

Determinants of Satisfaction with an Urban Tourism Destination: The Case of Barcelona

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Abstract: Conscious of the central role of satisfaction in the success of a destination we examine the relationship between a destination's attributes and overall satisfaction. Based on the information about 19 destination attributes and using a principal factor analysis, we identified 5 relevant dimensions, with "Accommodation and restaurant services" as the key factor to explain overall satisfaction. Next, we explore the potential moderating effects of tourist and trip characteristics on that relationship. Our results suggest that the estimated relationship is very stable across types of tourists, trip features or purpose of travel. We use a survey of 2,484 interviews conducted with international tourists that visited Barcelona throughout 2013. Empirical findings allow an efficient allocation of resources in order to achieve maximum satisfaction. Therefore, they are useful to help policy makers and entrepreneurs select targets for promotion, and attain high destination competitiveness.

Keywords: Tourist Satisfaction, Destination Attributes, Urban Tourism, Factor Analysis.

1. INTRODUCTION

Customer satisfaction has always been considered an essential objective in all market sectors, and this is also true in the case of tourism. Once a destination has been established as such, it is very important to ensure that visitors have a positive assessment of their experience.

The dominant approach in measuring consumer satisfaction has emphasized the gap between expectations and performance regarding the individual attributes of the destination, as well as the overall satisfaction of consumers. However, for experiences such as tourism, in which expectations are difficult to measure accurately, it is preferable to use other approaches. For this reason, the most recent literature recommends the use of the attribute-level conceptualization for the analysis of overall tourist satisfaction with the destination. During their stay, tourists experience a variety of products or services and they may evaluate each aspect separately. Following Oliver (1993), overall satisfaction and attribute satisfaction are considered as distinct but related constructs, where attribute satisfaction has significant, positive and direct effects on overall satisfaction, capturing a significant amount of its variation.

Following this line of research, this paper's main goal is to provide a robust analysis of the relationship between tourist evaluations of different aspects of an

urban tourism destination and their overall satisfaction. First we investigate the relative weight of each destination attribute in the overall satisfaction. Later we examine whether this evaluation pattern differs between groups of tourists, segmented in terms of purpose of travel, tourist profile, and trip features.

The present work focuses on urban tourism because it has become the main driving force of tourism development in the last decades (Ashworth and Page, 2011). In fact, city trips have reached a 20-percent market share of international tourist arrivals worldwide. The rapid growth of this type of tourism is largely due to the consolidation of business tourism and the popularization of short-break trips. To develop our empirical analysis we choose Barcelona because of its relevance as an urban tourist destination. Several rankings highlight the attractiveness of the city of Barcelona for foreign visitors. For instance, according to MasterCard (2015), Barcelona is the twelfth largest city in the world in terms of number of visitors and ranks number six by international tourism expenditure. Also, according to the European Cities Marketing Benchmarking Report 2015-2016, Barcelona ranks as the fourth European city by international overnight stays, while according to Trip Advisor it is the fifth in the world in terms of its attractiveness for tourists.

The main contribution of this work is determining which are the determinants of a destination's success. Results will undoubtedly be very helpful for designing strategies that make it sustainable in the future.

In order to carry out this study we will use data from a survey on tourist activity in Barcelona between January and December 2013. This valuable database

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was developed by the DYM institute, commissioned by *Turisme de Barcelona* (the Barcelona Tourist Board), which is the official organization for the promotion of tourism in the city.

The rest of the paper is organized as follows. Section 2 presents a brief review of the existing theoretical and empirical literature on tourist satisfaction. Section 3 describes the relevance of Barcelona as a tourist destination as well as characteristics and advantages of our dataset. Section 4 presents the methodology and the estimation strategy followed in this work. In section 5, following the multi-attribute approach and using principal factor analysis, an empirical model is elaborated for establishing the relationship between destination attributes and overall satisfaction. In section 6, the moderating effects of travel characteristics and tourist profile on that relationship are tested. And, finally section 7 discusses conclusions and their main policy implications, as well as possible lines of future research.

2. TOURIST SATISFACTION: THEORETICAL AND EMPIRICAL APPROACHES

There is a widespread consensus about the importance of tourist satisfaction with a destination. Once a destination has been established as such, it is crucial to ensure that visitors have a positive assessment of their experience. In this sense, there are many reasons to seek a high level of tourist satisfaction; these are some of them:

- Competitiveness analyses of international destinations are frequently based on tourist satisfaction with different attributes (Kim, 1998; Kozak and Rimmington, 1999).
- Tourists are becoming more and more demanding in terms of service quality and its value for money. Therefore, tourist satisfaction has become a fundamental goal of any tourist-oriented business (Bernini and Cagnone, 2014).
- Tourists' loyalty to a destination depends largely on their satisfaction. Satisfaction is a direct driver of the intention to return and recommend the destination to others (Antón *et al.*, 2014; Chi and Qu, 2008; Yoon and Uysal, 2005).
- Tourists who are loyal to a destination happen to be the biggest spenders. Hence the interest in achieving this loyalty (Alegre and Juaneda, 2006).

- A higher level of satisfaction implies greater tolerance to price increases and enhanced reputation (Baker and Crompton, 2000).

Since tourist satisfaction is an important goal for many sectors of the industry, there are many reasons to measure it. Over the last years there has been an increased need to find an appropriate methodology that measures visitor satisfaction experiences, but a consensus has not been reached. Different methods have been applied for studying satisfaction in travel and tourism. For example, the expectation-perception gap model (Parasuraman *et al.*, 1985), the expectancy-disconfirmation theory (Oliver, 1993), the congruity model (Sirgy, 1984), and the performance-only model (Pizam *et al.*, 1978) have been used to measure tourist satisfaction with specific tourism destinations. Of these theories, the first three use the concept of satisfaction as the difference between performance and some pre-purchase expectations.

However, there is abundant tourism literature criticizing the use of tourist expectations for measuring satisfaction with a destination (Fuch and Weirmair, 2004). There are several reasons to question the theories that conceive satisfaction as the result of the discrepancy between pre-travel expectation and post-travel perception. One of them is that the use of expectations might be less meaningful for experiential services than for tangible consumer goods that are easy to evaluate prior to purchase. But there is also another problem: when expectations are very low, poor levels of performance may result in high levels of satisfaction and this may be misleading.

