Middlesex University Research Repository

An open access repository of

Middlesex University research

Measuring tourist satisfaction
A factor-cluster segmentation approach

Abstract

Tourist satisfaction has been considered as a tool for increasing destination competitiveness. In an attempt to gain a better understanding of tourists' satisfaction in an island mass destination this study has taken Crete as a case with the aim to identify the underlying dimensions of tourists' satisfaction, to investigate whether tourists could be grouped into distinct segments and to examine the significant difference between the segments and sociodemographic and travel arrangement characteristics. A segmentation procedure based on destination dimensions produced three clusters: the 'Higher-Satisfied'; the 'In-Betweeners'; and the 'Lower-Satisfied'. The implications and the conclusions of the study are provided in relation to the marketing of the island of Crete in the future.

Keywords: Satisfaction, Segmentation, Sociodemographic characteristics, cluster, factor analysis, Crete

INTRODUCTION

Cretan tourism industry faces various problems. The general consensus of various authors[1; 2; 3] is that the island is in a mature stage of development. The currently poor performance of the island's tourism industry is evident from three main reasons. First, visitors' arrivals by charter flights presented a decline of 6.56% between 2001 and 2004. Second, many complaints have been reported by various hoteliers that average daily rates have at best been flat or declining for several years.[4] Many of these problems have been a result of tour operators' policy to maintain high profit margins by putting fierce pressure on Cretan hoteliers to keep prices down and by treating Crete as a cheap mass destination.[5; 6] According to Andriotis[4]:

> The rapid increase in bed supply and the high number of competing destinations in the Mediterranean has increased tour operators' use of the island as a cheap sea, sun and sand destination. In effect, tour operators play a crucial role for the island's tourism industry because they determine tourists' choice through advertising and promotion and due to the trend toward inclusive tour packages organized exclusively in origin countries (p. 32).

Although tourism research in Crete, has paid attention to most problems faced by the island's tourism industry, such as seasonality;[7; 8] dependency on tour operators;[9; 3] low profitability and increased competition;[4; 10] overall satisfaction of incoming tourists as an underlying cause of the current poor performance of the island's tourism industry has not been researched. In the literature only one study was found by Ekinci, Prokopaki and Cobanoglou[11] which assessed tourists' visiting Crete satisfaction levels, where overall

satisfaction with services was found marginal. However, this study used as sample a single nationality the UK holiday market, and its rating to a single attribute of the Cretan tourism product, ie. accommodation.

Satisfaction can be considered as a central concept in understanding tourism behaviour.[12] Therefore, various authors [13; 14] suggest that since satisfaction is 'destination-determined' and formed by experiences, it is critically important for all travel destinations to investigate satisfaction levels. In doing so, a baseline of information from which to build and tailor marketing promotions and decision makers can better identify visitor markets that offer opportunities for growth, develop the type of touristic products most in demand by their main consumer groups and formulate appropriate strategies to maximize tourism yields.[15; 16] To have a better understanding about tourists' satisfaction, this study has taken Crete as a case with the aim to identify the underlying dimensions of tourists' satisfaction, to investigate whether tourists could be grouped into distinct segments and to examine the significant difference between the segments and sociodemographic and travel arrangement characteristics. In doing so, this paper is divided into five sections. Following this introduction, the second section reviews past research on satisfaction levels of tourists from visiting a destination. Section three presents the methodology of the study conducted on Crete. Section four presents the results of the study. The final section provides the policy implications of the findings in relation to the marketing of Crete in the future.

MEASURING TOURIST SATISFACTION AND SEGMENTATION RESEARCH
Tourist destinations, as settings comprising economic, sociocultural and environmental activities, have come to be understood as products on offer. These products consist of many subproducts, including accommodation, food and beverage purchases, excursions, shopping, participation in recreational and sport activities, entertainment and so forth. All these subproducts combined together comprise the product bought by most tourists called vacation package.[17] Thus, a destination is 'the location of a cluster of attractions and related tourist facilities and services which a tourist or tour group selects to visit or which providers choose to promote (p.23)'. [18] However, if any of the destination attributes has poor performance, dissatisfaction can be expressed. As vividly explained by Pizam, Neumann and Reichel[17] 'a 'halo effect' may occur, wherein satisfaction or dissatisfaction with one of the components leads to satisfaction or dissatisfaction with the total tourism product. Consequently it is very important to identify and measure tourist satisfaction with each of the components (p. 316)'.

Travel market segmentation research has been conducted by many authors.[19; 29; 21; 22; 23; 24; 15] Most of these studies have been focused on sociodemographic characteristics. In particular, Francken and Van Raaij[25] found that vacationers with lower level of income and education, and from higher age brackets express higher levels of vacation satisfaction. A study by MacKay and Fesenmaier[26] found statistical differences based on gender and level of income, although age and marital status was not found to affect tourists' perception. Ekinci, Prokopaki and Cobanoglou[11] in their study in Crete found that female tourists rated the dimensions of intangibles higher than males and expressed higher overall satisfaction with services. Finally, a study by Mykletun, Crotts and Mykletun[24] found that socio-economic and demographic variables were not stable predictors of the visitors' probability of returning to the island of Bornholm in the near future.

Segmentation of visitors has often been based upon their geographic origin, since country of origin has been universally employed as a basis for collecting and interpreting tourism data.[15] Among such studies Mykletun, Crotts and Mykletun[24] found that in Bornholm island, country of residence is a consistently better predictor of satisfaction levels than factors such as household income, education, age, travel party composition, and travel purpose. In a study of Asian and non-Asian travelers, Bauer, Jago and Wise[27] found that Asian travelers wanted more entertainment facilities, while their non-Asian counterparts were more concerned with the hotels' health facilities. Other studies found that various travel arrangement characteristics can explain tourists' satisfaction levels, such as previous visits;[28] length of stay;[29; 30] and size of travel group.[29] On the other hand, Ekinci, Prokopaki and Cobanoglou[11] report that in Crete British tourists rated the dimensions of service quality higher in four and five star accommodations compared to the lowest grades of accommodations.

