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**Service Quality Evaluation in
the Tourism Industry:
A SWOT Analysis Approach**

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M. Tsitsiloni, E. Grigoroudis, C. Zopounidis

Service quality evaluation in the tourism industry: A SWOT analysis approach

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Abstract

The quality evaluation of the provided tourism services constitutes the most important issue for the viability of this particular sector and the improvement of the total tourism product. This paper presents the results of a tourist satisfaction survey that took place in an Aegean island during the period of May-September 2009. The final sample consists of 1026 questionnaires that were distributed to Greek and foreign tourists during their departure from the island (harbor and airport). The main objective of this paper is to evaluate tourists' satisfaction and identify the strong and the weak points of the tourism services offered. These results may help the development of a strategic plan for the quality improvement of the overall tourism product. Besides descriptive statistical techniques, the analysis of the collected data is based on the multicriteria method MUSA. The method is able to combine satisfaction importance and performance results and provide a SWOT (Strengths-Weaknesses-Opportunities-Threats) analysis for the whole set of the tourist satisfaction criteria. The presented analytical results reveal that the main strong points of the offered tourist product refer to the fame and the natural beauties of the island, as well as the high level of expenses. On the other hand, the most important weak points concern the small duration of stay, as well as the low level of satisfaction in specific service quality criteria (local transports, information, and environment).

Keywords: Tourist Satisfaction, MUSA Method, SWOT Analysis, Service Quality

1. Introduction

The tourism industry constitutes one of the most important sectors in many local economies in Greece, mainly because of its constant increasing contribution to the income of these regions, but also due to the opportunities offered for further growth (Karakitsiou et al., 2007). The importance of tourism sector is presented in the work of Naisbitt (1995), who emphasizes that the world economy in the current century will be dominated by three sectors: information technology, telecommunications, and tourism.

Modern business organizations consider service quality as the most reliable source of market information. Service quality is considered as the main determinant of customer satisfaction, which in turn influences purchase intentions (Spreng and Mckoy, 1996; De Ruyter et al., 1997). The importance of service quality evaluation through customer satisfaction measurement is reinforced by the necessity of adopting a “continuous improvement” philosophy and understanding customer perceptions (e.g. needs, expectations).

Generally, the main reasons for measuring customer satisfaction are summarized in the following (Grigoroudis and Siskos, 2010):

- Customer satisfaction constitutes the most reliable market information. This way, a business organization is able to evaluate its current position against competition, and design its future plans accordingly.
- A large number of customers avoid expressing their complaints or their dissatisfaction from the product or service provided, either due to a particular attitude or because they are not sure that the company will perform any corrective action.
- Customer satisfaction measurement is able to identify potential market opportunities.
- The main principles of continuous improvement require the development of a specific customer satisfaction measurement process. This way, any improvement action is based on standards that take into account customer expectations and needs.
- Customer satisfaction measurement may help business organizations to understand customer behavior, and particularly to identify and analyze customer expectations, needs, and desires.
- The application of a customer satisfaction measurement program may reveal potential differences in the service quality perceptions between the customer and the management of the business organization.

The necessity of customer satisfaction measurement in the tourism industry may be justified by the importance of the tourism sector for local economies and the intense competition among alternative tourism destinations that is evident in recent years. Furthermore, tourism sector is heavily influenced by significant external factors from the global economic environment, and thus it is necessary to

improve the quality of the services offered in order to gain competitive advantages and increase tourist loyalty levels.

However, tourist satisfaction from a destination area is a general and ambiguous notion, since tourism goods and services should be treated as a subset of goods and services in general. For this reason, as noted by Yuksel (2001) a large number of researchers have studied components of experiences, which contribute to tourist satisfaction within different tourism and hospitality contexts (e.g. guest satisfaction with hotels and restaurant services, satisfaction with destination services, satisfaction with recreational services, satisfaction with tours or cruise travel). As suggested by Pizam et al. (1978), tourist satisfaction is the result of interaction between tourist's experience at the destination areas and the expectations she/he had about that destination. This confirmation/disconfirmation approach is rather common in tourist satisfaction research (Bowen and Clarke, 2002).