As a consequence of the problems identified above with the measurement of expectations, the performance-only approach appears to be a reasonable alternative for measuring satisfaction with tourist destinations (Kozak, 2001). And within this context and taking into account the multidimensional nature of the concept of satisfaction, it is desirable to use a multi-attribute approach where overall satisfaction is a function of attribute level evaluations. The critical role of attribute performance in determining satisfaction has been widely discussed and supported by several studies (Meng *et al.*, 2008; Voon and Lee, 2009).

Further evidence supporting the importance of tourist satisfaction is the large amount of previous research done on several aspects of it. Some authors have approached the issue of satisfaction trying to

identify its antecedents or determinants (Alegre and Garau, 2010; Chi and Qu, 2009; Jarvis *et al.*, 2016; Kim, 2014; Kozak, 2003; Maunier and Camelis, 2013; Neal and Gursoy, 2008; Yüksel and Yüksel, 2002). Having a clear understanding of the determinants of visitor satisfaction can be very helpful for the promotion and development of tourism destinations. Also, the extent to which tourists are satisfied with a destination's attributes reveals its strengths and weaknesses when it comes to influencing them. A comprehensive summary of the various studies on the determinants of tourist satisfaction can be found in the appendix of the paper by Maunier and Camelis (2013).

Recently, realizing the rapid penetration of the Internet, some authors have studied the potential effects of electronic word of mouth (eWOM) on satisfaction and loyalty to the destination (Setiawan, *et al.*, 2014). The result indicates that eWOM has a significant direct effect on destination image, while its indirect effect on satisfaction and loyalty are completely mediated by destination image.

There are also many studies on the moderating effects that certain traits in an individual have on satisfaction. Thus some researchers try to assess the impact of travelers' sociodemographic features -age, gender, educational level, etc.- on achieved satisfaction (Cooil *et al.*, 2007). Other studies focus on trip features as moderating factors of satisfaction with a destination. In this sense, motivation for the visit has been the most studied topic (Davesa *et al.*, 2009).

Previous studies offer abundant evidence of the fact that traveller profile, as well as motivation and other trip features, influence the overall satisfaction of tourists. On the other hand, it has been largely proven that overall satisfaction depends on the perceptions that tourists have of the attributes of their destination. However, models specifying overall satisfaction according all of these conditions (sociodemographic, attributes of the destination and motivation) have rarely been proposed and tested in literature and when they have, results are inconclusive. Nevertheless there have been some attempts in this regard as is the work of Bernini and Cagnone (2014) in which they analysed the competitiveness of Rimini (Italy) as a destination and found that, when taking into account the evaluation of its attributes, the sociodemographic profile of tourists becomes irrelevant for explaining satisfaction. Meng *et al.*, (2008) also test the effects of motivation and destination attributes on overall satisfaction using a joint estimation; their results suggest that while purpose

of travel is not very relevant in terms of overall satisfaction, the perceptions of destination attributes determine overall satisfaction to a greater extent.

Following this new line of research, this paper attempts to fill this gap in order to shed some light against the apparently contradictory results that we have just mentioned.

3. BARCELONA AS A SUCCESSFUL MODEL OF URBAN DESTINATION: THE DATASET

Barcelona is one of the largest tourism cities in the world today. The city took off as a tourist destination as a result of hosting the 1992 Olympic Games. Barcelona took advantage of this opportunity with an urban transformation: opening up to the sea, reshaping whole neighbourhoods, building new infrastructures and placing value on the work of Gaudí and other modernist buildings. It is precisely this consolidation of Barcelona as a tourist destination that has given rise to the efforts of some researchers to study it (Camprubí and Prats, 2013; Forgas-Coll *et al.*, 2012; Marine-Roig and Clavé, 2015; Murillo *et al.*, 2013).

With around 7 million international visitors¹ per year, the number of foreign visitors in Barcelona has nearly tripled from 2002 to 2014. Figure 1 shows this evolution along with the evolution of tourism in two other major competing cities: London and Paris.

Our data comes from the tourism activity survey conducted among foreign visitors to the city by the Institute DYM throughout 2013.² This high-quality survey was conducted through personal interviews to visitors staying in hotels and aged 14 or older. The original microdata on international tourists reaches 2,950 observations, which using their associated elevation factor represent the total tourists staying in hotels (6,054,388 in 2013). In fact, our sample is an excellent input for the study of tourism in Barcelona and it offers important advantages. In the first place, the sample has been designed to be representative according to nationalities and purpose of travel. In the second place, the survey was conducted throughout the entire year, which makes it possible to study trips with different purposes; if only data collected over the summer was used, for example, we would probably face the problem of leisure trips being overrepresented.

¹Data refer to visitors who stay in hotels, to which must be added those who stay in apartments and private homes, as well as cruise passengers (Turisme de Barcelona, 2013).

²See Turisme de Barcelona (2013) for details.

