



# The Open Sports Sciences Journal

Content list available at: [www.benthamopen.com/TOSSJ/](http://www.benthamopen.com/TOSSJ/)

DOI: 10.2174/1875399X01609010053



## Measuring Service Quality of Ski Resorts: An Approach to Identify the Consumer Profile

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Received: July 16, 2015

Revised: August 18, 2015

Accepted: September 07, 2015

**Abstract:** This study determined the consumer's profile in winter sports, using their degree of satisfaction with services provided by a ski resort. A questionnaire was administered to 229 tourists/visitors and analyzed their satisfaction according to five factors: facilities and equipment; attributes of the slopes; resort services; restaurants, accommodation and social activities; and also about the access to the resort. Determination between levels of satisfaction indicated by different consumer segments was performed using a cluster analysis. The clusters identified were: partially satisfied, dissatisfied, dissatisfied with everything, satisfied with everything. In relation to gender, no significant differences were identified in any cluster. With regard to experience to visited other ski resorts, significant differences were found between tourists/visitors which have already done, comparing with the individuals who never been in a similar context. It was found that only 5.2% of consumers who have had similar experiences with other ski resorts were satisfied with all services provided. The results of this study enable to the managers identify the attributes by which tourists/visitors have a higher level of satisfaction/dissatisfaction and foremost identify the valences which can be subject to some kind of improvement. This approach enables the adaptation of services according the preferences and expectations of tourists/visitors, with the prospect of incrementing consumer loyalty.

**Keywords:** Consumer satisfaction, consumer segmentation, ski resorts, sport tourism, winter sport.

### INTRODUCTION

In the recent decades, there has been a growth of the tourism industry, becoming one of the most major in the world [1]. The development of this area and the emergence of different types of consumer services, led to the emergence of different niches in tourism, among which we can identify sport tourism, seen as an increasingly lucrative market [2]. The relationship between tourism and sport continues to increase. Factors such as national and international popularity of sport events; benefits associated with active participation in sport; the variety of sport events throughout the years and their organization in different parts of the world [3], have contributed to this growth.

It is also possible identify differences between the concepts of tourism sports and sport tourism. Tourism sport corresponds to tourists who travel outside of their usual environment, but sport is not the main purpose of the trip. They have eventually, some participation (active or passive) in sport activities. In turn, the concept of sport tourism corresponds to individuals or groups that move out of their usual environment to participate actively or passively in a sport competition or sport event, and the sport is the main reason for the trip [3 - 5]. Gibson [6] referred to three types of consumer behavior associated with sport tourism: the active participation of tourists in sport; the tourist as spectator of an sport event; and the tourist who visits a destination and eventually takes part in sport activities. In this context, Weed [7] mentioned that sport tourism can generate economic and social benefits for local people as well as large commercial profits, thereby becoming an increasingly lucrative market [2].

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Accordingly, and particularly considering the winter sport industry, it is possible to verify this evolution. To date, over 80 countries across the world offer winter sport at approximately 2000 Ski resorts. Though there are some countries already known as winter sport areas (e.g., France, Switzerland, Austria and Italy), other destinations are gaining some prominence, notably China and Eastern Europe [8].

Given the variety available for winter sport destinations, resorts should have unusual offerings in order to differentiate themselves from the competition [9], suggesting to ski resort managers the greater need to think about competitive advantages. Porter [10] defined the competitiveness concept as the ability or talent resulting from knowledge acquired, allowing the creation and maintenance of a better performance than developed by competitors. In the case of tourism, competitiveness of destinations is a substantive important topic that should be increasingly understood [11 - 17]. In this sense, Porter [18] suggested that organizations should try to find competitive advantages through definition of strategies that allow differentiation from other competitors, creating added value for customers. Competitive advantage can be achieved by two possible strategies: cost leadership and differentiation of the product/service.

