is low and non-statistically significant ($p > 0.01$), suggesting that the model is a good description of the data. Auxiliary measures of overall fit also report the desired levels, indicating a good overall model fit: the GFI is high and exceeds the recommended level of 0.9; the RMSR and the RMSEA are close to 0. In addition, the proposed model reports high levels for the remaining measures (close to 1), suggesting an adequate incremental and parsimonious fit.

Figure 3: Standardised estimates of hypothetical model

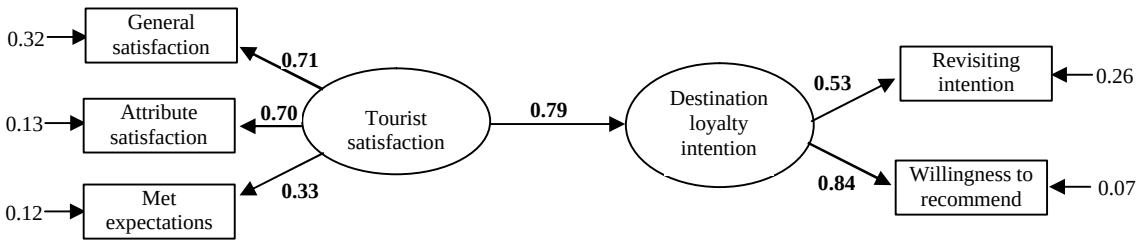


Table 3: Goodness-of-fit indices for the estimated structural model

Absolute fit measures	Incremental fit measures	Parsimonious fit measures
Chi-square = 13.34 (p = 0.015)	AGFI[3] = 0.93	Normed Chi-square[8] = 3.085
RMSR[1] = 0.02	NFI[4] = 0.879	
RMSEA[2] = 0.067	TLI[5] = 0.774	
	IFI[6] = 0.915	
	CFI[7] = 0.909	

[1]RMSR: root mean square residual (Steiger, 1990); [2]RMSEA: root mean square residual of approximation (Steiger, 1990); [3]AGFI: adjusted goodness of fit index (Joreskog and Sorbom 1986); [4]NFI: normed fit index (Bentler and Bonnet, 1980); [5]TLI: Tucker and Lewis index (Tucker and Lewis, 1973); [6]IFI: incremental fit index (IFI) (Bollen, 1988); [7]CFI: comparative fit index (Bentler, 1990); [8]Normed Chi-square measure (Joreskog, 1969).

Table 4 shows the results of the measurement model in terms of the constructs' reliability and variance extracted. These measures exceeded the recommended levels of 0.7 and 0.5, respectively, for both *tourist satisfaction* and *destination loyalty intention*. This means that the latent constructs are reliable, that is, the observed variables selected to indicate each construct measure the same (unobserved) concept (Scharma, 1996). As seen in Figure 3, significant standardised loadings of each observed variable on the corresponding constructs (p = 0.000) were reported, thus validating the proposed constructs. As explained in the methods section, validity refers to whether the observed variables truly measure the latent construct intended by the researcher (Bollen, 1989). In short, hypotheses *H2* and *H3* should not be rejected.

Table 4: Results of the measurement model

Latent constructs	Construct reliability	Variance extracted
Tourist satisfaction	0.84	0.66
Destination loyalty	0.81	0.75

After assessing the measurement model, we observed the structural model. As presented in Figure 3, the findings indicate a positive relationship between *tourist satisfaction* and *destination loyalty intention*, as shown by a high and statistically significant loading between the two constructs (0.785; p = 0.000). This implies that satisfaction has a positive influence on the tourist loyalty intention, i.e., *H1* is supported. The squared multiple correlation for the structural equation relating the two constructs is moderately high (0.616), suggesting that 61.6% of the variability of *loyalty destination intention* is explained by the variability of *tourist satisfaction*.

Categorical principal components analysis

In general terms, CATPCA is traditionally used to reduce the dimensionality of an original set of categorical variables (nominal and ordinal) into a smaller set of quantitative variables (components or dimensions) which account for most of the information (variance) in the original variables. As explained above, once this method has been applied, each category of each qualitative variable will have an optimal quantification in the retained dimensions. These quantifications are coordinates that allow the categories to be represented in a geometrical display, making data interpretation easier.