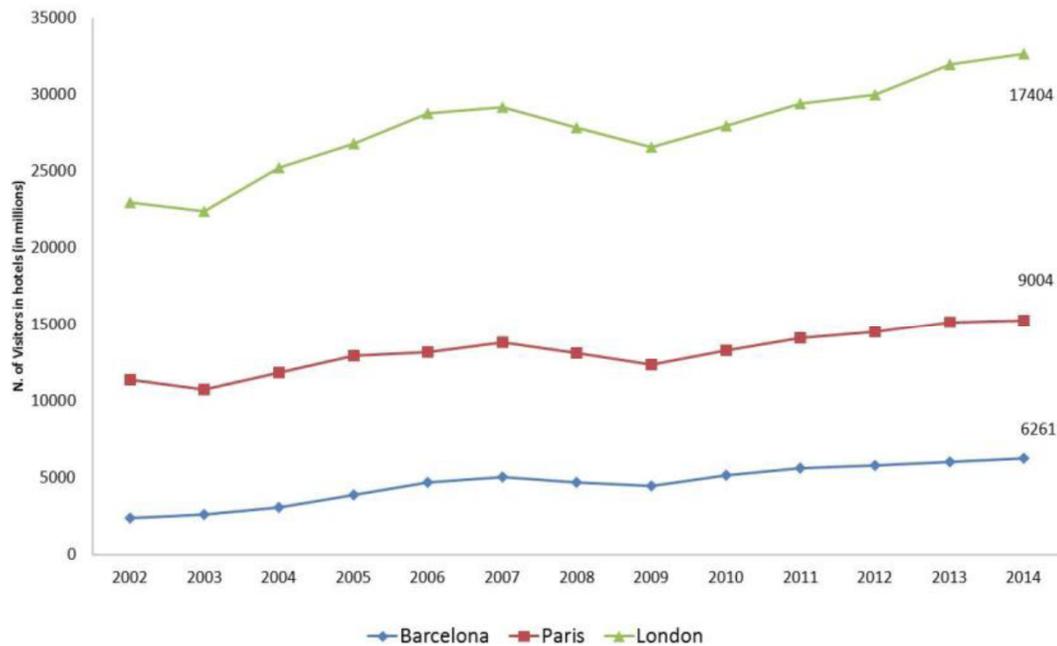


Figure 1: Evolution of foreign visitors in Europe's major tourist cities.

Source: Self-elaborated. Data sources: Statistical Institute of Catalonia (Barcelona), International Passenger Survey, Office for National Statistics (London); Paris Tourism Research Department (Paris).

In the third place, the survey was carried out through face to face interviews and it was a real-time on-site survey, and there is evidence that this type of surveys are better for incorporating the affective dimension of satisfaction, particularly important in the tourism experience (Coghlan and Pearce, 2010). Finally, the survey questionnaire asked tourists about their overall satisfaction with the trip, but also asked them to evaluate 19 particular destination attributes in terms of satisfaction. And, in addition, all of these indicators capture the tourist answers about their satisfaction in a 10-point Likert scale (1-10), ranging from 1 "strongly disagree" to 10 "strongly agree".³

Table 1 shows the profile of the international tourist who visits Barcelona (columns 1 and 2) and the distribution of their overall satisfaction (columns 3 and 4). We have complete information on all variables of interest for 2484 respondents, therefore, that will be our sample size. Regarding the characteristics of tourists we have data on gender, age, country of origin, professional status and the number of previous visits. Given this information, we know that among these visitors there is a greater proportion of men than

women and that most of them belong to the middle-age group (36-45), even though the 46-60 year-old range is also relevant. The largest community is represented by people from Germany, followed by people coming from France, Italy and the United Kingdom. In fact, these four source markets represent 36 percent of total international tourism. Other important sources of tourism for Barcelona are the Netherlands and Ireland, among European countries, and Japan and the US from the rest of the World. Another feature worth highlighting is the high degree of repeat tourists: only 59 percent are first-time visitors and, among repeaters, nearly 10 percent have previously visited the city 3 or more times. According to professional status, it would appear that international tourism is a luxury product since unemployed people and unskilled workers represent a small proportion (13.7%) of all visitors, while a significant majority of the sample are qualified workers (59.2%).

On the other hand, regarding the trip's characteristics we have information on the travel purpose, the hotels ratings, the means of transportation used to get to Barcelona, how tourists plan their trip, and length of stay. Regarding the distribution of tourists by purpose of travel, it is observed that most tourists travel to Barcelona for leisure reasons, but followed closely by business tourists, which account for 38 percent of total arrivals. This is precisely one of the

³A larger scale to measure satisfaction provides benefits such as a higher variance, a higher degree of measurement precision and a higher probability to detect changes. The limitation is that a big sample size is needed but this is not a problem in our case.

Table 1: Profile of International Tourists Visiting Barcelona and their Reported Levels of Overall Satisfaction (2013)

	Categories	Frequency	Percentage	Overall Satisfaction	
				Mean	Std. Dev.
TOURISTS PROFILE	Gender				
	Male	1,373	55.27	8.51	0.02
	Female	1,111	44.73	8.41	0.02
	Age				
	15/26	145	5.84	8.01	0.06
	27/35	408	16.43	8.31	0.04
	36/45	1,012	40.74	8.49	0.02
	46/60	835	33.62	8.58	0.02
	61 and older	84	3.38	8.51	0.07
	Country of origin				
	Germany	230	9.26	8.42	0.05
	UK	217	8.74	8.45	0.05
	France	227	9.14	8.37	0.05
	Italy	227	9.14	8.30	0.05
	Rest of Europe	1,026	41.30	8.41	0.02
	Rest of the World	557	22.42	8.63	0.03
	Professional Status				
	Self-employed	323	13.00	8.40	0.04
	White collar	351	14.13	8.35	0.04
Skilled worker	1,470	59.18	8.58	0.02	
Other worker	140	5.64	8.02	0.06	
Inactive	200	8.05	8.30	0.06	
Number of Visits					
First time visitors	1,463	58.90	8.34	0.02	
1 or 2 previous visits	731	29.43	8.72	0.03	
3 or more previous visits	290	11.67	8.48	0.04	
TRIP FEATURES	Purpose of travel				
	Business	944	38.00	8.54	0.02
	Leisure/recreation/vacation	1,279	51.49	8.42	0.02
	VRF	261	10.51	8.44	0.05
	Accommodation				
	1 star	61	2.46	7.90	0.12
	2 stars	107	4.31	8.01	0.07
	3 stars	611	24.60	8.28	0.03
	4 stars	1,430	57.57	8.56	0.02
	5 stars	275	11.07	8.67	0.04
	Length of travel				
	1 or 2 nights	763	30.72	8.35	0.03
	3or 4 nights	1,152	46.38	8.51	0.02
	5 nights or more	569	22.91	8.56	0.03
	Means of transportation				
	Airplane	2,144	90.92	8.49	0.02
	Car	77	3.27	8.14	0.08
	Others	137	5.81	8.30	0.06
	Travel Planning				
On their own	1,090	43.88	8.35	0.02	
Via tour operator/travel agency	560	22.54	8.53	0.03	
Company	834	33.57	8.58	0.03	