The HOLSAT model is a characteristic approach used to evaluate satisfaction from a particular destination (Tribe and Snaith, 1998). The model is based on the disconfirmatory paradigm outlined before and adopts the philosophy of the SERVQUAL model (Parasuraman et al., 1985; 1988; 1991). The main results of the HOLSAT model focus on the difference between "expectation" and "experience" scores for each attribute, which gives a quantitative measure of the level of satisfaction shown by the vacationers (Truong and Foster, 2006). Other research efforts in tourism management combine the disconfirmation paradigm with additional quality improvement tools, like QFD, Kano's model, etc. (Pawitra and Tan, 2003).

Despite the context and the multivariate nature of tourist satisfaction measurement, Multiple Criteria Decision Analysis (MCDA) has not been widely applied in evaluating service quality in the tourism industry. Rozman et al. (2009) apply the DEX method, which combines traditional MCDA approaches and elements of expert systems and machine learning, in order to assess tourist farm service quality. An AHP model, combined with fuzzy TOPSIS, is applied by Hsu et al. (2009) in a preference analysis for tourist choice of destination in Taiwan. The MUSA method has been also applied by Arabatzis and Grigoroudis (2010) in order to examine the level of visitors' satisfaction regarding the National Park of Dadia–Lefkimi–Souflion area.

The main objective of this paper is to present an application of a MCDA approach in tourist satisfaction measurement from a destination area. Moreover, the presented study aims to demonstrate how a SWOT analysis approach may be applied in the context of tourism management.

The paper is organized into 4 more sections. Section 2 briefly presents the adopted methodology, including the development of the MUSA method and proposed gap analysis approach. The main results of the tourist satisfaction survey are presented in section 3, giving emphasis on the determination of the strong and weak point of the services offered. Finally, section 4 summarizes some concluding remarks.

Methodology

MUSA method

The MUSA (MULTicriteria Satisfaction Analysis) method is a multicriteria preference disaggregation approach, which provides quantitative measures of customer satisfaction considering the qualitative form of customers' judgments (Siskos, et al. 1998; Grigoroudis and Siskos, 2002). The main objective of the MUSA method is the aggregation of individual judgments into a collective value function, assuming that client's global satisfaction depends on a set of n criteria or variables representing service characteristic dimensions. This set of criteria is denoted as $\mathbf{X} = (X_1, X_2, \dots, X_n)$, where a particular criterion i is represented as a monotonic variable X_i .

The MUSA method infers an additive collective value function Y^* and a set of partial satisfaction functions X_i^* , given customer's global satisfaction Y and partial satisfaction X_i according to criterion i (ordinal scaling). The main objective of the method is to achieve the maximum consistency between the value function Y^* and the customers' judgments Y . Based on the modeling of preference disaggregation approach, the ordinal regression equation becomes as follows:

$$\tilde{Y}^* = \sum_{i=1}^n b_i X_i^* - \sigma^+ + \sigma^- \quad \text{with} \quad \sum_{i=1}^n b_i = 1$$

where \tilde{Y}^* is the estimation of Y^* , b_i is the weight of the i -th criterion, n is the number of criteria, and σ^+ , σ^- are the overestimation and the underestimation errors, respectively.

The most important results provided by the MUSA method are the estimated global and partial value functions, the criteria weights, and the average satisfaction, demanding, and improvement indices. In particular, regarding performance and importance results, the following should be noted:

- *Criteria weights*: they represent the relative importance of the assessed satisfaction dimensions; the decision whether a satisfaction dimension is considered important by the customers is also based on the number of assessed criteria; their properties are also determined in the context of multicriteria analysis (e.g. the weights are value trade-offs among the criteria).
- *Average satisfaction indices*: they show in a range of 0–100% the level of customers' satisfaction and they can be considered as the basic performance norms; the average satisfaction indices are basically the mean value of the global and partial value functions.

- *Average demanding indices*: these indices are calculated according to the shape of global and partial value functions, which indicate customers' demanding level; they represent the average deviation of the estimated value functions from a "normal" (linear) function; the average global and partial demanding indices, D and D_i , respectively, are normalized in the interval $[-1, +1]$ and the following possible cases hold:
 - Neutral customers (D or $D_i \in [-0.33, +0.33]$): the value function has more or less a linear form; the more satisfied these customers express they are, the higher the percentage of their fulfilled expectations is.
 - Demanding customers (D or $D_i \in [+0.33, +1.00]$): this refers to a case of a convex value function; customers are not really satisfied, unless they receive the best quality level.
 - Non-demanding customers (D or $D_i \in [-1.00, -0.33]$): this refers to a case of a concave value function; customers express that they are satisfied, although only a small portion of their expectations is fulfilled.