Various tourism studies have segmented tourists by utilizing a cluster analytical procedure. The main reason for this is to find homogeneous smaller market segments in an attempt to help marketers to identify marketing opportunities and to develop products and services in a more tailor-made manner.[22] According to Perez and Nadal[31] 'instead of examining average responses to questions, a segmentation analysis provides a more accurate reflection by forming different units with a low degree of intagroup and high degree of inter-group variation' (p. 931). Most studies having followed a segmentation analytical procedure have been focused mainly on typology,[22; 32; 33; 34] benefit segmentaion[35; 22; 36; 37] or tourist motivation.[38; 39; 40] Since not all groups of tourists are alike, as far as their satisfaction from a destination is concerned, identification of segments defined by their levels of satisfaction is of vital importance.

METHODOLOGY
The research described in this paper focuses on tourists' satisfaction while visiting Crete.

Sampling
The population of this study consisted of tourists departing from the two international airports of Crete, Heraklio and Chania, between June and October of 2005. Tourists were asked to complete a questionnaire while waiting in airport departure lounges. All questionnaires, whether completed or not, were returned before passengers embarked. Incomplete or questionnaires with an excessive amount of missing data were excluded from further analysis. From the 1,550 questionnaires distributed (775 in Heraklio and 775 in Chania airport), 870 were actually included in the analysis, 465 from Heraklio airport and 405 from Chania, a response rate of 60% and 52.3% respectively. Of the 870 questionnaires, 568 were completed during the high season (15th July up to 15th August) and 302 during the low season (20th September up to 10th October). The overall response rate was 56.1%.

Survey instrument
Each destination may have different attributes. Tourists satisfied in one destination may differ from those satisfied at other destinations according to each destination's particular attributes. As a result, the traditional satisfaction scales cannot be used across destinations. Therefore, a satisfaction scale had to be constructed for the specific

attributes of the Cretan tourism product, based also on the related past research.[41; 42; 43] Following this process a structured questionnaire consisted of four sections was prepared. The questionnaire was translated in three languages: English, German and French. In the first part, tourists were asked to indicate their satisfaction to a 38-item, 7-point Likert type scale. The scale ranged from extremely dissatisfied to extremely satisfied. In the second part respondents' were inquired about their general travel arrangement preferences, such as the traveling party, length of stay and type of accommodation. The third part contained questions about respondents' sociodemographic characteristics (age, gender, marital status, geographic origin, education, income and employment status). The final section asked respondents to indicate their likelihood to make subsequent visits to Crete in the future, and to recommend it to relatives and friends. To ensure content validity a literature review was undertaken and experts were asked to judge if the survey instrument covered the range they would expect. An additional method was a pilot test addressed to five tourists in an attempt to ensure a proper and broad flow of questioning.

Data Analysis
A number of statistical procedures were carried out for this paper using the Statistical Package for the Social Sciences (SPSS, version 12.0).

The first step was to calculate univariate statistics such as frequencies, means and standard deviations. The second step was to undertake factor and cluster analyses. Before undertaking the cluster and factor analyses, the validity of the data was tested by using the Kaiser-Meyer-Olkin test of sampling adequacy. The result of the test was a value of .918, which is described by Hair, Anderson, and Tatham[44] as marvelous, and indicates that both the number of variables and the sample size were appropriate for factor and cluster analyses. To test the reliability of the scale Cronbach α was calculated. The value of Cronbach α was .9393, exceeding the minimum standard of .80 suggested by Nunnaly,[45] and indicating satisfactory internal consistency reliability of the scale.

To find the underlying constructs associated with tourists' satisfaction, the 38 statements were grouped using Principal Component Analysis with a Varimax rotation. To determine the number of factors the criterion of eigenvalues greater than 1 was used. In the factor model, loadings of an absolute value of .45 or more were considered in order to load highly enough and because it was appropriate for the number of variables and sample size.

To divide the sample into meaningful sub-groups, a K-means cluster analysis was carried out where the 38 satisfaction variables were used. In a K-means analysis the number of clusters is chosen by the researcher and cases are grouped into the cluster with the closest centre. In this case, three, four and five cluster solutions were examined. The three cluster solution was selected as the most viable in terms of respondent differentiation and cluster interpretation. Once clusters were identified, their key characteristics were examined and they were named by comparing the mean scores of the responses and the ratings on the Likert Scale for each question. In order to pinpoint the differences in data composition among the clusters, ANOVA tests were carried out. The ANOVA tests showed significance for all items. However, the F-tests should be used only for descriptive purposes and not to test the hypothesis that the cluster means are equal, because the clusters have been chosen to maximise the differences among cases in different clusters.

Cross tabulations with χ^2 tests were used, and Cramer's V was calculated in order to identify the strength of the relationship, to profile the clusters sociodemographically, and to identify travel arrangement preferences and favorable behavioural intentions. For open-ended questions, responses have been coded into nominal variables and converted into multiple response crosstabulations. Since there is no statistical test appropriate for multiple response crosstabulations, it was not possible to statistically test differences in response.

FINDINGS
Overall responses
Table 1 presents the results in relation to the responses to the 38 satisfaction statements. The 38 statements are presented in descending order, ie. from the higher mean to the lower. The highest satisfaction was expressed for the statement 'feelings of personal safety and security', following by the statement 'availability of restaurants'. On the other hand, only the statement 'availability of facilities and services at destination airport' was slightly below the mid-point. Generally speaking tourists in the sample held high overall satisfaction from their vacation to Crete.