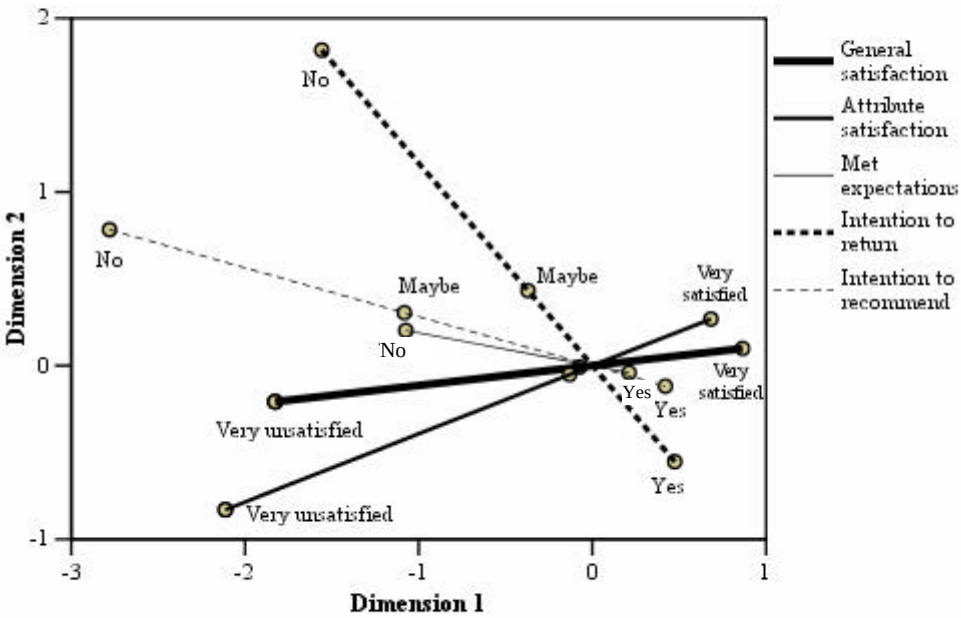
In having estimated the structural model, CATPCA was performed to explore the joint relationships among the five observed variables of the model: *general satisfaction*, *attribute satisfaction*, *met expectations*, *revisiting intention* and *willingness to recommend*. Based on the observation of the eigenvalues in a higher number of dimensions, we retained only the first two dimensions (those with eigenvalues higher than 1) which account for 62.1% of the total variance of the original data.

Figure 4 is the geometrical display that allows a visual interpretation of the how the categories of the observed variables are related. The horizontal axis represents dimension 1 and the vertical axis shows dimension 2. In the graph, the variables measuring *tourist satisfaction* are indicated by solid lines and the variables measuring *destination loyalty intention* are captured by the dashed lines. In each line, the displayed points represent the categories of variables. As can be observed, the graph shows that the categories indicating higher level of satisfaction (*general satisfaction*: 5 – very satisfied; *attribute satisfaction*: 5 – very satisfied; *met expectations*: 2 – yes) and higher level of loyalty intention

(*revisiting intention*: 3 – yes; *willingness to recommend*: 3 – yes) are represented close to eachother (on the right-hand side of the graph). These results show that tourists generally satisfied with their experience in terms of specific attributes of the location and whose expectations were met are more likely to return to *Arade* and recommend it to family and friends.

Another aspect that the graph clarifies is that the direction of the line representing *willingness to recommend* is not very different than the directions of the lines representing level of satisfaction. When comparing these lines, however, the line indicating *revisiting intention* has a somewhat different direction. Since in the graphs produced by CATPCA, similar points/lines suggest related categories/variables, this study reveals that higher levels of satisfaction are more related to willingness to recommend than intention to return.

