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Quantitative analysis of image factors in a cultural heritage tourist destination

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Abstract

The tourism consumer's purchase decision process is, to a great extent, conditioned by the image the tourist has of the different destinations that make up his or her choice set. In a highly competitive international tourist market, those responsible for destinations' promotion and development policies seek differentiation strategies so that they may position the destinations in the most suitable market segments for their product in order to improve their attractiveness to visitors and increase or consolidate the economic benefits that tourism activity generates in their territory. To this end, the main objective we set ourselves in this paper is the empirical analysis of the factors that determine the image formation of Tarragona city as a cultural heritage destination. Without a doubt, UNESCO's declaration of Tarragona's artistic and monumental legacies as World Heritage site in the year 2000 meant important international recognition of the quality of the cultural and patrimonial elements offered by the city to the visitors who choose it as a tourist destination. It also represents a strategic opportunity to boost the city's promotion of tourism and its consolidation as a unique destination given its cultural and patrimonial characteristics.

Our work is based on the use of structured and unstructured techniques to identify the factors that determine Tarragona's tourist destination image and that have a decisive influence on visitors' process of choice of destination. In addition to being able to ascertain Tarragona's global tourist image, we consider that the heterogeneity of its visitors requires a more detailed study that enables us to segment visitor typology. We consider that the information provided by these results may prove of great interest to those responsible for local tourism policy, both when designing products and when promoting the destination.

Key words

Tourist destination image; cultural tourism; factorial analysis; cluster analysis.

1. Introduction

The image of a tourist destination is an important factor directly influences tourism consumers' decision-making process. Nowadays, many destinations compete with each other trying to improve their promotion and marketing through the image they project, aiming to attract more visitors and make these tourist destinations more attractive. According to the existing literature in this field (Baloglu, 2001; Baloglu and Mangaloglu, 2001; Baloglu and McCleary, 1999 ; Barroso and Florez, 2006 ; Beerli and Martín, 2004; Bigné et.al*., 2000; Bigné and Sánchez, 2001; Bigné et al*., 2001; Castaño et al*., 2006; Echtner and Ritchie, 1993; Gartner, 1993; Gursoy and McCleary, 2004; Richarson and Compton, 1988; Font, 2003; San Martín et al., 2006) it is considered that by knowing the attributes that really affect the image formation of a destination, strategies may be generated that improve their competitiveness, and more appropriate management policies for the development of each tourist destination can be implemented.

In this regard, tourist destinations, in any of their manifestations (rural, cultural, sun, sea and sand, etc.) must project a suitable image that renders its potential visitors' decision-making process more straightforward leading them to choose said destination. One increasingly more relevant aspect in tourism activities is the cultural attractiveness of certain destinations, with special emphasis on cities and towns that have assets declared World Heritage by UNESCO. Hence it is highly relevant to analyse the factors that contribute to the image formation of this type of destination based on the specificity of its patrimonial elements.

For our study, we have chosen the city of Tarragona due to its wide offer of patrimonial and cultural resources that centre, principally, on the Roman ruins of ancient *Tarraco*, included in the year 2000 in UNESCO's list of world heritage. In this way, Tarragona was acknowledged as being a city of indisputable patrimonial value, with important archaeological and architectonic resources and a history worth getting to know.

In the field of the management of tourism policies both on a global level, for Catalonia, and on a local level, for Tarragona, those responsible are becoming increasingly interested in being able to take advantage of the cultural and patrimonial resources they possess as distinguishing elements in order to attract tourists to their destinations. According to Bote (1998), although culture-motivated travel is not so common, there is considerable culture-based tourism demand, and it allows attracting a significant influx of tourists. It should also be highlighted that many destinations attempt to set their product apart, improving the image they project towards potential consumers with the aim of attracting more visitors and making more attractive holiday destinations.

Therefore, highlighting the cultural tourism activity that is promoted in the towns and cities that have assets declared World Heritage, we consider it highly relevant to be able to analyse the image that is projected on the basis of these cultural elements, and for our research in particular, to analyse the aspects that define the city of Tarragona's image as a tourist

destination, by means of structured techniques that analyse the components of the tourist destination image.