Important factors for tourists' satisfaction
To compress the 38 items into fewer manageable factors, principal factor analysis with Varimax rotation was conducted. The criterion of eigenvalues equal or greater than 1.00, resulted in the extraction of nine factors, explaining 60.1% of the variance. Three variables did not load in any factor and failed to meet the cut-off point of ±.45. These variables were: 'signage (directions)', 'availability of space on beaches' and 'distance between the resort and the destination airport'. All factors exhibited acceptable alpha levels. As indicated in Table 2, the factor solution used has extracted the factors in the order of their importance, with the largest and best combinations first, and then proceeding to smaller.

The first factor was labeled 'tourist product', as this factor was formed by variables assessing tourists' satisfaction on the availability of various dimensions of the offered tourist product. Although the tourist product factor accounts for the largest amount of variance (28.3%), it does not mean that the second factor is unimportant, since it has the variables with the highest loadings, ranging from .791 to .740, something that indicates a high interrelationship of the variables. This factor explained 5.7% of the variance, and, was labeled 'airport', as this factor was markedly composed of variables related to services provided at the destination airport. The third factor, explained 5.2% of the variance, and, was labeled 'host attitude' because the three out of the four variables loading in this factor related to the attitudes of local residents and employees toward tourists. One issue to note is the lowest significance variable found in this factor dealing with feelings of personal safety and security and showing that tourists related safety and security with host attitudes. The remaining six factors each accounted for a relatively small proportion of variability, lower than 5% and were labeled based on the characteristics of their composing variables.

Table 1: Overall responses to satisfaction statements

	Extremely Dissatisfied						Extremely Satisfied	Mean	Std. Deviation
	1	2	3	4	5	6	7		
Feelings of personal safety and security	0.5	1.2	1.5	9.0	19.1	38.3	30.4	5.82	1.13
Availability of restaurants	0.5	0.7	3.8	9.8	17.5	38.0	29.7	5.76	1.18
Friendliness of local residents	1.1	2.2	4.4	8.2	20.2	33.3	30.7	5.67	1.32
Cleanliness of accommodation	2.2	3.1	7.6	13.0	19.8	28.9	25.4	5.33	1.50
Attractiveness of natural environment	0.8	2.3	6.1	15.0	26.5	29.7	19.6	5.32	1.30
Attitude of local shopkeepers and staff	1.1	2.6	6.9	15.4	22.4	32.9	18.7	5.29	1.35
Availability of space on beaches	1.5	3.1	7.1	15.7	21.9	29.1	21.7	5.27	1.43
Availability of shopping facilities	1.1	1.5	6.7	17.5	26.5	29.4	17.1	5.24	1.30
Quality of food	1.9	4.1	7.7	13.1	22.4	31.0	19.7	5.22	1.47
Availability of guided excursions and tours	2.1	1.8	7.3	18.8	25.0	29.9	15.0	5.17	1.76
Cleanliness of beaches and sea	2.2	4.5	7.3	14.0	22.5	31.3	18.2	5.17	1.48
Level of language communication	1.7	3.4	7.8	16.6	24.3	29.1	17.0	5.14	1.42
Quality standard of accommodation	2.3	3.7	8.2	16.6	23.3	26.7	19.2	5.12	1.49
Availability of facilities on beaches	0.8	2.9	9.8	18.4	28.7	23.1	16.3	5.06	1.36
Availability of museums and historical places	1.8	2.3	8.1	24.4	23.9	24.5	15.0	5.00	1.38
Availability of daily tour services	1.9	1.6	7.5	26.5	24.8	23.5	14.2	4.98	1.35
Availability of health services	2.0	3.4	7.1	25.9	24.6	24.3	12.8	4.92	1.38
Comfort of local transport services	2.3	3.2	8.2	24.6	26.1	22.6	12.9	4.89	1.40
Distance between the resort and the destination airport	2.5	4.3	7.1	26.4	23.9	22.7	13.0	4.85	1.44
Taxi services	3.6	3.9	7.1	25.6	24.3	22.3	13.1	4.83	1.48
Value for money	1.2	4.6	9.2	24.1	29.0	21.4	10.5	4.81	1.35
Availability of nightlife and entertainment	2.4	3.9	10.7	23.2	26.1	21.9	11.9	4.80	1.43
Level of hygiene and sanitation	1.8	4.2	11.6	21.3	27.2	23.4	10.4	4.80	1.40
Network (accessibility) of local transport services	3.2	3.7	9.9	25.2	26.0	21.1	10.9	4.74	1.44
Cleanliness of the destination airport	2.3	5.3	11.0	22.2	27.9	24.0	7.3	4.69	1.40
Responsiveness to customer complaints	3.8	4.8	8.9	27.9	25.9	16.4	12.3	4.66	1.49
Availability of facilities for children	4.4	3.9	11.4	26.5	22.2	19.4	12.1	4.65	1.53
Availability of sport facilities and activities	2.4	6.0	11.9	26.4	24.8	19.6	8.9	4.59	1.43
Availability of written material in your language	7.9	7.9	11.0	18.3	18.8	19.9	16.2	4.57	1.81
Attitude of local drivers	4.8	9.3	11.5	21.3	23.0	19.5	10.7	4.49	1.62
Environmental quality	5.8	8.2	12.2	21.5	23.4	19.9	9.0	4.44	1.62
Level of local transportation prices	1.2	4.0	8.7	24.6	27.7	20.9	13.0	4.38	1.36
Level of souvenir and gift prices	2.7	7.2	14.3	31.1	23.6	14.8	6.4	4.36	1.40
Level of attractions prices	3.1	7.0	15.0	30.1	24.6	13.8	6.4	4.33	1.41
Speed of check-in and check-out at the destination airport	10.0	8.9	13.3	19.9	19.4	19.8	8.7	4.24	1.76
Existence of information Centres	4.9	8.9	14.1	31.3	24.4	11.6	4.8	4.15	1.44
Signage (directions)	6.8	11.1	16.8	25.1	22.1	11.8	6.3	4.05	1.58
Availability of facilities and services at destination airport	6.2	14.5	15.6	25.6	19.8	12.2	6.0	3.99	1.59