These indices are used in customer behavior analysis, but they may also indicate the extent of company's improvement efforts: the higher the value of the demanding index, the more the satisfaction level should be improved in order to fulfill customers' expectations.

- *Average improvement indices*: they represent the improvement efforts and they depend on the importance of satisfaction criteria and their contribution to dissatisfaction as well; these indices are normalized in the interval $[0, 1]$ and they can show the improvement margins on a specific criterion.

Detailed presentation of the mathematical development of the MUSA method may be found in Grigoroudis and Siskos (2002, 2010), and Siskos et al. (1998), while several applications to business organizations can be found in the literature (Siskos et al., 1998; Grigoroudis et al., 2000; Mihelis et al., 2001; Grigoroudis et al., 2002; Politis and Siskos, 2004; Grigoroudis and Siskos, 2004).

SWOT analysis

SWOT analysis is widely used in management science to identify strengths, weaknesses, opportunities and threats when studying a particular product/service or an entire company/organization. In service quality literature, SWOT analysis appears either as gap analysis or as performance-importance comparison (Grigoroudis and Siskos, 2010). In both cases the main objective is to identify the quality gap of the service offered, i.e. identify the gap between what customers want and what customers get.

The MUSA method, using the previous results, provides additional diagrams that may help to determine improvement actions. In particular, the action diagrams are developed by combining weights and average satisfaction indices. These diagrams indicate the strong and the weak points of customer satisfaction, and define the required improvement efforts. Each of these maps is divided into quadrants, according to performance (high/low) and importance (high/low) that may be used to classify actions (Fig. 1):

- *Status quo* (low performance and low importance): Generally, no action is required.
- *Leverage opportunity* (high performance/high importance): These areas can be used as advantage against competition.
- *Transfer resources* (high performance/low importance): Company's resources may be better used elsewhere.
- *Action opportunity* (low performance/high importance): These are the criteria that need attention.

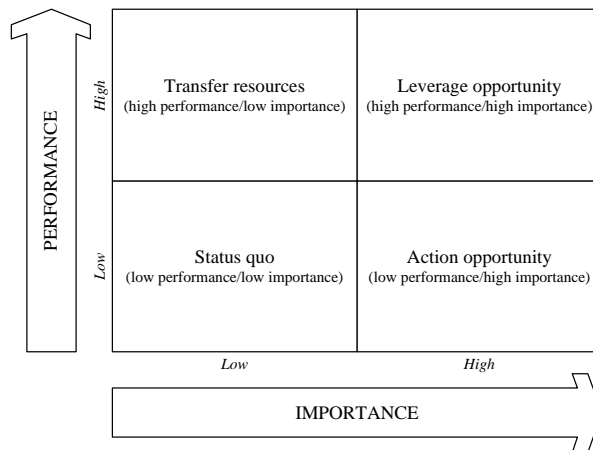


Fig. 1. Action diagram (Grigoroudis and Siskos, 2010)

These diagrams are similar to SWOT maps, since status quo quadrant refers to threats, leverage opportunity quadrant refers to strengths, transfer resources corresponds to opportunities, and action opportunity quadrant corresponds to weaknesses. In addition, they appear in the service quality literature as importance-performance analysis (Dutka, 1995; Naumann and Giel, 1995) or gap analysis (Hill, 1996; Woodruff and Gardial, 1996; Vavra, 1997). Similar gap analysis tools have been widely used in tourism research, mainly for the evaluation of hotel and restaurant services and facilities (Oh, 2001; Karakitsiou et al., 2007) or the measurement of visitors' satisfaction (Wade and Eagles, 2003; Ryan and Cessford, 2003; Tonge and Moore, 2007; Hanim et al., 2010).