2. Conceptual background

The main goal of policies to promote tourism destinations is to project to potential tourists images that make a certain destination more attractive. In this way, their probability of being considered and chosen increases, since human behaviour depends, in many cases, rather on the perceived image than the objective reality. To this end, Hunt (1975) was one of the first authors to stress the importance of the destination image when trying to achieve a greater number of visitors. Currently, a general agreement exists as to the role of the destination image in the tourists' selection process. As Beerli and Martín (2004) point out, the most recent studies tend to consider that the image is a concept that is formed through reasoned and emotional interpretation and is a consequence of the combination of two components: perceptual/cognitive evaluations, that refer to people's beliefs and knowledge of a certain destination; and affective evaluations, that result from their feelings towards the destination. In this way, the global destination image is formed on the basis of the interrelationship between the perceptual/cognitive image of the destination and the affective component, which are, in turn, the result of a function of the cognitive responses (Baloglu and McCleary, 1999; Baloglu and Brinberg, 1997; Gartner, 1993).

Based on these considerations, as a starting point of reference for our analysis, we take the study by Baloglu and McCleary (1999) in which they propose a general model regarding the formation of the image of a tourist destination. In their work, they consider that in the process of forming the tourist destination image, two groups of factors come into play: personal factors (cultural values, motivations and socio-demographic characteristics) and stimulus factors (information sources and previous experiences). To this end, Baloglu and McCleary (1999) propose a path model that is made up of several components: the perceptual/cognitive, the affective, information sources, socio-psychological motivations, and demographic variables. These components are defined by the authors, and based on them they present their working hypothesis.

Additionally, in their model of the formation of tourist destination image, Beerli and Martín (2004) also consider the existence of two types of components: perceptual/cognitive and affective. These authors also take into account the socio-demographic characteristics in the formation of the destination image, according to which the individual's personal characteristics (such as age, sex, profession, level of studies, marital status, country of origin, social class) influence in their perception of a specific tourist destination. The factors analysed in their model refer: a) to information sources, classifying them into secondary and primary, with much reference to the work carried out by Gartner (1993) to determine the classification of the different information

sources and b) to the personal factors, within which they analyse the motivations, previous travel experience and the socio-demographic characteristics.

Other authors have studied the formation of the destination image on the basis of several factors and conclude that, based on their analysis, management policies can be generated to improve the promotion of tourism destinations. For Barroso and Flores (2006) looking deeper into the factors that would explain the competitiveness of tourist destinations will enable their understanding and, in turn, competitive strategies may be established that mean that the destinations that apply them will attain sustainable competitive tourist development. Hence, the competitive implications generated by the formation of the destination image have been analysed from different perspectives such as the lifecycle of the tourist destination (Martín, 2005) or that of the distribution channels of tourist destinations (Parra, 2002). In the work by Bigné et al. (2001), behaviour following the visit is important in the tourist's decision-making process when choosing one destination or another.

In addition, in our analysis, we also follow the methodology used in the work by San Martín et al. (2006) which, taking into account the contributions made by Echtner and Ritchie (1991 and 1993), analyse the different components of the image of a tourist destination. On the one hand they use a structured technique to study the common component (with cognitive and affective attributes), and on the other, using the unstructured technique, they measure both the holistic component (functional and psychological) and the unique component.

Thus, as San Martín et al. (2006) point out in the works by Echtner and Ritchie (1991 and 1993) three bipolar continua are proposed to analyse a tourist destination image: a) attribute-holistic, b) functional-psychological, and c) common-unique. In the first, it is considered that the image is determined not just by people's perception of the different destination's attributes but also by their holistic impressions of the destination. The other two continua consider the characteristics of both the attributes and the holistic impressions. Then, the second continuum, the functional-psychological, proposes that the attributes and holistic impressions can be tangible (functional) or abstract (psychological). Finally, the common-unique continuum reflects that attributes and holistic impressions can be common for any tourist destination or unique for each specific one. These unique components have important strategic implications for destinations' promotion and development strategies, as they may mean a source of destination differentiation, as noted by Bigné and Sánchez (2001).

In any case, it is clear that the image of a tourist destination is multidimensional in character, and so, in order to analyse and interpret it, the different types of components that integrate it must be considered: *the attributes* (concrete elements), *the holistic* (global), *the functional* (tangible), *the psychological* (abstract), *the common* (for any destination) and *the unique* (specific to a destination).