Figure 4: Joint plot of category points for tourist satisfaction and destination loyalty intention



Cluster analysis

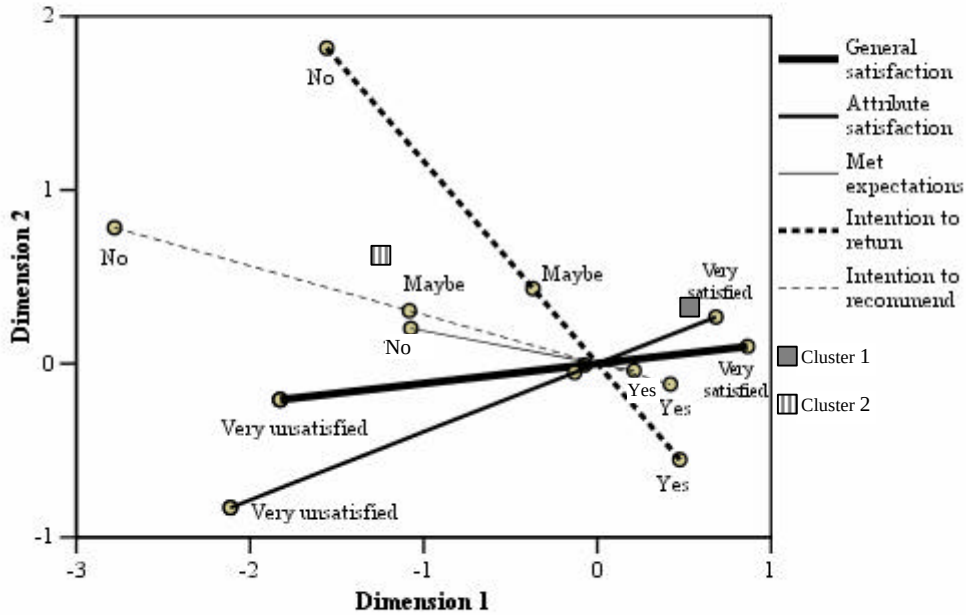
The graph produced by CATPCA suggests that two groups of tourists can be determined as a result of the relations between the categories of variables measuring *tourist satisfaction* and variables measuring *destination loyalty intention*. As indicated by the map, these groups display the following characteristics: on the right-hand side of the graph, we can observe more satisfied tourists willing to return and recommend *Arade*; the left-hand side shows tourists who are less satisfied and uncertain about revisiting or recommending *Arade* as a holiday destination.

In order to validate these groups, a cluster analysis was performed. Final cluster centres are presented in Table 5. Figure 5 displays these centres (also referred to as centroids) on the graph produced by CATPCA (dark square and lined square). These centroids are clearly at the centre of the groups suggested by CATPCA, establishing the presence of these groups. The centroid of Custer 1 appears on the right-hand side of the graph and the centroid of Custer 2 is represented on the left-hand side. Thus, the clusters can be referred to as “more satisfied and more loyal tourists” (cluster 1) and “less satisfied and less loyal tourists” (cluster 2). Note that 349 (72%) tourists were included in cluster 1 and 137 (28%) in cluster 2.

Table 5: Final cluster centres and number of tourists in each cluster

Dimensions from CATPCA	Cluster 1	Cluster 2
Dimension 1	0.50	-1.27
Dimension 2	-0.15	0.37

Figure 5: Joint plot of category points and clusters centres



An advantage of running a cluster analysis after CATPCA is that it allows us to create a new variable that identifies which tourist belongs to which cluster. In particular, the tourists included in cluster 1 were identified with code 1 and code 2 was used to identify tourists belonging to cluster 2. This new variable (named as *cluster membership*) can then be related with other variables measured in the questionnaire in order to provide a detailed description of the groups.

Table 6 shows the distribution of tourists for each group across the categories of variables used in the CATPCA. As expected, there is a significant dependence relationship reported between each of these variables and *cluster membership* (chi-square independence tests: $p > 0.000$). The values in bold allow us to identify the tourist profile in each cluster according to these variables. As expected, the first cluster includes the most satisfied (70.3%) and very satisfied tourists (98.6%), whose travel expectations were met (79.6%) and whose intentions to recommend and return to *Arade* were stated (93.6% and 92.3%). The second cluster displays opposing characteristics in terms of these variables.