Another type of map provided by the MUSA method concerns the improvement diagram, which takes into account customers' demanding level and it is used

in order to rank improvement priorities (Fig. 2). Similarly to the previous maps, each of these diagrams is divided into quadrants according to demanding (high/low), and effectiveness (high/low). Thus, the first priority should be given to satisfaction criteria having large improvement margins and need small effort. On the other hand, the last priority should be given to satisfaction dimensions with low dissatisfaction level that need substantial effort to improve. Finally, the second priority quadrant includes satisfaction dimensions that have either a low demanding index or a high improvement index.

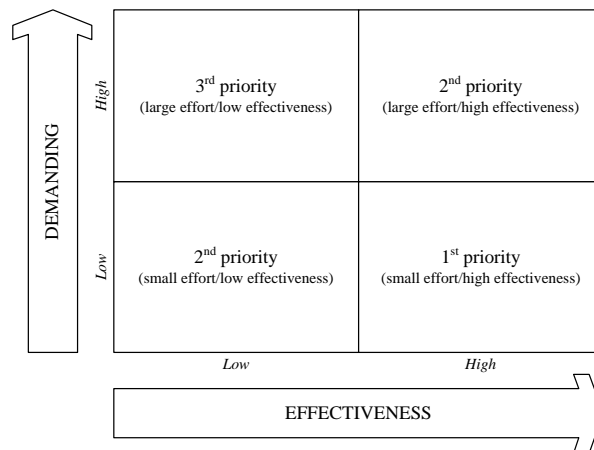


Fig. 2. Action diagram (Grigoroudis and Siskos, 2010)

Survey and results

Satisfaction criteria and questionnaire

The most important phase in the implementation of the MUSA model is the assessment of the set of satisfaction criteria and the definition of the value hierarchy. Based on previous applications of the MUSA method and customer satisfaction surveys in the tourism sector (Pizam et al., 1978; Yuksel, 2001; Karakitsiou et al., 2007; Arabatzis and Grigoroudis, 2010; Tsitsiloni, 2010), the set of satisfaction criteria used in the survey consists of:

1. *Accommodation*: all the characteristics of accommodation are included in this criterion, e.g. service offered, facilities, staff, prices.
2. *Food/Cuisine*: this particular criterion refers to the local cuisine and the food offered inside or outside the accommodation facilities and includes food quali-

ty, the variety of dishes, the environment (decoration, aesthetics), the provided services, the prices, etc.

3. *Natural environment*: this criterion refers mainly to the natural environment, the climate conditions, as well as the local architecture.
4. *Urban environment*: the criterion is related to the urban environment and the infrastructures of the island and includes the cleanliness of public spaces, the noise pollution, the roads and the traffic, the available parking, etc.
5. *Hospitality*: this characteristic is related with the hospitality, the behavior, and the friendliness of the locals.
6. *Information*: the information available to tourists through desks, kiosks, signs, and maps is included in this dimension.
7. *Entertainment/Recreation*: this criterion refers to the entertainment/recreation choice offered to tourists during their stay and includes the available choices, the service offered, the venues, the prices, etc.
8. *Transportation (from and to island)*: this particular dimension concerns the transportation from and to the island and includes all the characteristics of the service provided in island's port and airport.
9. *Local transportation means*: the criterion refers to the local transportation means, i.e. bus and taxi services, rented cars, etc. and includes all the characteristics of the provided services (availability, service from personnel, prices, etc.).

The final questionnaire has been developed based on the aforementioned satisfaction criteria, in which tourists were asked to express their satisfaction using a 5-point Likert type ordinal scale (dissatisfied, somehow dissatisfied, neither satisfied nor dissatisfied, somehow satisfied, satisfied). The first part of the questionnaire contains questions about the tourist's personal characteristics (sex, age, income, purpose of trip). The second part is devoted to travel information (number and period of previous visits, alternative destination examined, reasons of choosing the island, sources of information), while the third part includes questions about accommodation, length of stay, and expenses. The fourth part of the questionnaire refers to the satisfaction criteria, while the next part of the questionnaire contains loyalty-related questions.

Sample and tourists' profile

The final sample consists of 1026 questionnaires that were distributed to Greek and foreign tourists during their departure from the island (harbor and airport). The questionnaires were collected through personal interviews during summer 2009.