2.1. Measurement of the image of a tourist destination

The measurement of a tourist destination image has been performed by several authors (Echtner and Ritchie, 1991 and 1993; Hunt, 1975; Phelps, 1986; Richardson and Crompton, 1988; Bigné and Sánchez, 2001; San Martín et al. 2006; Rial et al. 2008; Sanz, 2008) based on two types of technique: the structured and the unstructured. The latter being considered the most habitual procedure for the statistical data processing. Using the structured technique, the researcher sets *a priori* a set of more or less common attributes or characteristics for any tourist destination, and then, using a Likert or semantic differential scale, the individual's perception for each of the attributes is measured, thus obtaining the common component of the image of a specific destination.

The types of statistical analysis that enable the structured technique are: descriptive analysis, factorial, variance and regression analyses. The Likert scale is a classification scale that is commonly used and asks interviewers to indicate the degree of agreement or disagreement with each of the series of statements concerning the stimulus objects (Rajashekhar and Benoy, 1991). Generally, each item of the scale has five or seven response categories ranging from "strongly disagree" to "totally agree". This scale has several advantages, especially the ease with which it may be drawn up and administered, which makes it suitable for use in shopping centres, phone and personal interviews. Its setback is that it takes longer to carry out than other item qualification scales because interviewees have to read each statement. With regard to the semantic differential scale, it is a seven point qualification scale whose end points are related with bipolar levels that have a semantic meaning. In a typical application, interviewees qualify objects based on several seven-point item scales limited at each extreme by one of two bipolar adjectives such as "cold" and "hot" (Malhotra, 1997).

On the other hand, the unstructured technique is based on the use of open-ended questions that allow people to make free descriptions of the destination or to indicate the concepts that are best identified with the destination or those elements that they consider most representative or singular. In this way, a person's holistic impressions of a certain place may be obtained (holistic component), as well as the characteristics that are unique or different at a concrete destination (unique component).

3. Objectives and methodology

The basic objective of this work is to contribute greater knowledge of the factors that determine the image of cultural and patrimonial tourist destinations, by using the analysis of Tarragona city as a tourist destination. This overall objective comprises three more specific partial objectives, which are:

1. to analyse the nature of the tourist destination image of Tarragona city, by identifying the attributes that characterize the common component of its image,

2. to identify the holistic component and the unique component that define the image of Tarragona city, and

3. to be able to classify visitors according to the factors that determine their image of the city and characterize the different groups.

The method used to perform this research is based on the design of a questionnaire and later collecting data by holding personal interviews. The sample was chosen randomly at the main tourist sites of Tarragona city (old town, the Balcón del Mediterráneo – "Mediterranean Balcony", Rambla Nova, at the entrance to museums, among others) between the months of January and December 2009. The target population consists of adults (over 18) visiting the city of Tarragona.

In our paper, the research was carried out in two stages. In the first, we defined the characteristics of the information necessary in order to fulfil the objectives set, the means of obtaining such data, and distributing the application of the questionnaire over time. Bearing the review of the literature in mind, in the studies on destination image, we started with the initial questionnaire written by Echtner and Ritchie (1993) as it is the most complete regarding the destination image and because it enables measuring the common component of the image by means of the structured technique. To adapt the initial questionnaire and adjust it to the characteristics of Tarragona city, a pre-test was performed which also allowed solving any possible problems of its understanding by the tourists. On the basis of the results obtained in the pre-test, twenty-one attributes were chosen to harness the common components based on the attributes of the destination image scored using a seven-point Likert scale (Echtner and Ritchie, 1993; Baloglu and McCleary, 1999; Beerli and Martín, 2004) which are defined as:

1.- a broad diversity of flora and fauna,

2.- the beauty of the landscape and natural environment,

3.- highly attractive beaches,

4.- a very pleasant climate,

5.- the friendliness and hospitality of the local inhabitants,

6.- a quiet city,

7.- a safe city to visit,

8.- a suitable place to rest and relax,

9.- a well-communicated city to which access is easy,

10.- a place with a great many cultural attractions to visit,

11.- a city with a unique historical and cultural heritage,

12.- the availability of very interesting cultural activities,

13.- a place with customs worth getting to know,

14.- a city with a rich gastronomy and good restaurants,

15.- commercial attractiveness and a wide variety of shopping facilities,

16.- a great nightlife scene and a broad choice of music venues,

17.- a clear example of a Mediterranean town,

18.- an ideal city to spend family holidays,

19.- the quality of the supply of tourist accommodation,

20.- good value for money, and

21.- its proximity to many places on interest to visit.