Thereby, given current market dynamics, it is fundamental to establish a good relationship with customers, targeting to their needs and ensuring good service. According to the literature, quality of service and customer satisfaction are interconnected factors which may affect customer's behavior, namely, the future intentions to return and buy a product or service [19, 20]. Therefore, it is essential to apply marketing tools to evaluate the quality of services that support decision makers in the definition of more efficient and effective marketing plans [21 - 23]. It is important to convert the abstract sense that is attributed to the quality of a service through the identification and measurement of specific indicators, thereby allowing the implementation of concrete and significant actions [24].

Since the 1980s, the quality of services has been a concern for organizations and subject of investigations by the scientific community. The first scale designed to measure service quality was designated by SERVQUAL in order to identify different issues in service from consumer and producer perspectives [25]. This scale was the basis for many investigations. Several adaptations of the original version were made and applied to different industries, including sport [26 - 28]. However, the particularity of each service led researchers to recognize that quality of a service is dynamic and requires the measurement of several stakeholders' perceptions to be conceptually and globally understood [25, 29]. Besides considering the quality concept as multidimensional [30, 31], the concept of "services" must also be taken into consideration, since both have intangible characteristics, are heterogeneous and particularly in sport and physical activity, the individual is simultaneously producer and consumer [32 - 34].

Therefore, understanding attributes that better satisfy consumers and identifying their consumer profile, can guide the development of strategies which may increase the competitiveness of tourist destinations. For that reason it is crucial the study of consumer profiles focuses on the behavior identification of individuals in relation to how they spend resources (time, money, effort) on products and services [35]. Given the heterogeneity of markets, however, it is difficult to satisfy all the consumer needs, resulting in the need to do market segmentation. There is not a correct way to segment a market [36, 37], being possible to make a different combination, between several variables [38]. According to Kotler and Armstrong [37] segmentation involves the distribution of heterogeneous markets into more homogeneous subgroups. It is possible to use four types of variables in the process of segmentation: geographic; demographic; psychographic and behavioral. Therefore, segmentation contributes to specialization in a particular segment, producing according to particular needs and contributing to more effective commercialization [39].

With regard to tourist consumer profile, it is also essential to understand expectations that people consider before traveling (destination attributes), since this expectation will directly affect the satisfaction degree after experiences [29, 40, 41]. In this sense, the identification of what attributes are most valued in a destination by consumers, as well as the degree of satisfaction after experiencing the services must be studied, because it may influence consumer loyalty to particular destinations. The study of consumer's loyalty has been a growing interest from the scientific community who have sought to study issues related to the quality of service; destination image; and also motivation and satisfaction of consumers [41 - 43].

Specific studies related to the practice of winter sport destinations have been developed to meet the most crucial attributes in consumer choice. Several studies have shown that the conditions of the snow and the slopes are usually the most important attributes for tourists. In addition, services associated with skiing and safety were also mentioned [44 - 49]. Godfrey [44] suggested a group of factors that should be considered that affect the choice of destination. The most frequently mentioned were snow conditions and the variety of slopes. Other factors included aspects such as

accessibility, proximity to residence and price, although the latter factor is related mainly for beginners in winter sport.

Dickson and Faulks [48] reported that the main reasons for Ski and Snowboard participants are safety and snow quality, as well as the variety of tracks and space outside of tracks. The authors also analyzed services that were not directly related to sport such as shops, restaurants and the possibility to participate in other recreational activities. Contrary results were obtained by Richards [47].

Matzler, Füller, Renzl, Herting and Späth [50] studied five constructs that characterize consumer satisfaction with regard to services offered by a ski resort: quality and safety of slopes; restaurants and bars; variety of slopes and sport facilities; ski lifts, and employees. Hudson and Shephard [45], identified twelve factors to evaluate services of a resort: information services; accommodation; restaurants and bars in resorts; ski-shops, medical services; shops and supermarkets; other resort services; ski slopes; services on the slopes; characteristics of other skiers; mountain restaurants outside of resorts, and tour operator services.

Besides identification of which factors are most valued by consumers, the application of marketing techniques, it is also important. Using variables to do segmentation (geographic; demographic; psychographic and behavioral) allows better understand of consumer profiles. This type of analysis is crucial, since several studies have pointed differences in consumer behavior, namely, between men and women; levels of experience; ages; reasons for trips [41, 43, 47].