In order to formulate a customer profile, tourist's characteristics have been studied. The sample is almost equally distributed between males and females (male 46.5%, female 53.5%). Also, the majority of visitors are less than 40 years

old (74.8%), while the group of older visitors is very small (less than 4% are older than 60 years).

Regarding nationality, it should be noted that the 31% of the sample refers to Greek tourists, while the rest 69% consists of foreign visitors. Fig. 3 shows that the distribution of the sample in the different nationalities is relatively high, and the most important foreign tourist groups refer to visitors from the USA, Australia, Italy, Spain, Canada, and Brazil. Generally, there is no nationality group larger than 10% of the sample, while almost 50 different nationality groups have been identified in the final sample. Also, it seems that the length of stay is relatively low, since the majority of tourists spend 1-3 nights in the island (almost 55%). As shown in Fig. 4, only 8% of the sample stays more than 1 week in the island.

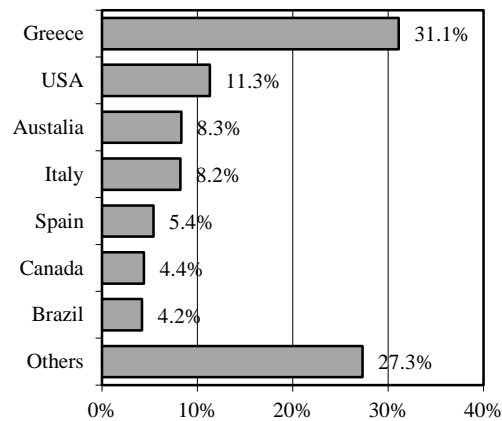


Fig. 3. Nationality groups

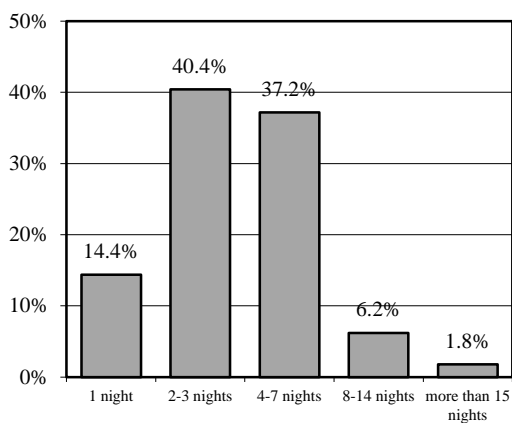


Fig. 4. Length of stay (number of nights spent)

Additional analyses regarding other tourists' personal characteristics have been performed in order to develop a complete profile for the visitors (see more details in Tsitsiloni, 2010). In general, it seems that the most characteristic tourists' segments with distinguished preferences and behavior refer to the nationality (Greek and foreign visitors).

Satisfaction analysis

The results of the MUSA method reveal that the tourists give particular importance in the criterion of entertainment/recreation (weight 18.53%), while the importance of urban environment and transportation criteria is relatively lower (less than 10%). Moreover, it seems that generally the visitors are relatively satisfied from their vacations in the island, since the estimated overall average satisfaction index is 86.40%. Although this overall satisfaction level is relatively high, it seems that there are significant improvement margins.

Regarding the detailed satisfaction criteria, as shown in Table 1, it appears that there are important differences regarding tourist satisfaction level. In particular, the results of Table 1 reveal the following:

- Tourists seem to be quite satisfied by the criteria of entertainment/recreation and natural environment (the average satisfaction indices are approximately 90%), which are also the most important satisfaction dimensions.
- In contrast, the level of tourist satisfaction is quite low regarding the criteria of environment, information, and local transportations (average satisfaction indices 70-78%).
- The rest of criteria present a medium level of satisfaction (80-83%), comparatively lower than the average total satisfaction index.