Concerning the affective image, four attributes were chosen via a seven-point semantic differential scale (Baloglu and McCleary, 1999; Beerli and Martín, 2004; Bigné and Sánchez, 2001; San Martín et al., 2006):

1.- the city of Tarragona is a stimulating-boring tourist destination,

2.- the city of Tarragona is a relaxing-stressful tourist destination,

3.- the city of Tarragona is an exciting-depressing tourist destination, and

4.- the city of Tarragona is a pleasant-unpleasant tourist destination.

In order to determine the sample, the data were collected by means of surveys carried out throughout 2009. This will enable us to analyse the image held by tourists visiting the city in different tourist seasons during said year. To obtain representative data, the following criteria are used: a 95% confidence interval (k = 1.96), calculated for proportions, based on the hypothesis that p = q = 0.5 (Miquel et al*.,* 2000). This implies using a minimum sample of 400 valid questionnaires, considering the infinite population as of 100,000 individuals.

In this way, the technical details for the data are as follow:

> *Population*: 295,000 tourists visiting the city of Tarragona, from January to December.
>
> *Sample:* 519 tourists surveyed
>
> *Confidence interval:* 95% (k = 1.96) for the least favourable case   p = q = 0.5
>
> *Sampling error:* +/-5%
>
> *Fieldwork:* from January to December 2009

Table 1 below shows the distribution made of the initial sample by months, taking into account the data concerning travellers entered per tourist site offered by the Hotel Occupancy Survey and the Holiday Campsite Occupancy Survey for Tarragona city, designed by the National Statistics Institute (INE). The average values were obtained from the information available at the time of carrying out the work with the data from 2006 and 2007 surveys. Data concerning tourists staying at tourist apartments were not taken into account as no information on the city of Tarragona appears in the Tourist Accommodation Occupancy Survey (INE), given the low importance of this kind of visitor to the city.

Table 1. Initial sample distribution, by month

	Hotels	Apartments	Total population	%	Sample
January	12.562		12.562	4,3	17
February	12.368		12.368	4,2	17
March	21.813		21.813	7,4	30
April	20.365	5.846	26.211	8,9	36
May	17.273	4.885	22.158	7,5	30
June	19.640	10.578	30.218	10,2	41
July	25.425	18.108	43.533	14,8	59
August	30.432	23.069	53.501	18,1	73
September	21.240	8.011	29.251	9,9	40
October	16.420		16.420	5,6	22
November	14.943		14.943	5,1	20
December	12.022		12.022	4,1	16
Total	**224.503**	**70.497**	**295.000**	**100**	**400**

Source: own preparation based on INE surveys, Encuestas de Ocupación Hotelera y de Ocupación en Apartamentos

In the second stage, the information gathered was reviewed and coded in order to ensure that the data were optimally statistically processed. Both for the analysis of the attributes of the common component and for the analysis of the holistic and unique components, and in order to obtain groups of tourists, we mainly used the SPSS Statistics 19 package. In our research, we apply Factorial Analysis, a multivariate technique that allows us, if possible, to reduce the dimension of an excessively large data table (given the large number of variables it contains) and deal with a few fictitious variables or factors that, though not observed, are a combination of the real ones and synthesize the majority of the information contained in their data (Pérez, 2009). We later use the factors obtained to identify visitor groups through Cluster Analysis, another multivariate technique that enables grouping objects according to their characteristics. The basic idea is that the objects of each group are as similar to each other as possible, in respect of some predetermined criteria for grouping, and that the different groups are as different from each other as possible, again obeying the same criteria (Hair et al., 2000).

4. Analysis and results

In accordance with the aims of our work, this section is divided into four parts: a) presentation of the profile of the sample obtained, b) analysis of the common component of the image, c) analysis of the holistic and unique components of the image, and d) cluster analysis of the types of visitor.

4.1. Sample profile

The sample profile obtained allows us to sum up the main characteristics of the visitors to Tarragona city during 2009, based on which we obtain the results of our analysis. As set out in Table 2, we can observe that gender distribution is quite balanced, with 52.8% of visitors being men and 47.2% women. By nationality, Spaniards represent 49.7%, against 50.3% of foreign

visitors. Of the tourists surveyed, 63.6% were in the 25-44 year age segment, followed by the first category of 18-24 year-olds, with 20.0%. Just under fourteen percent (13.7%) fall into the 45-64 year age category, whereas just 2.5% were 65 years of age or above.