Table 2: Satisfaction factors

Factors	Factor Loadings	Eigenvalue	Variance Explained (%)	Alpha
Tourist product		10.75	28.3	0.85
Availability of facilities for children	.701			
Availability of guided excursions and tours	.685			
Availability of sport facilities and activities	.679			
Availability of facilities on beaches	.643			
Availability of museums and historical places	.609			
Availability of daily tour services	.574			
Availability of health services	.562			
Airport		2.18	5.7	0.81
Speed of check-in and check-out at the destination airport	.791			
Cleanliness of the destination airport	.761			
Availability of facilities and services at destination airport	.740			
Existence of information Centres	.675			
Host attitude		2.00	5.2	0.76
Friendliness of local residents	.684			
Attitude of local shopkeepers and staff	.690			
Responsiveness to customer complaints	.567			
Feelings of personal safety and security	.543			
Road Transport		1.71	4.5	0.77
Comfort of local transport services	.778			
Network (accessibility) of local transport services	.738			
Attitude of local drivers	.629			
Taxi services	.570			
Accommodation and catering		1.58	4.1	0.79
Quality of food	.860			
Quality standard of accommodation	.857			
Cleanliness of accommodation	.840			
Level of hygiene and sanitation	.452			
Pricing		1.28	3.4	0.80
Level of attractions prices	.815			
Level of souvenir and gift prices	.748			
Value for money	.718			
Level of local transportation prices	.521			
Natural environment				
Environmental quality	.766	1.28	3.4	0.70
Cleanliness of beaches and sea	.727			
Attractiveness of natural environment	.507			
Entertainment		1.19	3.1	0.78
Availability of restaurants	.760			
Availability of shopping facilities	.666			
Availability of nightlife and entertainment	.650			
Language and communication		1.05	2.8	0.64
Availability of written material in your language	.782			
Level of language communication	.670			

Tourists' segmentation

Cluster analysis was performed to segment tourists according to differences in their satisfaction. To delineate the clusters and to label them, the mean satisfaction scores for

each item was calculated. This procedure produced names for the three clusters based upon their response to the statements in the table: 'Higher-Satisfied', 'In-Betweeners', and 'Lower-Satisfied'. Table 3 gives the means of each satisfaction statement by cluster group. Figure 1 is based on Table 3 and illustrates diagrammatically the mean scores of each cluster. The numbers on the horizontal axis are the statement numbers. The focus on the figure is the differences between the cluster groups. A description of each cluster follows.

Table 3: Mean scores of clusters

Variables	Clusters Means			F Ratio	DF[1] Within Groups
	1	2	3		
Feelings of personal safety and security	6.57	5.79	4.97	149.861	815
Availability of restaurants	6.42	5.82	4.89	116.975	803
Friendliness of local residents	6.50	5.78	4.47	189.297	815
Cleanliness of accommodation	6.15	5.46	4.17	127.632	825
Attractiveness of natural environment	6.11	5.23	4.52	97.126	788
Attitude of local shopkeepers and staff	6.19	5.37	4.10	188.950	809
Availability of space on beaches	5.92	5.30	4.48	61.837	802
Availability of shopping facilities	6.04	5.33	4.15	156.615	785
Quality of food	5.96	5.30	4.24	90.817	799
Availability of guided excursions and/tours	6.00	5.30	4.02	70.922	803
Cleanliness of beaches and sea	6.06	5.23	4.02	137.686	820
Level of language communication	6.06	5.22	3.96	155.907	766
Quality standard of accommodation	5.90	5.25	3.94	128.191	826
Availability of facilities on beaches	6.00	5.01	4.10	132.316	753
Availability of museums and historical places	5.89	4.91	4.08	102.317	678
Availability of daily tour services	5.75	5.08	4.89	119.158	666
Availability of health services	5.89	4.84	3.93	106.533	561
Comfort of local transport services	5.91	4.65	4.16	111.413	740
Distance between the resort and the destination airport	5.69	4.78	4.02	86.533	782
Taxi services	5.66	4.81	3.97	65.444	606
Value for money	4.69	4.77	3.88	112.776	718
Availability of nightlife and entertainment	5.62	4.84	3.84	96.141	714
Level of hygiene and sanitation	5.85	4.74	3.68	194.719	823
Network (accessibility) of local transport services	5.83	4.51	3.96	124.269	755
Cleanliness of the destination airport	5.72	4.47	3.94	125.790	814
Responsiveness to customer complaints	5.55	4.72	3.57	95.144	606
Availability of facilities for children	5.65	4.50	3.78	73.150	559
Availability of sport facilities and activities	5.62	4.49	3.63	113.513	626
Availability of written material in your language	5.52	4.59	3.45	83.066	791
Attitude of local drivers	5.60	4.32	3.61	101.435	763
Environmental quality	5.53	4.36	3.37	122.796	789
Level of local transportation prices	5.75	4.82	4.02	93.732	673
Level of souvenir and gift prices	5.26	4.33	3.44	108.248	747
Level of attractions prices	5.09	4.35	3.48	74.017	712
Speed of check-in and check-out at the destination airport	5.24	3.99	3.58	86.533	810
Existence of information centres	5.30	3.93	3.25	148.479	685
Signage (directions)	4.93	3.99	3.21	66.476	707
Availability of facilities and services at destination airport	5.23	3.67	3.16	136.974	774