Table 1. Average satisfaction indices and criteria weights

Satisfaction Criteria	Weight (%)	Average satisfaction indices (%)
Accommodation	10.49	82.85
Food/Cuisine	10.90	80.87
Natural environment	11.11	89.11
Urban environment	9.13	72.61
Hospitality	10.12	80.19
Information	11.11	77.87
Entertainment/Recreation	18.53	90.49
Transportation (airport/harbor)	9.90	80.48
Local transportation means	8.70	68.55
Overall satisfaction		86.40

Fig. 5 presents the action diagram for the whole sample, which is used in order to develop a SWOT analysis map. The detailed results of this diagram reveal that

the criterion of entertainment/recreation is the strongest point of offered tourist product, since it is the characteristic that visitors consider very important, while at the same time they appear particularly satisfied by this. In addition, it seems that no satisfaction criteria appear in the action opportunity area (high importance and low satisfaction/performance). Thus, no critical characteristics exist that require direct improvement actions. The criteria of urban environment (cleanliness of public spaces, roads, noise pollution, parking, etc.) and the local transports are the main basic threats of the tourist product, since they present a relatively low satisfaction level. They are currently considered as a threat and not as a weak point because of their lower importance. For the rest of the satisfaction criteria, the categorization is not easy, since they present a relatively medium satisfaction and importance level. However, it seems that the natural environment is a potential strong point, while the information criterion is a potentially critical characteristic. In general, it seems that there is no “gap” regarding tourist satisfaction (i.e. what tourists want and what tourists get), since visitors seem to be more satisfied by those characteristics that they consider as important.

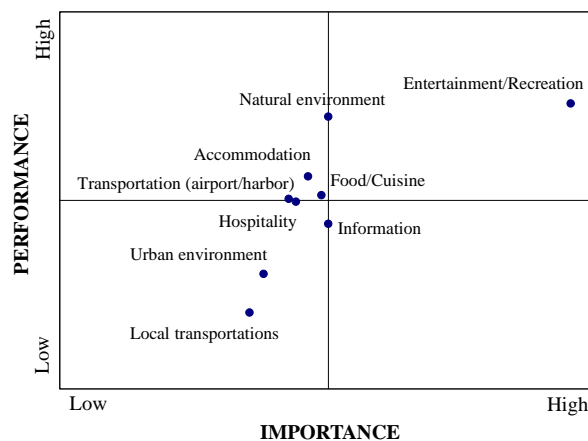


Fig. 5. Action diagram for the tourist satisfaction criteria

Similarly, Fig. 6 shows the improvement diagram for the whole sample. This diagram takes into account the demanding level of tourists, as well as the effectiveness of potential improvement actions. The most important results of Fig. 6 reveal the following:

- Improvement actions should be focused firstly to information and food/cuisine, which are the most important satisfaction criteria with the lowest performance (see also Fig. 5).
- The second priority should refer to the improvement of urban environment and local transportations, which appear to have a relatively lower performance. Alternatively, further improvement action may concern the natural environment and the entertainment/recreation criteria.

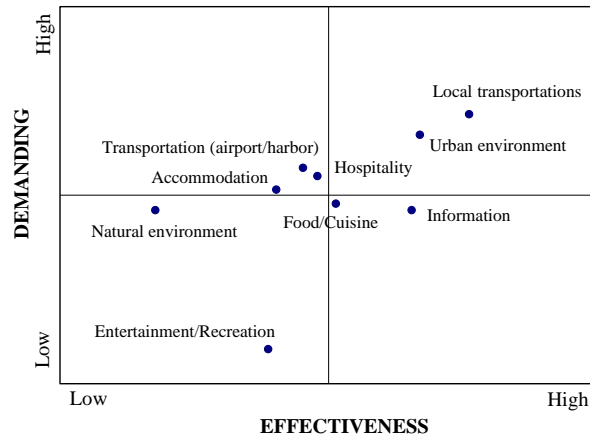


Fig. 6. Improvement diagram for the tourist satisfaction criteria

Statistical analyses

This section presents the results of additional statistical analyses in selected variables of the questionnaire. The results are based on a series of correlation analyses (i.e. chi-square tests), which have been used for identifying particular tourist clusters with distinctive preferences and expectations in relation to the total set.

Based on the results of Table 2, it seems that previous visit is related with nationality. In particular, the Greek tourists are the most loyal visitors, while there are many visitors from North and Central Europe, who had already visited the island. The 80-95% of the rest of the nationalities has visited the island for the first time.

Some nationalities appear more loyal regarding the examination of alternative destinations (Table 2). In particular, the Greeks and the Asians, in general, do not examine alternative destinations when deciding their holidays. Similarly, visitors over 60 years appear more loyal, since they do not examine other alternatives when choosing their holiday destination. In general, there is no strong relation between income and examining alternative destinations. Moreover, as expected, the tourists who have already visited the island are more loyal, regarding this particular characteristic.