Concerning marital status, the majority of those surveyed were single living alone, 46.4%. Of visitors to Tarragona, 28.7% were married, whereas 20.4% were single living with their partner. With regard to the education level, the majority of the sample, 69.8%, has studied at university. Among them, 33.2% hold a bachelor's degree or equivalent, 22.4% had finished diploma studies or equivalent and 13.3% have a PhD. Also notable is the 18.7% who have done *bachillerato* ('A' level equivalent), whereas visitors having studied vocational training represent just 4.2%. People who have obtained basic educational qualifications represented just 3.3% of the sample. Insofar as their occupational situation, 66.9% of those surveyed are in employment, compared to 3.3% who are unemployed, 19.3% who are students, 6.2% pensioners, and 2.5% housewives.

Table 2. Simple profile

Variables	%	Variables	%
Gender		*Nationality*	
Man	52,8	Spanish	49,7
Woman	47,2	Foreign	50,3
Age		*Marital Status*	
between 18 & 24 years	20,0	Single & living alone	46,4
between 25 & 44 years	63,6	Single & living with a partner	20,4
between 45 & 64 years	13,7	Married	28,7
65 years or more	2,5	Separated	3,3
DA	0,2	Divorced	0,8
		DA	0,4
Employment		*Education Level*	
Employed	66,9	Primary education	1,2
Student	19,3	Compulsory Basic Education	2,1
Unemployed	3,3	Vocational training	4,2
Retired	6,2	Secondary education	18,7
Housewife	2,5	University Diploma / Tech. Eng.	22,4
DA	1,9	Bachelor degree / Engineering	34,1
		Doctorate	13,3
		Others	0,6
		DK/DA	3,5
Monthly family income			
0 - 1.000 €	11,0	3.001 - 3.500 €	2,7
1.001 - 1.500 €	28,7	3.501 - 4.000 €	0,6
1.501 - 2.000 €	28,3	More than 4.000 €	0,6
2.001 - 2.500 €	13,3	DK/DA	6,6
2.501 - 3.000 €	8,3		

4.2. Analysis of the common component of the image

Initially, we carried out a descriptive analysis of the cognitive attributes of Tarragona city as a tourist destination. Table 3 shows the average score obtained by each attribute, the standard deviation, and the number of people surveyed who either do not know or do not answer (DK/DA) each of the attributes considered. We can see how the attributes that are most related by visitors with the Tarragona's image are in regard of the presence of a unique historical and

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cultural heritage, the cultural activities on offer, its proximity to places of interest and the presence of many cultural attractions. Thus, in this initial descriptive analysis it is clear to see the city's cultural and patrimonial elements as aspects that identify the prior image of Tarragona as a tourist destination. We may also highlight the fact that the attributes related to the beaches, the gastronomy or family tourism appear in the intermediate or intermediate-to-low section of the ranking of the attributes of Tarragona's image.

Table 3. Descriptive Analysis of Image Cognitive Attributes, of Tarragona city as touristic destination

code	attribute	average*	standard deviation	NK/NA
V79	Unique historical and **cultural heritage**	6,02	0,99	3
V80	Interesting **cultural activities**	5,87	1,13	9
V89	Many interesting places nearby	5,86	0,98	10
V78	Many **cultural attractions** to visit	5,79	1,05	8
V75	Safe city to visit	5,72	1,10	7
V81	Interesting **customs and traditions**	5,64	1,03	10
V77	Good facilities and transportation	5,57	1,17	10
V87	Quality accomodation for tourists	5,48	1,27	34
V76	A good place to rest and relax	5,47	1,14	9
V74	**Peace and quiet** of the city	5,46	1,23	4
V72	Comfortable climate	5,43	1,11	5
V82	Rich **gastronomy** and good restaurants	5,42	1,17	11
V71	Beautiful **beaches**	5,39	1,27	6
V88	Good **quality/price** ratio	5,35	1,13	11
V86	Ideal city for a **family holiday**	5,30	1,37	13
V85	Typical example of **Mediterranean city**	5,21	1,35	13
V84	Good nighlife and musical locals	5,16	1,41	45
V83	Good shops	5,16	1,35	25
V73	Kind peopel	5,11	1,29	8
V69	Beautiful landscape and naturla environment	4,67	1,59	9
V70	Great variety of flora and fauna	3,94	1,63	10