Source: Self-elaborated based on microdata of the Survey of Tourism activity in Barcelona (2013). The number of observations is 2,484.

main advantages of the analysed destination, offering a high representation in both types of tourism. Hotels' rating is measured by the stars classification from 1 to 5 stars.⁴ In Spain one and two-star hotels are associated to a low quality, three stars to average quality and four and five stars to high quality. According to the database used in this work, the preferred type of accommodation is a 4-star hotel (57.6%), however, very few tourists choose one and two-star hotels. In fact, in econometric work we aggregate these categories to three-star hotels to represent the low-mean quality versus high quality accommodation. We observe that most visitors (46.38%) stay in the city for 3 or 4 nights, followed by visitors staying in the city for 1 or 2 nights (30.70%). This feature, together with the high proportion of tourists who repeat destination is consistent with the new way of travelling, especially within Europe, tending toward shorter and more frequent trips (Dunne *et al.*, 2007). Regarding the mean of transportation we observe that most of the tourists fly into the city. Finally, we observe that a relevant part of tourists plans travel by their own (43.9%), the group of tourists in which is the company who plans the travel is also important and consistent with a high presence of business motivation.

The last two columns in Table 1 show the overall satisfaction index averaged by category and their respective standard deviations. The first thing that stands out is the high value that tourists attribute to their experience. Also noteworthy is the low variability of satisfaction among different groups. This picture is complemented with the information provided in Table 2 in which the descriptive statistics for all 19 particular indicators of satisfaction in the survey are presented.⁵ The excellent valuation that Barcelona enjoys among international tourist is again evident, given the very high average values and the fact that standard deviations are very small. The most valuable aspect of Barcelona is "Architecture", with an average valuation 9.26 out of 10. Some of the worst valued attributes could be related to the saturation of the tourist destination: this is the case of "Noises", "Pollution"⁶, "General cleanness", and even "Citizen Security", all of them clearly below the average of satisfaction.

⁴There exists evidence that the hotels' characteristic which more influence has on tourist's satisfaction is hotels' star ratings (see Radojevic *et al.*, 2015, and literature cited there).

⁵Notice that this classification is due to the official institute that conducts the survey and we do not design which elements to include as relevant attributes.

⁶Notice that with the negative attributes (noise and pollution) valuation is reversed. That is, a level of satisfaction of 10 occurs if there is no noise or pollution (or it does not bother the tourist at all).

Table 2: Average Satisfaction Valuation for Barcelona Attributes

Satisfaction indicators	Mean	Std. Err.
1. Architecture	9.261	0.016
2. Culture	8.843	0.019
3. Entertainment	8.531	0.017
4. Hotels / Accommodation	8.464	0.019
5. Price / quality accommodation	8.288	0.021
6. Restaurants	8.490	0.016
7. Price / quality restaurants	8.356	0.018
8. Bars	7.940	0.020
9. Price / quality bars	7.882	0.022
10. Shops	8.610	0.014
11. Price / quality shops	8.327	0.019
12. Signalling/ Information	8.564	0.016
13. Infrastructures	8.489	0.016
14. Character and kindness of residents	8.787	0.016
15. Public transportation	8.341	0.017
16. Citizen Security	7.518	0.025
17. Noises	7.226	0.023
18. Pollution	7.641	0.020
19. General cleaning	7.985	0.023
<i>Overall Satisfaction</i>	8.470	0.015

Note: Satisfaction measured in a 1 to 10 Likert scale.

4. METHODOLOGY AND ESTIMATION STRATEGY

Once recognized that satisfaction is a multidimensional concept consisting of different sources of satisfaction, assessing tourist satisfaction should take a multi-dimensional, multi-attribute approach in describing the relationship between levels of overall satisfaction and satisfaction with specific service features.

The first step within this approach is to identify the most important attributes that characterize the destination. After that, a survey including all those attributes should be designed. Tourists will be invited to evaluate them on a symmetrical one-dimensional scale, where lower values indicate lower satisfaction with an attribute, higher values represent greater satisfaction. Finally, based on tourist evaluations and by using econometric models, it will be possible to detect the key variables in the generation of overall satisfaction. Those results are very helpful for destination managers in deciding on how to invest in order to improve overall satisfaction. Therefore, and

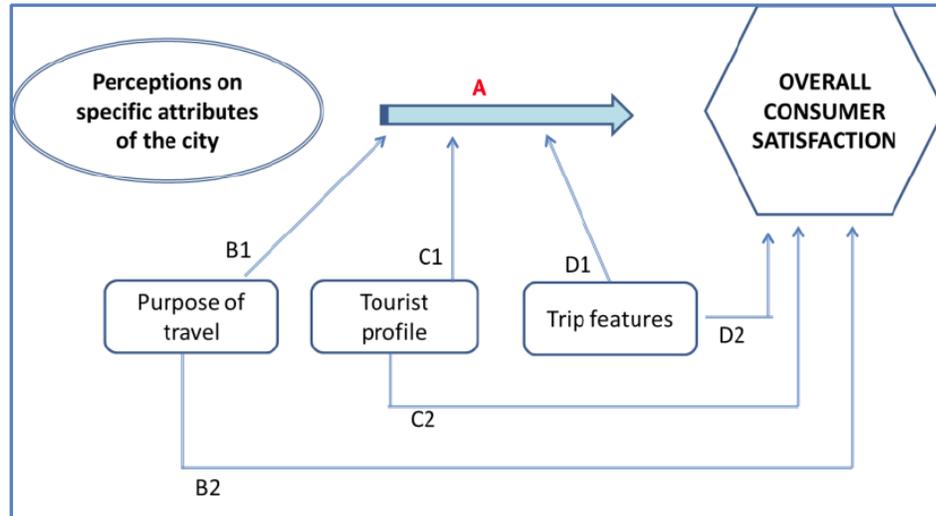


Figure 2: Proposed empirical model.

given the importance of the survey as a tool in the decision-making process, much attention should be paid to their design and implementation.