Table 6: Frequency distribution of variables used in the CATPCA in the two clusters solution

Variables used in the CATPCA	Cluster 1	Cluster 2	Total
Overall satisfaction with holiday experience			
1 – very unsatisfied	25.0%	**75.0%**	100.0%
2 – unsatisfied	8.3%	**91.7%**	100.0%
3 – not satisfied nor unsatisfied	8.6%	**91.4%**	100.0%
4 – satisfied	**70.3%**	29.7%	100.0%
5 – very satisfied	**98.6%**	1.4%	100.0%
Mean satisfaction with the attributes of the destination			
1 – unsatisfied	0.0%	**100.0%**	100.0%
2 – not satisfied nor unsatisfied	6.5%	**93.5%**	100.0%
3 – satisfied	**69.3%**	30.7%	100.0%
4 – very satisfied	**90.7%**	9.3%	100.0%
Were your expectations met?			
1 – no	31.6%	**68.4%**	100.0%
2 – yes	**79.6%**	20.4%	100.0%
Do you intend to revisit *Arade* in the future?			
1 – yes	**93.6%**	6.4%	100.0%
2 – maybe	54.5%	45.5%	100.0%
3 – no	3.8%	**96.2%**	100.0%
Would you recommend *Arade* to friends and family?			
1 – yes	**92.3%**	7.7%	100.0%
2 – maybe	10.4%	**89.6%**	100.0%
3 – no	0.0%	**100.0%**	100.0%

Clusters were also described in terms of socio-demographic characteristics. In this analysis, no significant dependence relationships are identified between cluster membership and the variables: “gender”, “occupation”, “marital status” and “type of lodging” (chi-square independence tests: $p > 0.1$). This means that tourists in each cluster have approximately the same demographic profile reported in table 1 according to these variables. Besides these variables, the groups do not report significant differences in terms of “age” (independent samples t-test: $p = 0.268$), despite the average age being higher in cluster 1 (37.19 years; standard deviation = 13.2 years) than in cluster 2 (35.72 years; standard deviation = 13.68 years).

Table 7 clarifies the variables in which the clusters report significant differences. For a 10% significance level, tourists in both clusters are statistically different in terms of “educational qualification level” (chi-square independence test: $p = 0.058$). As can be observed in the Table, 58.1% of tourists belonging to cluster 2 hold a degree. This percentage decreases to 46.2% with tourists included in cluster 1. “Nationality” is an important variable that differentiates the groups (chi-square independence test: $p = 0.000$): cluster 1 includes 77% of foreigner tourists whereas this proportion is 59.6% in cluster 2. That is, the weight of Portuguese tourists is higher in cluster 2 (40.4%) than in cluster 1 (23%). The analysis shows that *H4* is only partially demonstrated. Another variable that distinguishes clusters is the “length of the stay”. Tourists in cluster 1 stay, on average, 12.56 days in *Arade*, whereas tourists in cluster 2 remain, on average, 10.56 days (independent samples t-test: $p = 0.001$). In both cases, the “length of the stay” has a standard deviation of around 6 days. Finally, the clusters also differ in terms of the main form of transportation mainly used during stay (chi-square independence test: $p = 0.072$). Around 40% of tourists in cluster 2 use a private car, whereas most tourists in cluster 1 rent a car (43.8%) or use public transports (26.8%).