In the current market, customer satisfaction becomes fundamental to the success of tourist destinations [51], because it may influence the choice of destination the continuity of consumption of products or services and the decision to return to the same destination [52]. This type of information is essential for decision makers to delineate a sustainable strategy for ski resorts, and to differentiate themselves from their competitors, focusing, for example, on loyalty strategies.

Given the above, the research question was: using the approach of the degree of satisfaction with the services provided by a ski resort, is possible identify different consumer profiles for winter sport? What is the profile of each cluster? When comparing clusters between themselves, exist significant differences among genders and between consumers who already experienced services provided by other ski resorts?

## METHOD

This study was developed in the ski resort - Serra da Estrela (Portugal). The resort has been operating since the 1970s, and it is the only place in Portugal where it is possible to practice winter sports with natural snow. The resort is located on the mountain - Serra da Estrela, which is the highest point of continental Portugal, at an altitude around 2000 m of altitude. Currently there are around 7 km skiable distributed by a total of 9 tracks, categorized according to level of difficulty (two green, two blue, four red, and one black). There are four mechanics lifts, rental services for equipment, ski school, cafeteria/bar, and a snowpark. The resort does not have accommodations. The closest are located on the mountain about 10 minutes by car, or in the nearest city (Covilhã), which is 20 km of distance. Spanish resorts are the main competitors, particularly in the Sierra de Bejar (Salamanca), Sierra Nevada (Andalucia) and Andorra, given the variety of tracks and number of skiable km (between 24 km and 300 km).

A convenience sample was constituted by a total of 229 tourists/visitors, being distributed by 54.1% of ski participants; 41.2% of snowboard participants; and 2.2% participated in both sports. The sample is composed of males (57.6%) and 42.3% females. There is a predominance of ages between 21-30 (47.2%). Regarding the reason for the trip, they came to this destination primarily for leisure or vacation purposes (90.3%). With regard to length of stay, 51.1% were day visitors; 34.6% came 2-3 days; 6.8% stayed between 4 to 6 days, and a minimum percentage (4.6%) stayed more than a week. Most respondents came with friends (50.6%), or spouse (19.4%).

The instrument used in this study was a questionnaire adapted from Hudson and Shephard [45], organized into two sections. The first part was composed by data related to the characteristics of the sample, and the second part contained five dimensions related to consumer satisfaction about services of the resort: facilities and equipment; characteristics of the slopes; resort services; restaurants/accommodations and activities of social nature; and also about the access to the resort. These dimensions were analyzed for a total of 35 items with a Likert scale of 4 points (1 - not at all satisfied to 4 - very satisfied). Questionnaires were applied at the ski resort, particularly in parking, after consumers completed their experience.

With regards to data processing, a descriptive analysis was done in order to identify the sample profile. Then, a confirmatory factorial analysis was done to the 35 items that tested the consistency and reliability of factors (Kaiser-

Meyer-Olkin, Bartlett and Cronbach's Alpha). Through five factors, a cluster analysis was done using the hierarchical test, non-hierarchical (*k-means*) and the *two-step* cluster in order to identify the best cluster solution. ANOVA was then used to identify possible differences between clusters, and used the F-value to identify the factors that contributed to differentiate clusters. The data analysis was done using SPSS 21.0 (Statistical Package for the Social Sciences).

## RESULTS

Regarding to the degree of satisfaction of ski and snowboard practitioners with respect of the resort services, a confirmatory factorial analysis was applied to five factors, composed by a total of 35 items. A total variance of 66.462 % was obtained. In order to test reliability, the Kaiser-Meyer-Olkin test was used, and a result of 0.936 was obtained. The Bartlett's sphericity test was also applied, which also confirmed the adequacy of the analysis ( $p < 0.001$ ). The reliability of factors was verified through Cronbach's Alpha, and values ranged between 0.76 e 0.88 (Table 1).

From Table 1 it is possible to observe the items that correspond to each of five factors considered in this study: factor 1 corresponds to facilities and equipment; characteristics of the slopes composed the factor 2; factor 3 displays items related to services of the resort; factor 4, involves aspects related to restaurants/accommodations and social activities; and the factor 5 represents attributes about access to the resort.