Similarly, the length of stay is related to nationality (Table 2). Additional analyses show that the tourists who stay more days on the island are mostly Italians, Greeks and visitors from North and Central Europe. Contrarily, tourists with the smallest length of stay are mostly Asians and Australians-New Zealanders. Age and length of stay do not seem to be strongly related, although the older tourists (more than 40 years old) affect the overall low average length of stay of the whole

sample. Furthermore, there seems to be no strong relation between income and length of stay. On the contrary, a previous visit to the island significantly affects the duration of stay, since repeated visitors stay more days.

As shown in Table 2, there is no significant relation between the level of expenses and the age of tourists. Also, nationality appears to affect the amount of expenses that tourists spent (except for tickets and accommodations), since the highest expenses are observed in European tourists (Italy, North and Central Europe). Contrarily, the amount of expenditures is related to the annual family income of visitors, while repeated visitors seem to spend more, as expected.

Finally, the chi-square tests between overall satisfaction and several tourist characteristics are presented in Table 2. As it can be observed, there is no strong relation between overall satisfaction and age or expenses. On the other, repeated tourists appear more satisfied, while a negative relation appears between overall satisfaction and income or length of stay. These results constitute a significant threat for the tourism services of the island.

Table 2. Results of chi-square tests for tourist characteristics

Variables	Chi-square	df	p-level
Previous visit-Nationality	298.353	7	0.000
Previous visit-Income	12.458	3	0.006
Previous visit-Age	7.526	3	0.057
Alternative destinations-Nationality	41.497	7	0.000
Alternative destinations- Age	10.912	3	0.012
Alternative destinations-Income	5.173	3	0.160
Alternative destinations-Previous visit	14.378	1	0.000
Length of stay- Nationality	252.472	28	0.000
Length of stay- Age	24.185	12	0.019
Length of stay-Income	20.428	12	0.059
Length of stay- Previous visit	57.296	4	0.000
Expenses- Nationality	78.479	21	0.000
Expenses- Age	15.751	9	0.072
Expenses- Income	59.879	9	0.000
Expenses- Previous visit	26.485	3	0.000
Overall satisfaction-Age	17.473	12	0.133
Overall satisfaction-Income	24.458	12	0.018
Overall satisfaction-Previous visit	16.712	4	0.002
Overall satisfaction-Length of stay	33.228	16	0.009
Overall satisfaction-Expenses	19.218	12	0.083

Additional analyses, based on cross-tables, study the relation between nationality and reasons for choosing the island. The main reasons for Greeks and Italians refer to “service quality” and “entertainment-recreation”, while “climate-natural

beauty”, “historical-archaeological monuments”, and “relaxation” do not seem to play an important role. On the other hand, Europeans seem to choose the island for its “climate-natural beauties”, “service quality”, and “historical-architectural monuments”, while “value for money” does not seem important. The reputation of the island seems to play an important role for groups originating from the outermost countries (North America, Australia, New Zealand, Asia, and Latin America). In general, it seems that there is no relation between age of income and reasons for choosing the island, although monuments and price/value appear important for the older and the younger tourists, respectively. Finally, repeated tourists give importance to service quality and entertainment, while first-time visitors give relatively greater emphasis on the historical-archaeological monuments and the fame of the island.

Regarding the sources of information, there is a clear grouping among Greek and foreign tourists: The Greek visitors prefer to collect information for the island either from past personal experience, or from other media (magazines, newspapers, TV), while they do not seem to prefer the Internet and the tourist offices (tour operators) as a source of information. Almost the opposite may be observed in the case of foreign tourists. In addition, younger tourists prefer the Internet of their friends/relatives, while older visitors prefer their personal experiences and the tourist offices in order to collect information for the island.

Table 3 presents the chi-square tests regarding several loyalty measures included in the questionnaire. As presented, the intention to repeat the visit is negatively related with age and previous visit and positively related with expenses.

Similarly, the intention to recommend the island to friends/relatives is strongly related with age, income, and expenses (Table 3). Contrarily, repeated visitors or tourists who stay longer do not appear more loyal according to this variable.