In this paper, by using a survey that was already available, which we previously described, our goal is to perform a comprehensive analysis that explains how overall satisfaction is determined. Our strength point is that we have available information on both a global indicator for satisfaction and partial satisfaction indicators related with destination attributes.

Given that 19 items are used to measure the satisfaction with different destination attributes some multicollinearity problems may arise between those variables. Therefore, an exploratory factorial analysis (EFA) is developed in order to reduce the number of variables without loss of explicative power regarding overall satisfaction. As a result, groups of attributes (factors) that affect the overall satisfaction of tourists are identified. From there we get what we call relationship A in Figure 2, which establishes the relationship between satisfaction with the different attributes grouped into factors (F) and overall consumer satisfaction (OCS) reported by each tourist. This relationship is formulated in equation 1.

$$OCS_i = \alpha_0 + \sum_{k=1}^F \beta_k Factor_k + \epsilon_i \quad (1)$$

This relationship is estimated by weighted least squares (WLS) using heteroscedasticity-consistent covariance matrix estimators and being the weighs the frequency of each observation in the total number of tourists arriving to Barcelona. Satisfaction is treated as a cardinal measure, assuming that the differences

between adjacent values of the satisfaction indices are constant across values of the index.⁷

In the second part of the paper we turn our interest to identifying if purposes of travel, sociodemographic tourist profile or trip features can modify that relationship. That is, once we have estimated the relationship between overall satisfaction and satisfaction with the attributes (relationship A of Figure 2), the next step would be to test whether that relationship is influenced by factors such as purpose of travel, tourist profile or trip features (relationships B1, C1 and D1 of Figure 2). These impacts may be considered as indirect effects of those variables on the overall tourist satisfaction. However, there might also exist direct moderating effects of those variables on the overall satisfaction whose impact can also be measured (relationships B2, C2 and D2 of Figure 2).

In order to do this, a totally flexible structural model including dummy variables⁸ for each exogenous variable, which allow for exploring all possible moderating effects, is estimated by using weighted least squares (WLS). Starting from equation (1), in order to test hypotheses about indirect effects (B1, C1 and D1 in Figure 2), the mean effect of each destination attribute factor (β_k with $k=1\dots,F$) interacts with that set of dummy variables (that are named as MODERA_m). For testing hypothesis about direct effects

⁷See Anderson and Fornell (2000) for an excellent discussion of cardinality versus ordinality; and Ferrer I Carbonell and Fritjers (2004) and Gijón *et al.*, (2013) for empirical applications corroborating such statements.

⁸Notice that it is not necessary to impose a priori any assumption over what relationships exists because we estimated for all variables (and categories of each variable) included in each box in the empirical model in Figure 2.

(B2, C2 and D2 in Figure 2) another set of dummy variables is added. Therefore, the specification of the global model is shown in equation (2):

$$OCS_i = \alpha_0 + \sum_{k=1}^F \beta_k Factor_k + \sum_{k=1}^F \sum_{m=1}^M \gamma_{km} Factor_k * MODERA_m + \sum_{m=1}^M \rho_m MODERA_m + \epsilon_i \quad (2)$$

Where β_k ($k=1, \dots, F$) are the mean intercepts for each factor “k”, γ_{km} ($k=1, \dots, F$ and $m=1, \dots, M$) represent the (indirect) moderating effect of each category “m” over the factor “k”, and ρ_m ($m=1, \dots, M$) are the direct effect of each category “m” of the analysed variable over the global satisfaction.

The Equation (2) is estimated by WLS for all observations, taking into account a robust variance-covariance matrix. The methodology used is based on estimating through dummy variables all (direct and indirect) moderating effects. This type of methodology is very demanding in terms of the required information, however this is not a problem in this case given the sample size⁹.

5. ATTRIBUTES OF THE CITY AND OVERALL SATISFACTION

Before exploring the relationship between destination attributes and overall satisfaction and given that we had 19 perception scores for the performance of destination attributes, we computed an exploratory factor analysis (EFA) in order to reduce the dimension and the potential multicollinearity without loss of relevant information. The principal factor analysis was performed with Varimax rotations, and our findings show that the optimal number of orthogonal factors to pick up information from those 19 items is 5 (see Table 4). These 5 factors show eigenvalues greater than one and they explain 62.31 percent of the overall variance of original satisfaction indicators. The communality of each variable was relatively high, ranging from 0.43 to 0.86 and with a median equal to 0.71. The appropriateness of the factor analysis was determined by examining the Kaiser-Meyer-Olkin (KMO) measures of sampling adequacy, which yielded a result of 0.8595 (KMO values between 0.8 and 0.9 are described as *meritorious* by Kaiser, 1974). Finally, the Cronbach's alpha values confirm high reliability of the constructs.

In sum, all of this indicates that variance of the 19 original variables was captured fairly well by these five factors, defined according to the features of their main composing attributes. We will name them as follows: “accommodation and restaurants”, “shops and bars”, “security, pollution and environment”, “cultural offer and entertainment”, and “ease in getting around the city”. These factors and their main attributes are listed in order of importance in Table 3.

The next step is to explore how satisfaction with destination attributes determines overall satisfaction through equation (1). The estimated beta coefficients can be used to measure the relative importance of the five dimensions (independent variables) in explaining overall tourist satisfaction (see left-hand side of Figure 3: Model 1). Our findings confirm that all perceptions for destination attributes have a positive impact on the OCS. Also, when focusing on the effect of each factor, we verify that Factor 1 is the one with the greatest impact ($\beta_1=0.319$; t -ratio= 20.89) on the overall satisfaction of tourists. It is followed in order of importance by Factor 2 ($\beta_2= 0.248$; t -ratio= 15.34), Factor 4 ($\beta_4=0.231$; t -ratio= 16.00) and Factor 3 ($\beta_3= 0.229$; t -ratio= 15.39). These three last factors have rather similar weight as determinants of tourist overall satisfaction. Finally, Factor 5, while statistically significant (t -ratio= 9.74) and with a beta of 0.129 is the least important among the determinants of satisfaction included in this model. These findings suggest that the order of priorities to choose the best target for policymakers should follow the ranking commented above.