[1] df between groups = 2

Fig. 1. Mean scores of clusters
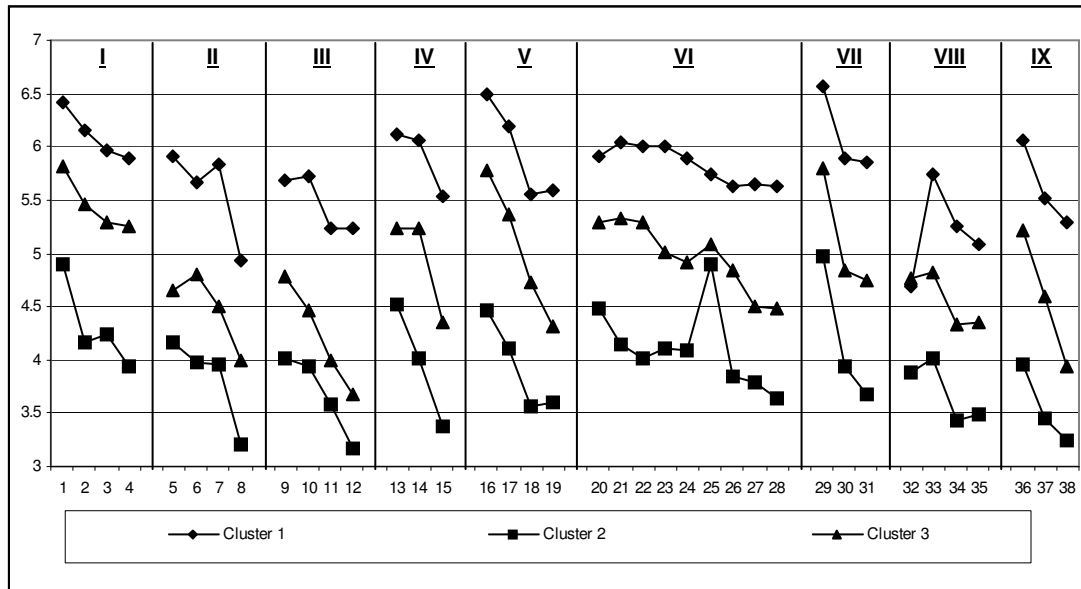
Cluster 1. The first cluster represents 28.4% of the sample (N=241). This cluster is dubbed the 'Higher-Satisfied' to indicate its members' high satisfaction from vacation in Crete. For each of the satisfaction statements, this cluster had the highest mean value of the three clusters. The highest satisfactions were expressed to the statement 'feelings of personal safety and security', followed by the statement 'friendliness of local residents', and only responses to the statements 'value for money' and 'signage (directions)' were below the middle of the 7-point Likert scale.

Cluster 2. The second cluster represents the largest segment of the sample, comprising 46.3% of the total (N=396). For the reason that respondents in this cluster were between the other two clusters in all satisfaction statements, they were labeled 'In-Betweeners'. Their satisfaction was above the mid-point for all statements with exception four, among which the statement 'availability of facilities and services at destination airport' that presented the lowest satisfaction ratings.

Cluster 3. This cluster is the smallest, comprising 24% of the total sample (N=212). Of all three clusters, this cluster had the lowest mean values and therefore it was labelled *'Lower-Satisfied'*. In more detail, respondents were rated below, although close, the mid-point for 21 of the 38 statements. The lowest satisfaction was expressed for the statement 'availability of facilities and services at destination airport', although the highest for the statement 'availability of restaurants'.

Profiling the clusters
Cross-tabulations were used to examine differences among the clusters for each sociodemographic, travel arrangement characteristic, and, favorable behavioural intention variables (Table 4, 5 and 6). Only differences that are statistically significant at the 5% level are discussed here.

Table 4: Sociodemographic characteristics of the clusters

	Cluster 1 %	Cluster 2 %	Cluster 3 %	Cramer's V	Sig.[1]
Gender:				.156	**.000**
Male	37.2	48.8	58.5		
Female	62.8	51.2	41.5		
Marital status:				.079	**.035**
Married	61.5	64.7	52.7		
Single	28.9	27.6	39.4		
Separated/Widowed/Divorced	9.6	7.7	7.9		
Age:				.101	**.002**
18-30 years	23.3	27.0	38.5		
31- 45 years	34.5	35.1	34.1		
46+ years	42.2	37.9	27.3		
Geographic Origin:				.062	.377
West Europeans	88.8	92.5	89.8		
Mediterranean Europeans	5.0	4.2	4.9		
East Europeans	2.5	0.5	1.0		
Non-Europeans	3.8	2.9	4.4		
Education:				.076	.151
Below high School	18.8	12.6	17.3		
High School	27.4	30.2	29.2		
College/Degree	34.6	36.5	40.1		
Postgraduate and beyond	19.2	20.7	13.4		
Income:				.081	.171
Less than €25.000	27.7	19.8	20.0		
Between €25.000-€50.000	31.4	27.7	32.6		
Between €50.001-€75.000	19.7	24.5	25.1		
€75.001 or more	21.3	28.0	22.3		
Employment Status:				.066	.129
Non employed	10.5	15.4	19.2		
Retired	9.6	7.8	8.4		
Employed	79.9	76.8	72.4		

[1] The values shown in bold indicate a statistically relationship at the .05 level of confidence

Table 5: Travel arrangement preferences of the clusters

	Cluster 1 %	Cluster 2 %	Cluster 3 %	Cramer's V	Sig. [1]
Season:				.077	.078
High	67.2	61.6	70.3		
Low	32.8	38.4	29.7		
Type of accommodation				.088	**.045**
4 or 5 star hotel	40.8	38.9	38.6		
3 or 2 star hotel	21.7	34.1	27.6		
Rented Apartments	29.6	24.0	28.1		
Other	7.9	2.9	5.6		
Length of Stay:				.071	.083
4 -7 days	42.6	46.2	45.7		
8 –13 days	11.1	17.2	16.8		
14 days+	46.4	36.6	37.6		
Party composition [2] :					
With a partner	43.2	47.7	43.2		
With family with children	45.2	39.1	38.8		
With friends	14.5	16.7	15.5		
Alone	2.9	3.3	2.9		
Other	1.2	0.4	4.4		