Table 3 shows that the confirmation of expectations is not related with the expenses or the length of stay, while repeated tourists in general think that their holidays were better or somehow better than expected. In addition a weak relation may be observed between the confirmation of expectations and age or income.

Finally, it should be emphasized that overall satisfaction is strongly related to all three loyalty measures (revisit intention, recommendation, and confirmation of expectations), which is consistent with the relative literature (see for example Vavra, 1999 or Grigoroudis and Siskos, 2010).

Consequently, it seems that nationality is the major discriminant variable that assesses the distinguished tourist segments. This is confirmed by several other studies, which emphasize that tourist perceptions of a destination or hospitality businesses may vary according to countries of origin (see for example Kozak, 2001). These results are justified by the different languages, food consumption, and other national cultural differences (including values, ideas, attitudes, or symbols), and they can be used in the decision-making process of destination management regarding destination positioning and market segmentation strategies.

Table 3. Results of chi-square tests for loyalty measures

Variables	Chi-square	df	p-level
Revisit intention- Age	27.594	12	0.006
Revisit intention-Income	12.736	12	0.389
Revisit intention-Previous visit	39.220	4	0.000
Revisit intention-Length of stay	21.976	16	0.144
Revisit intention-Expenses	28.834	12	0.004
Revisit intention-Overall satisfaction	283.812	16	0.000
Recommendation - Age	30.407	12	0.002
Recommendation -Income	39.847	12	0.000
Recommendation -Previous visit	6.504	4	0.165
Recommendation -Length of stay	17.373	16	0.362
Recommendation -Expenses	27.042	12	0.008
Recommendation -Overall satisfaction	627.969	16	0.000
Confirmation of expectations-Age	23.809	12	0.022
Confirmation of expectations-Income	25.522	12	0.013
Confirmation of expectations-Previous visit	34.365	4	0.000
Confirmation of expectations-Length of stay	17.371	16	0.362
Confirmation of expectations-Expenses	19.139	12	0.085
Confirmation of expectations-Overall satisfaction	508.674	16	0.000

Conclusions

This paper presents an application of the multicriteria method MUSA for the service quality evaluation in the tourism industry. The results are based on a tourist satisfaction survey that took place in an Aegean island and the main objective of the presented research is to evaluate tourists' satisfaction and identify the strong and the weak points of the tourism services offered.

Combining satisfaction importance and performance results and taking into account additional results (tourist profiling, potential tourist segments, etc.) it is possible to perform a SWOT analysis for the total tourism product offered. In this context, the SWOT analysis reveals the following:

- The strong points (competitive advantages) of the total tourism product are the fame and the natural environment (natural beauties, climate, local architecture) of the island. In addition, the visitors seem to be loyal (it is likely to visit the island again or suggest their friends/relatives to visit it), while their expenses during their vacations are relatively high.
- The short period of stay on the island is the most important weak point of the tourism product. Another weak point concerns the relatively low satisfaction

that is observed in specific characteristics (e.g. urban environment, local transportations).

- On the other hand, the most important threats refer to the intense competition from other Greek islands, as well as the high level of expectations created by the fame of the island. Also, a potential threat is the lower satisfaction observed for the repeated visitors.
- The opportunities refer to the historical-archaeological monuments and the provided quality of services. These characteristics are not considered important by tourists, although they can be the competitive advantages of the island, due to their high performance.

The presented study may also reveal the advantages of MCDA approaches in tourist satisfaction evaluation problems. In particular, the results provided by the MUSA method are able to give a complete set of tourist/customer behavior information. These results may help destination management organizations to analyze the problem of tourist satisfaction evaluation and determine potential improvement actions. Moreover, it should be emphasized that the MUSA method fully respects the qualitative form of input information (i.e. tourists' judgments on the defined satisfaction criteria). This way, the ordinal variables are not arbitrary quantified (this quantification is rather an output of the method).

Consequently, the MUSA method provides an important alternative for studying service quality gaps and performing SWOT analysis. Following service quality literature, SWOT analysis in the MUSA method is performed using a series of action (performance–importance) diagrams, which are able to analyze tourist perceptions and determine the strong and weak points of a destination.

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