* Scale: de 1= very little a 7 = much

Next, we perform exploratory factorial analysis, with the purpose of being able to identify the factors hidden in the set of attributes of the image. The multivariate statistical technique of factorial analysis is based on the hypothesis that the information concerning a large number of variables observed can be compressed to a reduced number of underlying (or non-observable) variables called factors, which synthesize the information on the original variables. In this paper, we use a factorial analysis of principal components as statistical procedures, with the Varimax orthogonal rotation method to facilitate the interpretation of the retained factors. The result of this analysis (Table 4) allows us to obtain 6 factors, with autovalues greater than 1, using factorial loads of greater than 0.40 to obtain the desired solution. The factorial loads describe the proximity between the variable and the factor, thus indicating that the higher the value of the load on a factor, the closer the relationship between the factor and the corresponding variable.

Table 4. Factorial Analysis of the Cognitive Image (rotated component matrix)

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6
V79 Unique historical and **cultural heritage**	0,715	-0,033	0,111	0,256	0,084	-0,144
V75 **Safe city** to visit	0,672	0,256	0,020	-0,039	0,122	0,229
V78 Many **cultural attactions** to visit	0,657	0,101	0,013	0,324	0,106	-0,142
V76 A good place **to rest and relax**	0,585	0,208	0,165	-0,011	0,103	0,311
V77 Good **facilities and transportation**	0,551	0,153	0,088	0,134	-0,053	0,170
V71 **Beautiful beaches**	0,137	0,737	0,090	-0,036	0,160	0,009
V72 **Comfortable climate**	0,166	0,718	0,093	-0,010	0,156	0,090
V73 **Kind people**	0,032	0,695	0,037	0,337	0,118	0,088
V74 **Peace and quie**t of the city	0,446	0,581	0,095	0,003	0,044	0,177
V84 **Good nighlife** and musical locals	0,062	0,155	0,792	0,161	0,251	0,048
V85 Typical **Mediterranean city**	0,176	0,064	0,776	-0,061	0,087	0,150
V83 **Good shops**	0,008	0,077	0,682	0,370	0,050	0,032
V86 Ideal city for a **family holiday**	0,238	0,024	0,494	-0,051	0,462	0,373
V82 Rich **gastronomy** and good **restaurants**	-0,027	0,160	0,208	0,764	-0,070	0,154
V81 Interesting **customs and traditions**	0,266	0,001	0,082	0,716	0,104	0,049
V80 Interesting **cultural activities**	0,339	-0,004	0,013	0,675	0,197	-0,062
V88 Good **quality-price** ratio	-0,004	0,274	0,125	0,031	0,759	0,100
V89 Many **interesting places nearby**	0,111	0,216	0,080	0,118	0,727	-0,051
V87 **Quality accommodation** for tourists	0,122	-0,020	0,252	0,108	0,683	0,381
V70 Great variety of **flora and fauna**	0,037	0,044	0,110	0,060	0,102	0,836
V69 Beautiful **landscape and natural environment**	0,145	0,186	0,096	0,062	0,110	0,789
% Variance	12,45%	10,67%	10,33%	9,81%	9,74%	9,24%
% cumulative variance	12,45%	23,12%	33,45%	43,26%	53,00%	62,24%

Kaiser-Meyer-Olkin (KMO) Index: 0,826

Bartlett test: Chi-squared 2,853,307

Significance: 0.000

Table 4 contains the rotated factorial matrix (or rotated component matrix), which consists of the linear correlation coefficients between the factors and the indicators based on which the latter have been estimated. We can observe that the tourism image of Tarragona city presents a structure consisting of 6 factors that explain 62.24% of the variance.

FACTOR 1, which we call *"cultural heritage and comfortability"* accounts for 12.45% of the total variability and identifies a city with a unique historical and cultural heritage, a safe city to visit, a place with a great many cultural attractions to visit, a suitable place to relax and rest, and a well communicated city to which access is easy. Of these characteristics, the first and third are key elements within the interest of our research since they allow observing the presence of these components within the first factor that characterizes the image perceived by the tourists who visit the city of Tarragona. The combination of these patrimonial and cultural elements with others such as safety, rest and ease of access to the city, which we may synthesize under the concept of "comfortability", means that we can detect other characteristics that are positively perceived by visitors who highlight the image of a destination possessing unique patrimonial and cultural resources.