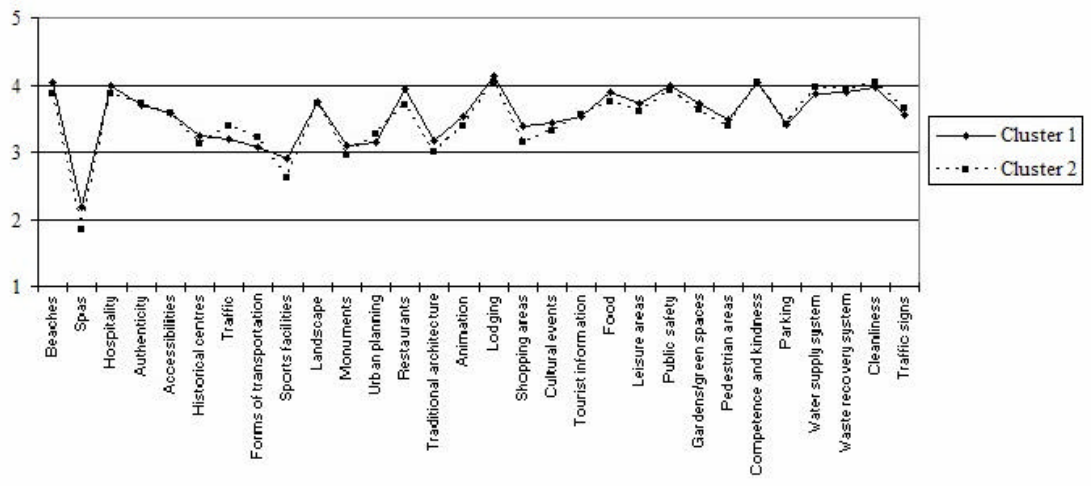
Table 7: Frequency distribution of selected variables in the two clusters solution

Selected variables	*Cluster 1*	*Cluster 2*
Educational qualification level		
Elementary	6.9%	4.4%
Secondary	46.8%	37.5%
College or higher	46.2%	58.1%
Total	100%	100%
Nationality		
Portuguese	77%	59.6%
Foreigner	23%	40.4%
Total	100%	100%
Length of the journey (mean and standard deviation)	12.56 (6)	10.56 (6)
Main mean of transportation used in the journey		
Rental car	43.8%	30.1%
Private car	25.6%	39.0%
Public transports	26.8%	19.8%
Other	3.8%	11.1%
Total	100%	100%

Another finding that deserves attention is the fact that the push motivations behind travelling to *Arade* do not differentiate the groups (chi-square independence tests: $p > 0.1$). In both clusters, only 10.9% of tourists indicate "visiting friends" as the main motivation for visiting this destination. The same occurs with respect to the remaining motivations: only around 4% of tourists in the two clusters indicate reasons relating to "business" or "health". For both groups, "leisure/recreation and holidays" is the main motivation for travelling to this destination (reason indicated by 92% of tourists in cluster 1 and by 90.5% of tourists in cluster 2).

Figure 6 shows the thirty attributes of *Arade* that were graded by the respondents in terms of importance, i.e., the pull motives for visiting this destination. This analysis was done by each cluster. Regarding importance, a first finding reveals that tourists in both clusters do not report significant differences for any of the attributes (independent samples t-tests: $p > 0.15$). In other words, pull motivations do not distinguish the clusters. Figure 6 also clarifies the attributes that tourists in both clusters consider more important (beaches, hospitality, landscape, restaurants, lodging, food, public safety, competence and kindness, water supply system, waste recovery system and cleanliness) and those that are less valued (spas, sports facilities and monuments). Because motivations (whether pull or push) do not differentiate the clusters, *H5* is not supported.

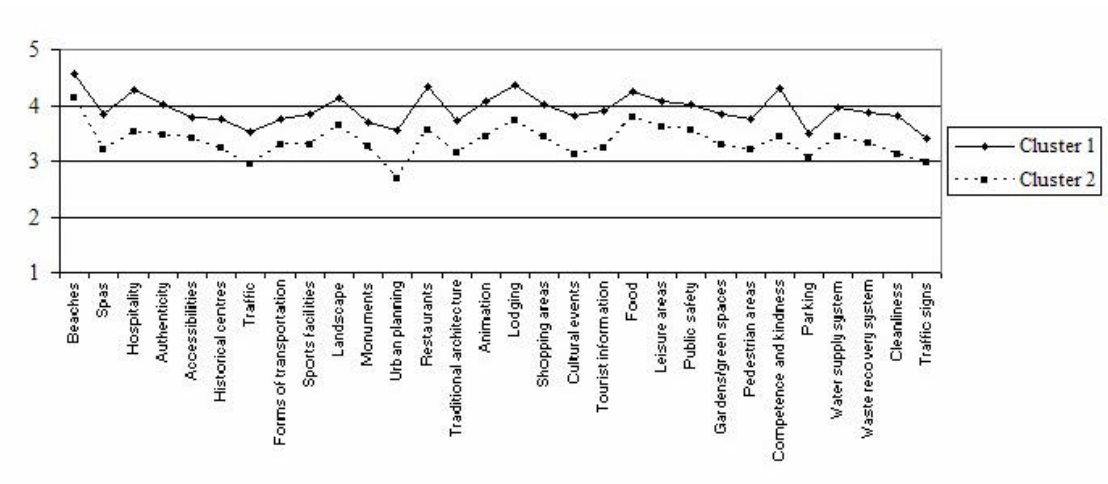
Figure 6: Mean importance of the attributes (by cluster)