**Table 1. Factorial analysis of service satisfaction in a winter sport resort.**

Factors	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Cronbach's Alpha
<b>Facilities and Equipment</b>						
State of facilities/equipment	0.608					0.85
Parking	0.500					
Private lockers	0.670					
Restricted areas	0.631					
Facilities quality	0.548					
Lift functioning	0.662					
Lift maintenance	0.607					
Possibility to exchange and rental equipment	0.590					
Maintenance of the runs	0.604					
<b>Characteristics of the Slopes</b>						
Snow conditions		0.681				0.87
Quality of the slopes		0.737				
Variety of slopes		0.668				
Skiable distance (kms)		0.661				
Off-piste skiing		0.618				
Forfait price		0.631				
Competence of employees		0.428				
<b>Resort Services</b>						
Hours of operation			0.768			0.82
Information available about slopes conditions			0.599			
Health and safety services			0.669			
Existence of other recreational activities			0.763			
Structure of accompaniment at the resort			0.712			
Supermarkets and shops			0.652			
Services provided in general			0.554			
<b>Restaurants/Accommodations/Social Activities</b>						
Restaurants quality				0.705		0.88
Restaurants prices				0.707		
Accommodation quality				0.885		
Accommodation variety				0.889		
Accommodation price				0.826		
Meeting different people				0.781		
Nightlife				0.753		
Pleasant atmosphere				0.700		
<b>Resort Access</b>						

(Table 3) contd.....

Factors	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Cronbach's Alpha
Access					0.645	0.76
Signage					0.673	
Clearing snow from roads					0.554	
Landscape					0.582	
Accumulated percentage of variance						66.462%

To identify the consumer profile of winter sport, considering the approach of satisfaction with services provided by the resort, a consumer segmentation was performed using a cluster analysis based on the five factors considered. This analysis can be observed in Table 2.

Table 2. Segmentation of winter sport consumers.

Factors	Cluster 1 (N = 39 - 17%)	Cluster 2 (N = 71 - 31%)	Cluster 3 (N = 32 - 14%)	Cluster 4 (N = 87 - 38%)	F
Facilities and equipment	0.4329	-0.20148	-1.40490	0.65030	61.693
Characteristics of the slopes	-0.14567	-0.42707	-1.35363	0.90765	127.448
Resort services	0.51145	-0.35994	-1.02987	0.64948	40.494
Restaurants/Accommodations/Social activities	-1.54765	0.44787	-0.81703	0.62434	185.367
Resort access	0.28768	-0.30509	-1.34590	0.60134	58.017

Note: Cluster 1: Partially satisfied; Cluster 2: Dissatisfied; Cluster 3: Dissatisfied with everything; Cluster 4: Satisfied with everything.

The segmentation of tourists/visitors based on satisfaction was distributed into four groups. Cluster 1 represents 17% of the tourists/visitors and corresponds to individuals partially satisfied. This cluster is defined by people with a special interest in facilities/equipment and services of resort, expressing yet a positive opinion regarding the items related to the resort access. Meanwhile, cluster 2 (31%), refers to individuals dissatisfied with all factors, except with restaurants, accommodations and activities of social nature (0.44787). Cluster 3 consists of 14% of the tourists/visitors, with the lowest number of cases and expressed dissatisfaction with all factors, particularly in relation to facilities and equipment (-1.40490) and characteristics of slopes (-1.35363). Finally, the cluster 4 is composed by 38% of the tourists/visitors and can be considered as the "most satisfied group" because it represents a positive appreciation for all factors. Characteristics of slopes are the most appreciated factor (0.90765) for this cluster, unlike access to the resort (0.60134).

With respect to the F values of the ANOVA test, it can be seen that factor 4 (restaurant/accommodation and social activities), is the one that best discriminates differences between clusters (F = 185.367). Conversely, factor 2 corresponds to the resort's services and has lower discriminatory capacity (F = 40.494).