FACTOR 2, which we call "*beach, climate and hospitality*" accounts for 10.67% of the total variability and includes the characteristics of highly attractive beaches, a very pleasant climate, the friendliness and hospitality of the local inhabitants and the consideration of a quiet (peaceful) city. In this way, this second factor highlights the importance of both the city's physical particularities such as its beaches and climate, and the human characteristics of life in the city, such as the pleasantness of its local inhabitants and the peaceful rhythm that can be felt as everyday activities are carried out in the town.

FACTOR 3 which we call "*nightlife scene, Mediterranean and shopping*" accounts for 10.33% of the total variability and consists of the following attributes: a great nightlife scene and a broad choice of music venues, a clear example of a Mediterranean town, commercial attractiveness and a wide variety of shopping facilities, and an ideal city for spending family holidays. In these instances, we are dealing with holiday tourism combining the presence of the supply of complementary activities (nightlife and the opportunity to shop), with the characteristics of a typically Mediterranean city and the possibilities of family tourism.

FACTOR 4 which we call "*gastronomy, traditions and culture*" accounts for 9.81% of the total variability and is related with the attributes, a city with a wealth of gastronomy and good restaurants, a place with customs and traditions that are worth getting to know, and a variety of most interesting cultural activities. This factor would clearly explain the identification of Tarragona as a destination possessing excellent gastronomy which is complemented by the possibility of getting to know its interesting traditions and enjoy the cultural activities that are held in the city.

FACTOR 5 which we call "*value for money and accommodation, and proximity to other places*" accounts for 9.74% of the total variability and is related with the perception of the quality of the tourist destination, both in relative terms (good value for money) and in global terms for the quality of tourist accommodation. In addition, there is the advantage that the city has many interesting places to visit close by.

FACTOR 6 which we call "*natural environment*" accounts for 9.24% of the total variability and encompasses two characteristics, the great diversity of flora and fauna, and the beauty of the landscape and natural environment. Underlining the importance for visitors, when forming their image of a tourist destination, of the aspects related with the quality of the environment, the elements of the landscape and the natural surroundings, in general.

Based on the results of this factorial analysis, we can point out how the attributes most closely related with the presence of historical and cultural heritage are a part of the first factor which shapes the image of Tarragona city. Additionally, the importance of the availability of cultural activities also appears in the fourth factor, although this characteristic might not necessarily be associated with the singularity of the city's elements of historical heritage. In any case, factorial analysis underlines the importance of the characteristics of the patrimonial and historical and

cultural heritage within the main factor that constitutes Tarragona's tourist image, combining it with characteristics of "comfortability" such as the safety of the town, its ease of access and communication, as well as its suitability for resting and relaxing.

On the other hand, apparent from this same analysis is the importance of the attractiveness of the city's beaches and its mild climate, which are two of the second factor's most relevant elements that constitute the Tarragona's image. Meanwhile, in the above descriptive analysis, both Tarragona's beaches and its climate appeared in an intermediate position among visitors' assessments. In the factorial analysis, which allows us to obtain factors that explain the interrelationships between the variables analysed, which in turn explain (as dependent variables) the meaning of the factors obtained, these two characteristics are the ones of greatest weight in the second explanatory factor of the destination image.

Along the same lines, factorial analysis allows us to observe a greater relevance of some characteristics such as the elements that identify Tarragona as a clear example of a Mediterranean city, in the third factor. Also, the importance of its gastronomy is seen in the fourth factor, whereas in the preliminary descriptive analysis we do not detect the relevance of these elements as their average scores are hardly noteworthy.

The previous analysis can be complemented with a brief analysis of the attributes that constitute the affective image of Tarragona. Table 5 allows us to observe the greater identification of the city as a pleasant and relaxing place. These characteristics reinforce the elements of the comfortability of the tourist destination present in Factor 1, obtained in the factorial analysis.