At this point we want to emphasize that both in the Factor 1 and Factor 2 constructs, in addition to the quality of service, value for money as perceived by the tourist has been included (quality/price of accommodation and quality/price of restaurants in the case of Factor 1 and quality/price of shops and quality/price of bars in the case of Factor 2). This may be the reason why in this paper the estimated effect of these factors on overall satisfaction is above those obtained in other studies (see Meng *et al.*, 2008). On the other hand, the few studies that include quality and quality / price ratio as explanatory variables found that, by including the latter, quality is no longer significant. Then our result indicates that what really matters is the quality / price ratio, but that perceived quality by itself is not relevant (a similar result can be found in Moital *et al.*, 2013).

Before concluding this section, we want to emphasize the validity of explaining the overall

⁹Other studies on satisfaction develop a structural equation model (SEM) following some of the approximations available in packages usually used in strategic management. However, in Hair *et al.* (2012) the reasons for using this methodology are studied, as well as the important implementation problem represented by sample size. In fact, they examine a total of thirty seven studies and the average size of the sample was below 250 observations.

Table 3: Exploratory Factor Analysis on Destination Attributes Performance

	Loadings	Eigenvalues	Variance	Reliability
FACTOR 1. Accommodation and restaurants		6.666	15.98	0.8528
Hotels	0.843			
Price/quality hotels	0.867			
Restaurants	0.649			
Price/ quality of restaurants	0.671			
FACTOR 2. Shops and Bars		1.630	14.34	0.7958
Bars	0.809			
Price/quality of bars	0.806			
Shops	0.581			
Price/quality of shops	0.604			
FACTOR 3. Security, Pollution and Environment		1.374	13.12	0.7610
Public transportation	0.472			
Citizen Security	0.707			
Noises	0.763			
Pollution	0.745			
General cleaning	0.561			
FACTOR 4. Cultural offer and entertainment		1.114	9.75	0.6396
Architecture	0.771			
Culture	0.757			
Entertainment	0.431			
FACTOR 5. Ease in getting around the city		1.056	9.11	0.6156
Signalling / Information	0.817			
Infrastructures	0.713			
Character and kindness of residents	0.529			

KMO (Kaiser-Meyer-Olkin) =0.8595; Variance explained= 62.31.

satisfaction from the 5 factors obtained through the exploratory factor analysis (EFA). To do this, apart from the statistics discussed above and included in Table 3, we conduct a simple exercise to check how well the new five constructs predict the overall satisfaction versus the 19 original partial indicators. Then we estimate a Model 2 similar to equation (1) but using as explanatory variables the tourist satisfaction with each of the 19 attributes.

The comparison between findings obtained by Model 1 versus Model 2 is very enlightening (see Figure 3). In fact, we verify that adjusted R-squared value for Model 1 is equal to 56.52, with all the coefficients being statistically significant; meanwhile, adjusted R-squared for equation (2) is equal to 57.66, but in this case only 10 out of 19 attributes are significant for explaining overall satisfaction. Therefore, results confirm that using the new factors not only

avoids potential problems of multicollinearity between the 19 variables but maintains the same explicative power of the overall satisfaction.

6. STABILITY OF THE RELATIONSHIP BETWEEN DESTINATION ATTRIBUTES AND OVERALL SATISFACTION

In this section we check if the relationship between destination attributes and overall satisfaction is modified by other exogenous variables and if those variables present some direct impact on overall satisfaction. In particular, the moderating effects of the following variables are considered: purpose of travel, tourist profile and trip features.

6.1. The Moderating Effect of the Purpose of Travel

Barcelona is a benchmark destination for both business and leisure tourism. In consequence, the city

MODEL 1					MODEL 2	
			R ² = 56.52			
F1: Accommodation & Restaurants	0.319*				S1. Architecture	0.039**
					S2. Culture	0.129*
F2: Shops & Bars	0.248*				S3. Entertainment	0.032
					S4. Hotels / Accommodation	0.034
F3: Security, Pollution and Environmental	0.229*				S5. Price / quality accommodation	0.075*
					S6. Restaurants	0.049
F4: Cultural offerings & Entertainment	0.231*				S7. Price / quality restaurants	0.096*
					S8. Bars	0.033
F5: Ease of getting around the city	0.128*				S9. Price / quality bars	0.046**
					S10. Shops	0.021
					S11. Price / quality shops	0.051*
					S12. Signaling / Information	0.026
					S13. Infrastructures	0.003
					S14. Character and kindness of the residents	0.092*
					S15. Public transportation	0.078*
					S16. Citizen Security	0.071*
					S17. Noises	0.013
					S18. Pollution	0.037
					S19. General cleaning	0.047*

Figure 3: Alternative models for overall satisfaction based on attributes of the city*.

Note: Estimations by WLS with 2,484 observations.

offers an excellent opportunity to explore if the valuation of destination attributes has a different effect on overall satisfaction depending on the purpose of the trip: 1) business, 2) leisure, and 3) visiting friends and relatives (VFR). We will focus on testing two hypotheses:

- B1: Purpose of the trip can modify the way in which perceptions of destination attributes determine overall tourist satisfaction (indirect effect).
- B2: Purpose of the trip can explain an additional part of OCS which is not explained by destination attributes (direct effect).

We specify the purposes of the trip by using dummy variables, so now variable “MODERA” has 3 categories. Table 4 shows the estimated results and the p-values of the F-tests for indirect and direct effects (the VFR is the reference group). Regarding the hypothesis B1, the jointly significant F-test for the moderating effect of each purpose of trip indicates that those coefficients (γ_{km}) are not significantly different from zero. In other words, regardless of what the purpose of their travel is, tourists appreciate and transfer their perception scores in order to define their overall satisfaction in the same way (this result is consistent with the one obtained in a previous paper by Meng *et al.*, 2008). On the other hand, regarding hypothesis B2 results are similar, because all

estimated coefficients are not significantly different from from zero (t-ratio for ρ_1 and ρ_2 are 0.05 and 0.41, respectively).

Given the results above, which confirm the independence between purpose of travel and satisfaction, a more intuitive way of presenting them is shown in Table 5, where equation (1) is estimated both for the aggregate market and segmenting tourists by purpose of travel: business, leisure and VFR.