Results about characteristics of clusters considering the variables gender and tourists/visitors prior experiences in other ski resorts, can be seen in Table 3.

Table 3. Significant difference between clusters.

Variables		Cluster 1 (N = 39 - 17%)	Cluster 2 (N = 71 - 31%)	Cluster 3 (N = 32 - 14%)	Cluster 4 (N = 87 - 38%)	N	X <sup>2</sup>	P
Gender	Male	20 (15%)	42 (31.6%)	26 (19.5%)	45 (33.8%)	133	9.273	0.260
	Female	19 (19.8%)	29 (30.2%)	6 (6.3%)	42 (43.8%)	96		
Visited other ski resorts?	No	14 (11.5%)	29 (23.8%)	12 (9.8%)	67 (54.9%)	122	32.029	0.000
	Yes	25 (23.4%)	42 (39.3%)	20 (5.2%)	20 (5.2%)	107		

Note: Cluster 1: Partially satisfied; Cluster 2: Dissatisfied; Cluster 3: Dissatisfied with everything; Cluster 4: Satisfied with everything.

With regarding to gender, no significant differences were identified (X<sup>2</sup> = 9.273, p > 0.05). Concerning the experience of tourists/visitors at other ski resorts, significant differences were found (X<sup>2</sup> = 39.029, p < 0.05) between those who had experiences and those who never had.

**DISCUSSION**

An analysis of the clusters allows identification of the importance of each factor on the satisfaction consumer profiles. Restaurants/Accommodations/Social activities (F = 185.367) was the factor that allowed a better discrimination between clusters. These aspects were also highlighted in other studies that attempted to identify what most valued attributes in the selection of tourist destinations, to participate in winter sport [43, 44]. Also, Deliverska

and Ivanov [53] conducted a study to evaluate the quality of tourism services and concluded that animation activities are highly valued aspects when compared to facilities and qualification of human resources. In this particular case, these results may be explained by a characteristic of the sample, as 51.1% were considered as day visitors, corresponding essentially to local residents. Therefore, it is expected that this group of consumers is not concerned with aspects related to characteristics of hotels and social activities. For consumers who spend nights in accommodations provided in the local area, however, these attributes are fundamental. This information is crucial for resort managers, since attributes directly associated to sport participation, are not the only ones that influence positively or negatively tourist experiences. It should be noted that characteristics of slopes ( $F = 127.448$ ) was the second factor that best discriminated clusters among themselves. Therefore, although this type of enterprise is designed fundamentally for sport tourism [3, 6], the articulation of several services must be monitored and synthesized.

Despite being the only mountain in Portugal where it is possible to practice ski and snowboard in natural snow conditions, it does not seem to be sufficient to have satisfied consumers with what they have. Thereby, is fundamental to the establishment of a concerted strategy between multiple stakeholders that affect the tourist sector, optimize, capture, and retain tourists and convert day visitors (non-residents) in to tourists who stay longer. Stakeholders should think about competitiveness in terms of region and not just in terms of resorts to attract sport tourism. This articulation would improve both social and economic development of the region.

Given the above, it is crucial to understand consumer profiles, to develop strategies that are more focused and increase competitiveness of tourist destinations. The application of segmentation techniques of consumers allow us to understand more deeply characteristics of different clusters and provide information that can assist managers to do more effective interventions of quality of services [36, 39]. In this particular study, despite the identification of four clusters that highlighted distinct levels of satisfaction/dissatisfaction between the five factors analyzed (Table 2), consumer profile with respect to gender (Table 3) had no significant differences ( $p > 0.05$ ). These results, however, showed an opposite trend when compared with results obtained by Matzler *et al.* [50], concluding that the quality of slopes was considered as an important factor for male tourists, and services associated with the quality of restaurants were considered more satisfactory to female tourists. Although this study's results did not indicate significant differences when compared with respect to gender, several studies have found differences in consumer profile between men and women [41, 43]. This approach, was also mentioned in other studies conducted in other sports contexts, concluding that the motivation and expectation regarding dimensions of service quality, may dependent of gender variable [27, 54]. These differences that may result from socio-cultural issues that may be a changing variable or because of sample size. The observation of this phenomenon can also be done by managers of the resort in order to identify if it is a trend over time and to decide if it justifies the creation of specific services for men and women.