Legend: 1 – totally irrelevant; 2 – little important; 3 – indifferent; 4 – important; 5 – extremely important

Figure 7 provides a similar analysis as figure 6 but includes the satisfaction with the attributes. The first aspect that should be noted is that tourists in cluster 1 report a higher level of satisfaction in all attributes than tourists in cluster 2. All differences between groups are statistically significant (independent samples t-tests: p = 0.000). The figure also clarifies the attributes in which the differences between groups are higher (such as, hospitality, urban planning, competence and kindness and cleanliness) and those that are perceived more similarly (beaches, food and monuments). For both clusters, the attributes more positively perceived are beaches, hospitality, landscape, restaurants, food, lodging and the competence and kindness of the locals. The attributes more negatively assessed are traffic, urban planning, parking zones and traffic signs. Attributes such as spas, traditional architecture, cultural events, waste recovery system and cleanliness also report low levels of satisfaction, especially among tourists in cluster 2.

Figure 7: Mean satisfaction according to the attributes (by cluster)



Legend: 1 – very unsatisfied, 2 – unsatisfied, 3 – not satisfied nor unsatisfied, 4 – satisfied, 5 – very satisfied

6 DISCUSSION AND CONCLUSIONS

As living standards increase around the world, more people find themselves able to travel to different destinations. This study establishes the direct causal relationship between *tourist satisfaction* and *destination loyalty intention* by exploring the case of tourists visiting *Arade*, a Portuguese tourism destination.

The results of this study validate the research hypothesis that tourist satisfaction is one contributing factor to destination loyalty intention. This conclusion is mainly based on the findings of the estimated structural equation model. Through CATPCA and cluster analyses, results were fully explored establishing that two clusters of tourists could be identified and then described. Cluster 1 includes the most satisfied tourists who are more determined in revisiting and suggesting the destination; cluster 2 embraces those with worst perceptions of the destination and with weak intentions of returning and recommending. Moreover, observation of the graph produced by CATPCA allows us to conclude that a higher level of satisfaction is more associated to willingness to recommend than to intention to return. This information could not be provided by the SEM procedure. In fact, the estimated model only indicates that tourist satisfaction and loyalty intentions are adequately measured (which is informed by the measurement model results) and are related (which is informed by the structural model results) but do to put forward how the observed variables are jointly correlated. Thus, the sequential data analysis procedures used in this study enables an indepth look at the relationship between satisfaction and loyalty in the tourism framework.

The results of this study have important implications for marketers and managers of *Arade* as a travel destination. In specific, there is a need to improve the perceived quality of the tourist offer, which is the basis of tourist satisfaction (Bigné et al., 2001). Most attributes of the destination services may be controlled and improved by tourism suppliers. The improvement of these services is important and worthwhile because, as this study shows, tourists experiencing higher satisfaction levels reveal favourable intentional behaviour, that is, the willingness to return to *Arade* and to recommend it to others. Moreover, this study also shows that the most satisfied tourists (cluster 1) spend more time, on

average, in this destination than the least satisfied tourists with weaker intentions of returning or recommending the region (cluster 2). This is an important finding because a longer stay brings potentially added economic advantages to the region.