Table 5 makes clear that estimated coefficients cannot be considered statistically different depending on the considered segment. In consequence, the purpose of the trip does not behave as a moderating variable on partial satisfaction indicators.

6.2. The Moderating Effect of the Tourist Profile

In principle, one would think that the relationship between perception of destination attractiveness and overall satisfaction can be modified by tourist sociodemographic characteristics. In this subsection, we test this hypothesis. This fully flexible model checks, on one hand, if individual tourist features affect the estimated coefficients of destination attributes and, on the other hand, if such features directly explain part of the overall satisfaction. Following proposals from previous literature, selected sociodemographic features are age, sex, country of origin, professional status, and number of previous visits.

Table 4: Regression of OCS Respect to Destination Attributes and Purpose of Travel

Variables*	Coef.	t-ratio	P-value for F-test
			B1 hypothesis
Accommodation and restaurants (F1)	.363	8.99	
Shops and Bar (F2)	.259	7.92	
Security, pollution and environment (F3)	.207	7.10	
Cultural offerings and entertainment (F4)	.208	7.06	
Ease in getting around the city (F5)	.138	4.06	
Factor1 X Business	-.055	-1.07	0.6338
Factor2 X Business	-.015	-0.35	
Factor3 X Business	.042	1.06	
Factor4 X Business	.040	1.02	
Factor5 X Business	-.013	-0.32	
Factor1 X Leisure	-.041	-0.92	0.9243
Factor2 X Leisure	-.010	-0.25	
Factor3 X Leisure	.014	0.40	
Factor4 X Leisure	.018	0.48	
Factor5 X Leisure	-.010	-0.27	
Business	.033	0.05	
Leisure	.224	0.41	
Constant	1.021	2.22	
Number of obs.	2.484		
Adj. R ²	0.567		

Note: The reference group is VFR. Estimation by WLS.

Table 5: Regression of OCS Respect to Destination Attributes, Segmenting by Motivation

Factors	ALL	DISTINGUISHING BY MOTIVATION		
	TOURISTS	BUSINESS	LEISURE	VFR
<i>Accommodation and restaurants</i>	0.319 (20.888)	0.308 (9.671)	0.323 (17.900)	0.363 (8.919)
<i>Shops and Bars</i>	0.249 (15.341)	0.244 (8.166)	0.249 (11.824)	0.259 (7.856)
<i>Security, pollution and environment</i>	0.229 (16.004)	0.248 (9.386)	0.221 (11.934)	0.207 (7.047)
<i>Cultural offerings and entertainment</i>	0.231 (15.391)	0.248 (9.709)	0.226 (10.491)	0.208 (7.004)
<i>Ease in getting around the city</i>	0.128 (9.743)	0.125 (5.270)	0.128 (7.505)	0.138 (4.030)
<i>Constant</i>	1.166 (5.531)	1.054 (2.636)	1.244 (4.441)	1.021 (2.201)
Number of obs.	2,484	944	1,279	261
Adj. R ² .	0.565	0.599	0.526	0.644
F-value	281.89	82.51	166.40	68.48
Prob.>F	0.000	0.000	0.000	0.000

Notes: Weighted OLS with robust standard errors (t-ratios below coefficients).

Table 6: Testing the Indirect (C1) and Direct Effects (C2) of Tourist Profile on Overall Satisfaction

Variables	Adj.-R ²	Categories	Hypothesis C1	Hypothesis C2	
			P-values	Coefficient	t-ratio
Sex	56.72	Male	0.3624	0.634	1.62
		female (reference group)			
Age	58.10	15/26	0.2254	-0.279	-0.20
		27/35	0.6461	-0.009	-0.01
		36/45	0.5317	-0.993	-0.80
		46/60	0.7670	-0.622	-0.49
		61 and older (reference group)			
Country of origin	57.62	Germany	0.6728	0.148	0.21
		UK	0.0020***	-1.527	-2.30**
		France	0.4984	0.708	0.74
		Italy	0.6574	-0.729	-0.90
		Rest of Europe	0.4054	-0.521	-0.89
		Rest of the World (reference group)			
Professional status	57.60	Self-employed	0.3494	0.958	0.12
		White collar	0.2147	0.754	0.84
		Skilled worker	0.0783**	1.338	1.74*
		Other worker	0.9966	-0.251	-0.24
		Inactive (reference group)			
Number of visits	56.88	First time visitors (reference group)			
		1 or 2 previous visits	0.8095	-0.143	-0.27
		3 or more previous visits	0.6300	0.583	0.73

The asterisks represent the significance of the coefficients. (*, ** and ***) indicate that coefficient is significantly different from zero at a confidence level of 0.90, 0.95 and 0.99.

In regard to age we distinguish the following five ranges: 15-26, 27-35, 36-45, 46-60 and more than 60 years old. This segmentation reflects a number of social and family factors that are related to age. For example, people under 26 can benefit from reduced rates in transportation and in museums. Regarding nationality, it has been segmented according to the market share of the origin countries. Specifically, we have distinguished between German, British, French, Italian, rest of Europe and rest of the world (only countries with a market share exceeding 8% were considered independently). Relative to professional status the following categories are considered: self-employed, white collar, skilled workers, other workers and non-active workers. And finally, in the number of previous visits we distinguish three possibilities: none, 1 or 2 previous visits, and 3 or more.

Before computing the joint estimation with all variables that define the tourist's profile, we conduct partial regressions for each variable to check what

effects are significant in order to verify what variables must be taken into account for policy recommendations. Therefore, for each variable, a model similar to equation (2) is estimated, but now variable "MODERA" will be equal to gender, age, country of origin, professional status and number of previous visits, respectively. Table 6 shows the results for all of these estimations. The fourth column presents the p-values associated to the F statistics, which test whether each set of dummy variables associated with the moderator effect of each demographic characteristic on the average Factor coefficients is significantly different from zero, that is, whether γ_{1m} , γ_{2m} , γ_{3m} , γ_{4m} and γ_{5m} coefficients are significantly different from zero (hypothesis C1).