[1] The values shown in bold indicate a statistically relationship at the .05 level of confidence
2 Multiple Response

Table 6: Intention to visit and recommend Crete to friends

	Cluster 1 %	Cluster 2 %	Cluster 3 %	Cramer's V	Sig. [1]
Intention to visit Crete in the future:				.281	**.000**
Yes	85.0	55.8	78.1		
No	9.4	32.7	12.2		
I don't know	5.6	11.6	9.7		
Recommendation of Crete to friends:				.252	**.000**
Yes	96.3	81.6	92.9		
No	1.9	15.0	2.5		
I don't know	1.9	3.4	4.6		

[1] The values shown in bold indicate a statistically relationship at the .05 level of confidence

The members of the 'Higher-Satisfied' cluster were somewhat older than the other two segments (42.2%) and had a higher share of females (62.8%). They were also more likely to have traveled with family with children (45.2%) and to stay in four and five star hotels (40.8%). Since cluster 1 expressed the higher satisfaction, members of this cluster were more likely to visit Crete again in the future and to recommend Crete to friends, 85% and 96.3% respectively. Slightly more than half of 'In-Betweeners' were female, the majority (64.7%) tended to be married, and slightly less that half enjoyed being in Crete together with their partner, and, they had a lower share of individuals (24%) who stayed in three or two star hotels. 'In-Betweeners' showed lower intention to visit Crete in the future, and to recommend their holiday experiences to others, 55.8% and 81.6% respectively. The third cluster had a higher share of males (48.5%), and, singles (39.4%) in their 20s and 30s (38.5%) compared to the other two clusters. Surprisingly, the 'Lower-Satisfied' expressed high favourable intention to visit Crete and to recommend Crete to friends (78.1% and 92.9% respectively).

DISCUSSION AND CONCLUSION

Gaining feedback from tourists may help destination marketers to measure how well a destination is doing and to identify segments of tourists who are satisfied or dissatisfied and need extra attention in an effort to elevate their user status. In this study, tourists' satisfaction appeared to be a complex process in which several factors are related. Nine factors were found to be the most important elements of tourists' visiting Crete satisfaction levels. From those factors it was evident that various elements of the tourist product, not related to the accommodation sector, have a significant effect on tourists' satisfaction. This may suggest that no matter how good a hotel is, if there is a breakdown at other features of the tourist product such as health, tours, airport services and host attitudes, overall tourists' satisfaction may be under dispute. This has to be considered by destination marketers in future policymaking.

In examining tourists' satisfaction, this segmentation study used a cluster analytical procedure to identify segments of tourists with different satisfaction levels. From this study it was evident that three readily identifiable segments of tourists exist with respect to their satisfaction toward their vacations to Crete. As the findings indicate, Crete, as a tourist destination, provides a product that highly satisfies incoming tourists. This is shown by the overwhelming majority of tourists who had satisfactory experiences. Even those scoring low relative to other groups are shown to be quite high scorers. However, it is necessary to examine the reasons for the concerns of the 'Lower-satisfied' cluster if the aim is to implement specific marketing measures to alleviate the causes of their lower satisfaction. The variables measuring the sociodemographic characteristics (geographic origin, education, income, and employment status), as well as the travel preferences variables (season and length of stay) did not produce statistically significant values, and even when significant differences among the three segments were found for characteristics such as gender, marital status, age, and, type of accommodation, Cramer's V contingency coefficients revealed very weak relationships. Although the identification of differences between sociodemographic characteristics, and, travel arrangement preferences may help marketers to develop effective strategies, these variables were not found of important value in this segmentation study.

On the other hand, the two favourable intention variables were found to be related significantly to cluster membership. However, in the case of Crete where a satisfactory experience is a fact for the majority of incoming tourists and only 24% of the sample expressed somewhat low satisfaction, positive experiences cannot guarantee repeat visitation. As McDougall and Munro[46] support tourists might look for new destinations even if these destinations offer similar products and services with destinations already visited. Although satisfied tourists do not necessarily return, they can help the destination to attract new customers.[42] Thus, intention of the sample to recommend Crete was greater than that over to the intention to return. It is apparent that satisfied tourists are more likely to recommend destinations,[42] and, regardless of the segment, it was evident in this study that this likelihood is not always a result of satisfaction. To this extend, it is undeniable that positive word-of-mouth communication is of critical importance to the success of Crete, in the future, since it can be used as a weapon to negotiate with international tour operators.

To ensure increased satisfaction of incoming tourists marketing efforts should fulfil their needs and desires. From a promotion perspective, the results indicated that respondents expressed the highest satisfaction scores to the attributes safety and security and the friendliness of the locals. Marketing efforts should draw attention to safety and security and the hospitality of the locals, since each of these attributes is among the main strengths of the island's tourism product. Thus advertising and promotion efforts should emphasise these strengths in an attempt to increase visitation. On the other hand, since lower satisfaction scores were given to the availability of facilities and services at destination airport, signage (directions) and the existence of information centres, destination managers should improve these attributes in an attempt to decrease dissatisfaction.