Figure 7, and in particular the line representing tourists in cluster 2 (the least satisfied), provides useful indications in improving *Arade*'s competitiveness. The weaknesses of the destination can be summarised, in decreasing order of importance, into four areas: (1) urban planning problems (indicated by the attribute 'urban planning'); (2) traffic problems (indicated by the attributes 'traffic', 'parking' and 'traffic signs'); (3) cleanliness problems (indicated by the attributes 'cleanliness' and 'waste recovery system'); and (4) cultural initiative problems (indicated by the attributes 'traditional architecture' and 'cultural events'). The most critical attributes can be considered those related to traffic and cleanliness because these are important pull motivations that go beyond destination choice (Figure 6). The *Destination Management Organization* (DMO) of *Arade* should consider a priority trying to establish solutions for these problems. Some of these weaknesses can be resolved in the short term through the involvement of the municipalities. The lack of traffic signs, inadequate waste recovery system, the need for old building renovation and the development of the absence of cultural initiatives are good examples. The provision of more and ideally located parking spaces also deserves urgent attention. Finally, it is of strategic importance to review and improve the region's urban planning in order to enhance the overall attractiveness of this tourism region.

Taking into account the country's natural conditions, Portugal, and in particular *Arade*, has all the requirements necessary to be at the forefront in tourism of the future. Figure 7 also clearly shows is that tourists in cluster 1 provide a very good evaluation of the natural conditions of the destination ('beaches', 'landscape'), as well as of the social environment ('hospitality', 'authenticity', 'public safety' and 'competence and kindness'). Facilities more related to tourism activity are also greatly appreciated ('restaurants', 'lodging', 'shopping zones', 'food', 'leisure spaces'). These are also the most positively assessed attributes by tourists in cluster 2, even lower levels of average satisfaction are observed. It is fundamental that marketers of this destination take advantage of this information in order to project the region's image, either nationally or internationally. In general, the perceptions about this destination (Figure 7) surpass expectations (Figure 6), a characteristic that may be further explored in future marketing communication plans.

By evaluating each attribute individually Figure 7 exhibited statistically significant differences between the two clusters for all attributes, more positively graded by tourists belonging to cluster 1. Despite the attributes being different in terms of perceptions, tourists in both groups assess them similarly when focus is on importance rather than satisfaction. This means that the groups are not significantly different in terms of the pull motivations behind the destination (Figure 6). In addition, this study shows that tourists in the two clusters present a quite similar profile in what concerns the push motivations behind the *Arade* region. In both cases, the main and almost single intrinsic motivation in choosing this destination is associated to the need for a vacation/holiday. *Arade*, therefore, should focus on this global segment – tourists that choose the destination for leisure motives – taking advantage of the unique natural and social conditions of the region, offering recreation and rest and at the same time work out the problems mentioned above that threaten the destination's image.

This study also establishes that no significant socio-demographic differences exist between the two groups of tourists in terms of gender, age, marital status and occupation. By working with a significance level of 10%, we can conclude that clusters differ in terms of qualification level. As mentioned, around 60% of tourists belonging to cluster 2 hold a degree (the least satisfied). This percentage is lower in cluster 1. This result suggests that higher qualification levels may be related to higher demanding levels I terms of services offered by the destination. It is not atypical that tourists with higher qualification levels are potentially more judgmental when assessing places they are visiting since, very likely, they are already aware of alternative holiday destinations and, therefore, more critical in terms of assessment. However, this is a characteristic that clearly deserves further research.

Another relevant finding is that cluster membership and nationality are significantly dependent. In specific, cluster 2 registers an increased proportion of Portuguese tourists than cluster 1. This may be a consequence of the generalised feeling among Portuguese citizens that foreign tourists are better welcomed and treated than Portuguese tourists. This sentiment has some foundation because some cities of Algarve – those most dependent on tourism-related activities – resemble foreign surroundings. There are many English pubs, restaurants displaying English cable television, eateries selling only familiar English food and tourist information only in English. Moreover, most Portuguese come to Algarve at least once a year, and so are very familiar with the region. One consequence of this fact is that national tourists do not perceive the region's strengths as positively as foreign tourists. For example, the English tourist more easily appreciates the warmer climate and high quality beaches in Algarve than the national tourists do. The latter tend to be more intolerant and criticizing.