Columns 5 and 6 show, respectively, coefficients and t-ratios of each demographic dummy variable that explain directly the OCS (that is, related to hypothesis C2). From this analysis, several conclusions about the relationship between destination attributes and overall

satisfaction can be drawn: i) neither age nor gender present significant moderating effects both on factors of partial satisfaction and on overall satisfaction (hypotheses C1 and C2, respectively); ii) regarding country of origin, a slightly different behaviour is observed in visitors from the United Kingdom. This applies both to indirect effect (its p-value is equal to 0.0020) and negative direct effect (its coefficient is negative and significantly different from zero); and iii) skilled workers also have a statistically different relationships between satisfaction with the attributes (the p-value of the hypothesis C1 is equal to 0.0783) and overall satisfaction (the coefficient is significantly different from zero at a 90% level of confidence).

6.3. Trip Features as Moderators

Finally, we are interested in testing whether some trip features affect the relationship between satisfaction with individual destination attributes and overall satisfaction. Following previous literature, we include hotel rating, distinguishing two categories (low-intermediate class with 1, 2 or 3 stars, versus high class with 4 or 5 stars), length of the stay (1 or 2 nights, 3 or 4 nights and 5 nights or more), type of transportation (car versus other, mainly by air), and the manner in which the trip was planned (completely on their own, by hiring services from a travel agency or if the trip has been organized by the company for which the traveller works).

As in previous cases, we analyse whether it is possible that trip features have an impact on tourist valuation of destination attributes (D1) and also if such features may explain in part overall satisfaction (D2). That is, we measure the indirect and direct effects of

trip features on overall satisfaction. Table 7 shows the results.

Fourth column of Table 7 presents F statistics for every set of dummy variables tested corresponding to indirect effects and also the estimated coefficients for direct effects. All p-values for hypothesis D1 suggest that tourists do not modify their mean impacts of destination factors on overall satisfactions according to the trip features analysed. On the other hand, columns 5 and 6 show all estimated coefficients and their t-ratios for direct effects and these findings also indicate that these effects are not significantly different from zero.

As a general conclusion for the whole section it can be said that the effect of representative factors of the attributes on the overall satisfaction when controlling for additional variables (purpose of travel, tourist profile and features of trip) is very stable and varies in very few cases (only for British tourists and skilled workers). In consequence, this pattern shows that tourists' perceptions of destination attributes incorporate enough heterogeneity to account consistently for overall satisfaction.

7. CONCLUSIONS

The importance of satisfaction for the competitiveness of a destination reveals the interest in measuring it adequately and understanding its determining factors in depth. We are interested in the case study of the city of Barcelona since it is a world reference for urban tourism.

Our results show that the most important factor appears to be the so-called Accommodation and

Table 7: Testing the Indirect (D1) and Direct Effects (D2) of Trip Features on Overall Satisfaction

Variables	Adj.-R ²	Categories	Hypothesis D1	Hypothesis D2	
			P-values	Coefficient	t-ratio
Category of hotel	56.59	1-3 stars (reference group)			
		4-5 stars	0.9552	0.263	0.55
Duration	57.41	1 or 2 nights	0.2804	-0.845	-1.49
		3 or 4 nights	0.3419	-0.638	-1.24
		5 or more (reference group)			
Transportation	56.28	Car	0.5700	1.827	1.30
		By Air (and others) (reference group)			
Planning	56.94	By its own account	0.8670	0.134	0.25
		by tour operator/travel agency	0.6470	-0.429	-0.77
		Company (reference group)			

restaurants. Availability, variety as well as value for money in hotel and restaurant's resources are aspects of crucial importance within tourist overall satisfaction. With this result in mind, it seems clear that a good political initiative is what has been called the "Q for Quality". The Ministry and the Autonomous Communities bring this certificate of "Q" to tourism establishments that hold: prestige, differentiation, reliability, rigor and promotion.

Other important factors affecting tourist satisfaction are those related to the range and quality of "shops and bars", "cultural offerings and entertainment", and "security and environmental issues". Therefore local authorities should take steps to ensure public safety and strive for environmental indicators (general cleaning, pollution, noise, etc.) to remain at adequate levels.

In order to achieve this, policymakers should try to avoid excessive growth in tourism, which would result in congestion problems and the subsequent deterioration in the aforementioned indicators. In this sense, it would not be less important to conduct surveys about the level of resident satisfaction with tourism, since a large part of the congestion costs fall on them. Policy makers must give prominence to the wellbeing of residents taking their interests into account because the limit of tourism growth is marked by the ability of the city to absorb it. The visitor/resident ratio in Barcelona is at 1.5, a value higher than those for cities like Paris or Rome, with a ratio of 1.3 in both cases. Therefore, efforts should be made to diversify the attractions of the city that currently are highly concentrated in the central zone.

On the other hand, it would also be convenient to focus the promotion of the city on those tourist segments that generate higher spending. From now on, only a quality tourism model that strengthens the balance between residents and visitors can ensure sustainability and continuity. Following this line of interest, in Moral and Garín-Muñoz (2017) characteristics of heavy spender tourists are identified.

Another finding of this research is that the relationship between satisfaction with specific attributes and overall satisfaction is very stable regardless of purpose of travel, tourist profile or trip features. According to the purpose of the trip, our findings suggest that policy makers have to take into account that improvements in the attractiveness and facilities of the destination have a relevant and similar impact on

satisfaction whatever the purpose of the trip may be. Regarding the tourist's profile results indicate that there are very few differences among types of tourists when they define their partial satisfaction indicators and their global satisfaction index.

Our analysis of satisfaction is very comprehensive and robust. Nevertheless, there are several weaknesses in this study that should be disclosed to provide guidance for future research. For example, an important element would be to measure the relationship between satisfaction and loyalty to the destination. In this sense, it would be highly desirable that the survey include questions about the intention to return. Other relevant topics for future research would be to develop similar studies applied to tourists staying in non-hotel establishments (Airbnb, cruise passengers, etc.).

Results in this paper may be useful for all actors involved in the tourist development of the city of Barcelona. And, with the necessary precautions, our findings could be transferred to other urban destinations.

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