The findings of this study provide an interesting basis for discussion on the overall current status of the Cretan tourism industry, particularly, as pertains to the poor performance of the island's tourism industry, identified through official statistics and past research. Since satisfaction levels were high, and, overall almost 75% of respondents, expressed their likelihood to make subsequent visits to Crete, and more than 90% to recommend these holiday experiences to others, it should be expected that the volume of tourists visiting Crete should not be falling. However, declining numbers are a fact. As a result, the reasons for the current poor performance of the island's tourism industry may be found in other factors, not related exclusively to the satisfaction of incoming tourists. For instance, one critical element of tourists' visitation is overseas tour operators' and travel agents' decisions on whether to send tourists to specific destinations. Tour operators have the power to choose between many alternative island tourist destinations, which offer similar tourist attractions. As Akama and Kieti[47] support 'perceived unfavourable and sometimes even incidental political and socioeconomic factors in one destination can make tour operators and travel agents to reroute prospective tourists to alternative destinations (p. 78).' To overcome this exogenous to the island problem, it may be necessary to enable the transfer of information between bodies and individuals interested in the purchase of tourist services and products, without the intermediation of foreign tour operators, perhaps through the internet or by establishing a central reservation system. In doing so, the provision of information to the travel market will be enhanced and potential visitors will have the opportunity to book accommodation, transportation, excursions, tourist attractions and events on-line. Additionally, marketing managers should identify the most appropriate media to promote the island.

To conclude, identifying segments of tourists by their responses may bring marketers closer to the evaluation of tourists' satisfaction levels and may help destination marketers to design their future marketing strategies. However, real progress in the marketing research depends on a better understanding of the factors that underlie these patterns. For example, in Crete, limited past research of comparative studies has not made clear whether tourists' satisfaction differ from resort to resort. Therefore, it may be useful to extend further this research by conducting surveys on various Cretan locations in an attempt to identify whether differences and similarities exist that may lead to the proposition that there are common characteristics between resorts within the island, something that will make possible the suggestion of policy implications for specific resorts of the island. Likewise, it should be noted that each particular destination has different attributes meaning that tourists satisfied in one destination may differ from those

satisfied at another. As a result, the findings of this study cannot generalised for other, Mediterranean or not, destinations. Finally, this study was addressed to tourists visiting the island of Crete. However, questions may arise about the extent to which managers and marketers of individual hotels are aware of the satisfaction of their guests. Thus, managers and marketers of individual properties should monitor the needs and the satisfactions of their guests in order to adopt marketing strategies tailed to their customers.

References
(1)   Anagnostopoulou, K., Arapis, T., Bouchy, I. and Micha, I. (1996) *Tourism and the Structural Funds - The Case for Environmental Integration*. Athens: RSPB.
(2)   Andriotis, K. (2006) 'Host, guests and politics - Coastal resorts morphological change', *Annals of Tourism Research*, Vol. 33, No. 4, pp.1079-1098.
(3)   Briassoulis, H. (2004) 'Crete: endowed by nature, privileged by geography, threatened by tourism?' In Bramwell, B. (ed). *Coastal Mass Tourism: Diversification and Sustainable Development in Southern Europe*, (pp. 48-67). Clevedon: Channel View Publications

(4)   Andriotis, K. (2002) 'Dependency on tour operators. Problem faced by the Cretan tourism businesses and the views of their owners/managers', *International Journal of Hospitality and Tourism Administration,* Vol. 4, No. 3, pp. 23-48.

(5)   Bird, L. (1995) 'Greece: operators in more to stem slump', *Travel Weekly* No. 1259, 22 March, p.5.
(6)   Dighe, A. (1997) 'As Greece attempts to go on a quality drive for 1998', *Travel Trade Gazette U.K. and Ireland*, No. 2273 (July), p. 30.
(7)   Andriotis, K. (2005) 'Seasonality in Crete. Problem or a way of life?' *Tourism Economics,* Vol. 11, No. 2, pp. 207-227.
(8)   Drakatos, C. (1987) 'Seasonal concentration of tourism in Greece', *Annals of Tourism Research,* Vol. 14, No. 4, pp. 582-586.
(9)   Andriotis, K. (2003) 'Problems faced by the Cretan tourism industry as perceived by the business sector', *Tourism: An International Interdisciplinary Journal,* Vol. 51, No. 1, pp. 21-30.
(10)   Andriotis, K. (2002) 'Local authorities in Crete and the development of tourism', *The Journal of Tourism Studies,* Vol. 13, No. 2, pp. 53-62.

(11)   Ekinci, Y., Prokopaki, P. and Cobanoglu, C. (2003) 'Service quality in Cretan accommodations: marketing strategies for the UK holiday market', *International Journal of Hospitality Management,* Vol. 22, pp. 47-66.
(12)   Ross, E.L.D. and Iso-Ahola, S.E. (1991) 'Sightseeing tourists' motivation and satisfaction', *Annals of Tourism Research,* Vol. 18, pp. 226-237.
(13)   Crompton, J.L. (1979) 'Motivations for pleasure vacation', *Annals of Tourism Research,* Vol. 6, pp. 408-424.
(14)   Schneider, I. and Sonmez, S. (1999) 'Exploring the touristic image of Jordan', *Tourism Management,* Vol. 20, pp. 539-542.
(15)   Reid, L.J. and Reid, S.D. (1997) 'Traveler geographic origin and market segmentation for small island nations: the Barbados case', *Journal of Travel and Tourism Marketing,* Vol. 6, No. 3/4, pp.5-22.

(16) Suh, Y.K. and Gartner, W.C. (2004) 'Perceptions in international urban tourism: an analysis of travelers to Seoul, Korea', *Journal of Travel Research,* Vol. 43, pp. 39-45.

(17) Pizam, A., Neumann, Y. and Reichel, A. (1978) 'Dimensions of tourist satisfaction with a destination area', *Annals of Tourism Research,* Vol. 5, No. 3, pp.314-322.

(18) McIntyre, G. (1993) *Sustainable tourism development: guide for local planners.* Madrid: World Tourism Organisation.

(19) Dolnicar, S. (2004) Beyond 'Commonsense segmentation: a systematics of segmentation approaches in tourism', *Journal of Travel Research,* Vol. 42, pp. 244-250.