This characteristic provides empirical evidence of the need for a more careful marketing approach towards national tourists. Centring promotional campaigns on sun and beach is not enough to attract Portuguese tourists. Instead, the DMO should invest in employing more highly qualified staff in the tourism and hospitality industry, and become more involved with those responsible for arising regional problems (those depicted in Figure 7), stimulating and supporting initiatives that induce positive changes in the more critical aspects of the tourism product. Moreover, the DMO should develop specific promotional actions leading to an upgrading of the destination image since this is always an important segment of the market. First, marketing messages can be directed to show that destination problems are being addressed, demonstrating that effort is being made by municipalities to answer to expectations by visitors. Second, it becomes equally important to stimulate greater participation from those involved in the evaluation process on the tourist experience as well as more efficient management of opinions, complaints, and suggestions. Finally, because image change is a slow process, DMO should consider stakeholder involvement in developing publicity campaigns commitment aimed at the mass media at regular interval periods. Aside from major campaigns initiatives, it would be essential to represent the region under the "friendly destination concept" with marketing messages aimed at low season tourism, when the region is less congested and less marked by some of the drawbacks (such as traffic and litter problems).

Furthermore, we can also observe in the CATPCA graph that high satisfaction levels are more related to willingness to recommend than intentions to return. This result is understandable. If a tourist classifies the tourism experience as positive and pleasant it is expected that he/she recommends the destination to friends and relatives. However, revisiting destinations carries some costs, even when a previous visit was highly satisfactory. These costs can be financial, if the tourist feels that the overall travel expenses are too high and, therefore, conditioning him/her to return, or they can be opportunity-related. In fact, the tourism offer is so large that returning to an already familiar place can imply not visiting a different destination, a high opportunity cost.

This study has some limitations whose overcoming provides directions for further research.

As shown in Section 5, the data matched the estimated model. Nevertheless, and because any model is always an approximate description of reality, a different model with other observed variables could produce a similar or even improved global fit. In the proposed model, the latent constructs are measured by observed variables dictated by the previous research. As described, the analysis of the measurement model shows that, in general, they are reliable and valid measures of the corresponding constructs, even though the observed variable *met expectations* had reported a low loading (0.33) on *tourist satisfaction* (although statistically significant), especially when compared to those associated with the satisfaction variables (0.71 and 0.70, respectively). It would certainly be preferable to achieve a higher loading in this variable. However, as explained in Section 3, assessing whether tourist expectations are met or not should be considered in terms of satisfaction with the destination experience. Moreover, removing *met expectations* from the model yields worse results in almost all indices produced by the SEM analysis. Therefore, future research should contemplate *met expectations* on a more detailed scale, rather than the adopted binary approach.

Based on the SEM results, we can conclude that the first three proposed research hypotheses cannot be rejected. Some care, however, should be taken when interpreting the first hypothesis. In effect, this study only shows that tourist satisfaction is one contributing factor to tourism loyalty intentions. In other words, what is being evaluated is "destination loyalty intentions" and not "actual destination loyalty" because the observed variables only consider revisiting and recommending intentions. This aspect of how "destination loyalty intentions" leads to "actual destination loyalty" (measured for instance by a revisiting experience and whether the destination was effectively recommended as a result of a previous visit) is another topic of considerable ground for further investigation.

A final underlying detail of this study is the moderate squared multiple correlation value which was reported in the structural equation model (61.6%). Despite the model's goodness-of-fit evidenced by all analysed indicators, there is empirical support that destination loyalty intention is explained by additional constructs besides satisfaction. This finding suggests that further work on the predictors of destination loyalty is necessary. By extending the proposed model to include other constructs in the satisfaction-loyalty relationship (such as motivations, perceptions, expectations and destination image), further examination can be made, through the use of combined statistical data analysis procedures, to better understand the tourist behaviour.

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