With respect to experiences at other ski resorts, significant differences between clusters were found, indicating that analysis of consumer satisfaction must take into consideration the type of experiences that tourist/visitors had (or not), in this type of tourism context. Not having that kind of experience can affect appreciation of services, since there is no reference to compare [41]. The results in Table 3 show that cluster 4 is composed by 54.9 % of consumers who had never attended another ski resort, corresponding precisely to tourists/visitors satisfied with everything. This indicator can be assessed positively by operators of the resort, but should be analyzed with care, since this positive value may be subject to change. Furthermore, as Martinez, Ko and Martinez [55] concluded that an attribute which can be interpreted as a positive aspect to a customer does not necessarily mean a positive perception of organization quality. Moreover, considering tourists who have visited other resorts, they have mentioned little satisfaction with services provided. This suggests the need to know what these factors are in order to determine customer loyalty [19, 20]. This can be a determinant factor when compared to other winter sport resorts, especially in countries closer to Portugal.

It is also suggested that managers use this type of segmentation technique and interconnecting multiple approaches, *e.g.*, understanding of consumer motivations of this sport tourism and levels of satisfaction after experiences. Understanding this phenomenon also involves the addition of multiple layers of analysis, including the use of different variables like geographic, demographic, psychographic and behavioral in order to improve knowledge about consumer profiles. Additionally it is suggested to managers, a execution of a longitudinal analysis to monitor these elements and investigation of changes in consumer trends. The analysis of this type of information could highlight new market trends, which may be useful in the creation or adjustment of new services, providing possibility to elaborate more effective marketing plans.

As several authors have demonstrated, the success of tourist destinations is influenced by their competitiveness [10, 17]. It is necessary to have an unusual offering to ensure a greater competitive advantage [18]. Given the variety of

tourism offers available, it is crucial have something different in order to differentiate from the competition and satisfy needs of consumers [9]. It is suggested to organization decision makers to take account this kind of information, seeking to know desire and motivation of consumers. In this way it will be possible to elevate the level of satisfaction and influence desires to return to tourist destinations [52].

## CONCLUSION

Satisfaction was studied with respect to facilities and equipment; attributes of the slopes; resort services; restaurants, accommodation and social activities; and access to the resort. Four clusters were found that represent how different groups of tourists/visitors rated their satisfaction of resort services. Comparing the clusters, no significant differences were identified between males and females. Regarding experiences of tourists/visitors in other resorts, significant differences were found.

As result, it is necessary to understand motivations, identify what best satisfies consumers and understand the consumer profile. This information can be a tool to support the development of strategies that can enhance competitiveness of tourist destinations. Given the heterogeneity of consumers, it is essential that organizations make use of segmentation techniques in order to provide a more appropriate service to specific needs of these segments to increase levels of satisfaction. The satisfaction of tourists is an important factor, because it may influence decisions to return to the same tourist destination. Thereby, with a conjuncture where is possible verify an increase and diversity of tourism offer, it is increasingly important that organizations improve their efficiency and develop sustainable strategies that provide a competitive advantage.

It is suggested that future research could include more segmentation variables in order to understand consumption profile of this type of sport experience. Furthermore, using qualitative methodologies, is important conduct interviews of resort managers in order to find their perceptions of the consumer profiles. Additionally, it would also be important to identify the reasons that lead tourists to prefer other resorts, instead of the resort using in this investigation. This type of information is crucial to resort managers' in order to support a strategy based on efficiency and sustainable development approach.

## CONFLICT OF INTEREST

The authors confirm that this article content has no conflict of interest.

## ACKNOWLEDGEMENTS

The authors would like to thank to NECE – Research Unit in Business Sciences funded by the Multiannual Funding Programme of R&D Centres of FCT - Fundação para a Ciência e a Tecnologia, under the project «UID/GES/04630/2013» para a Ciência e a Tecnologia, under the project «UID/GES/04630/2013».

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