(20) Heung, V.C.S., Qu, H. and Chu, R. (2001) 'The relationship between vacation factors and socio-demographic and traveling characteristics: the case of Japanese leisure travelers', *Tourism Management,* Vol. 22, pp. 259-269.

(21) Hudson, S. (2000) 'The segmentation of potential tourists: constraint differences between men and women', *Journal of Travel Research,* Vol. 38, pp. 363-368.

(22) Jang, S.C., Morrison, A.M. and O'Leary, J.T. (2002) 'Benefit segmentation of Japanese pleasure travelers to the USA and Canada: selecting target markets based on the profitability and risk of individual market segments', *Tourism Management,* Vol. 23, pp. 367-378.

(23) Juaneda, C. and Sastre, F. (1999) 'Balearic islands tourism: a case study in demographic segmentation', *Tourism Management,* Vol. 20, No. 4, pp. 549-552.

(24) Mykletun, R.J., Crotts, J.C. and Mykletun, A. (2001) 'Positioning an island destination in the peripheral area of the Baltic's: a flexible approach to market segmentation', *Tourism Management,* Vol. 22, pp. 493-500.

(25) Francken, D.A. and Van Raaij, W.F. (1979) 'Satisfaction and vacation', *Paper Presented at the 18th Annual Meeting of the European Academy for Advanced Research in Marketing, Groningen, April 10-12.*

(26) MacKay, K. and Fesenmaier, D. (1997) 'Pictorial element of destination in image formation', *Annals of Tourism Research,* Vol. 24, pp. 537-565.

(27) Bauer, T., Jago, L. and Wise, B. (1993) 'The changing demand for hotel facilities in the Asia Pacific Region', *International Journal of Hospitality Management,* Vol. 12, No. 4, pp.313-22.

(28) Woodside, A.G. and Jacobs, L.W. (1985) 'Step two in benefits segmentation: learning the benefits realized by major travel markets', *Journal of Travel Research,* Vol. 24, No. 1, pp.7-13.

(29) Debagge, K.G. (1991) 'Spatial behavior in a Bahamian resort', *Annals of Tourism Research,* Vol. 18, pp. 251-268.

(30) Uysal, M., McDonal, M.C. and O'Leary, J. (1988) 'Length of stay: a macro analysis for cross country skiing trips', *Journal of Travel Research,* Vol. 25, pp. 29-31.

(31) Perez, E.A. and Nadal, J.R. (2005) 'Host community perceptions. A cluster analysis', *Annals of Tourism Research,* Vol. 32, No. 4, pp.925-941.

(32) Sarigollu, E. and Huang, R. (2005) 'Benefits segmentation of visitors to Latin America', *Journal of Travel Research,* Vol. 43, pp. 277-293.

(33) Weaver, D.B. and Lawton, L. (2004) 'Visitors attitudes toward tourism development and product integration in an Australian urban-rural fringe', *Journal of Travel Research,* Vol. 42, pp. 286-296.

(34) Wickens, E. (2002) 'The sacred and the profane. a tourist typology', *Annals of Tourism Research,* Vol. 29, No. 3, pp.834-851.

(35) Frochot, I. (2005) 'A benefit segmentation of tourists in rural areas: A Scottish perspective', *Tourism Management,* Vol. 26, pp. 335-346.

(36) Kastenholz, E., Davis, D. and Paul, G. (1999) 'Segmenting tourists in rural areas: the case of North and Central Portugal', *Journal of Travel Research,* Vol. 37, pp. 353-363.

(37) Locker, L.E. and Perdue, R.R. (1992) 'A benefit-based segmentation of a non-resident summer travel market', *Journal of Travel Market*ing, Vol. 31, No. 1, pp.30-35.

(38) Andersen, B., Prendice, R. and Watanabe, X. (2000) 'Journey for experiences in Scotland', *Journal of Travel and Tourism Marketing,* Vol. 9, No. 1/2, pp.129-151.

(39) Cha, S., McCleary, K. and Uysal, M. (1995) 'Travel motivations of Japanese overseas travellers: a factor-cluster segmentation approach', *Journal of Travel Research,* Vol. 34, No. 1, pp.33-39.

(40) Frochot, I. and Morrison, A. (2000) 'Benefit segmentation: a review of its application to travel and tourism research', *Journal of Travel and Tourism Marketing,* Vol. 9, No. 4, pp.21-45.

(41) Kozak, M. (2003) 'Measuring tourist satisfaction with multiple destination attributes', *Tourism Analysis*, Vol. 7, pp. 229-240.

(42) Kozak, M. and Rimmington, M. (2000) 'Tourist satisfaction with Mallorca, Spain, as an off-season holiday destination', *Journal of Travel Research,* Vol. 38, pp. 260-269.

(43) Reisinger, Y. and Turner, L.W. (2003) *Cross-cultural behaviour in tourism. Concepts and analysis*. Oxford: Butterworth Heinemann.

(44) Hair, J.F., Anderson, R.E. and Tatham, R.L. (1987) *Multivariate Data Analysis*. 2nd ed. New York: Macmillan.

(45) Nunnaly, J.C. (1978) *Psychometric theory*. (2nd ed.) New York: McGraw-Hill.

(46) McDougall, G. H. G. and Munro, H. (1994) 'Scales and attitude measurement in travel and tourism research', In J. R. B. Ritchie and C. R. Goeldner (eds.), *Travel, tourism, and hospitality research: A handbook for managers and researchers* (pp. 115–130). New York: Wiley.

(47) Akama, J.S. and Kieti, D.M. (2003) 'Measuring tourist satisfaction with Kenya's wildlife safari: A case study of Tsavo West National Park', *Tourism Management,* Vol. 24, pp. 73-81.