Table 5. Descriptive Analysis of Tarragona City Affective Image

código	variables	average*	standard deviation
V97	**pleasant** place (7) / unpleasant place (1)	**5,90**	0,90
V95	**relaxing** place (7) / stressing place (1)	**5,64**	0,99
V94	**stimulating** place (7) / boring place (1)	**5,34**	1,01
V96	**exciting** place (7) / depressing place (1)	**5,31**	1,05

Scale: of 1 to 7

4.3. Analysis of the holistic and unique elements of the image

In order to analyse the holistic and unique component of the city of Tarragona, the unstructured technique was used based on three open-ended questions, also used by Echther and Ritchie (1993), their work being one of the most complete as regards the analysis of a destination based on the study of the functional and psychological holistic component, and used in other research (Bigné and Sánchez, 2001, San Martín, et.al., 2006).

This component contextualizes the overall impressions held by visitors to a destination which may be functional (tangible impressions) and psychological (abstract impressions) in nature. To measure the functional holistic component, respondents were asked: *What image came to mind when you thought about the city of Tarragona as your holiday destination?*, the psychological holistic component was collected via the question: *How would you describe the ambience or atmosphere you expected to find in the city of Tarragona?*, and lastly, to measure the unique image component the following enunciation was used: *Please state which elements you believe to be unique or different in the city of Tarragona*. Table 6 presents the concepts that are most evoked by visitors to the city of Tarragona.

The characteristics that are most evoked by tourists regarding the functional holistic component are linked to the cultural elements (the Roman ruins, the *fiestas*, the cultural heritage and the city's history) reflecting the fact that the city evokes a cultural and patrimonial image in visitors.

Table 6. Holistic and unique components of Tarragona city tourist image

Components		
Holistic		**Unique**
Functional	**Psychological**	
The beaches	Quiet	The Roman ruins
Holidays	Pleasant	The beaches
The sea	Fun	The city walls
The Roman ruins	Welcoming	The sea
The *fiestas*	Relaxing	The Mediterranean Balcony
The culture	Touristic	The gastronomy
Friends	Warm	The Roman Circus
Small city	Natural	The streets
Cultural heritage	Historical	Cultural heritage
Its history	Normal	Its history

Concerning the psychological holistic component, the adjectives quiet (peaceful), pleasant, fun and welcoming are those that most characterize the ambience and atmosphere that individuals expect to find in the city. Lastly, when we refer to the unique component of its image, special attention should be paid because this component can have important strategic implications and hence it becomes a competitive advantage when suitably promoting the image of the destination (Bigné and Sánchez, 2001). This component reflects the elements that are unique in the city (the Roman ruins, the beaches, the city walls, the sea, the Mediterranean Balcony, the

gastronomy, the Roman circus, the streets, the city's cultural heritage, its history), the most frequently evoked by visitors to Tarragona, and most of which are contextualized within the city's cultural and patrimonial heritage.

4.4. Cluster analysis of visitors by image factors

The next step in our work was to apply cluster analysis with the aim of segmenting possible types of visitor according to the most relevant factors in the constitution of Tarragona tourist image. As is well known, the aim of this type of statistical technique is to group elements together according to their characteristics. In this way the elements of a group will be very similar to each other as regards the pre-established selection criteria, and at the same time, the resulting groups will be, as regards these same criteria, as different from each other as possible (Pérez, 2009). In our analysis, we apply a non-hierathical k-means agglomeration method to the factorial scores of the individuals, surveyed for the six factors obtained in the factorial analysis of the previous sections. After performing several tests using non-hierarthical analysis to analyse the variations observed by the residual variance when increasing the number of conglomerates, and taking into account the variations in the linkage distance, we segmented visitors into four clusters. In Table 7 we can observe the average scores of the factors in the different clusters, as well as the percentages of individuals grouped in each cluster. Also, in Graph 1, the differences between clusters can be observed regarding the average scores achieved by the different factors in them.

Table 7. Centres of the final clusters

	Cluster			
	1	**2**	**3**	**4**
Factor 1: cultural heritage & comfortability	0,16411	-0,59694	0,24504	0,60681
Factor 2: beaches, weather & hospitality	0,82725	-0,92396	-0,07420	0,09029
Factor 3: nightlife & mediterranean city	0,27536	0,21889	-0,45955	-0,30233
Factor 4: gastronomy, traditions & culture	0,37401	0,22714	-0,17919	-1,91449
Factor 5: quality-price & nearby places	-0,29333	-0,13895	0,71531	-0,95179
Factor 6: natural environment	-0,07568	-0,33946	0,54240	-0,48215
% cases in each cluster	*34,20%*	*28,99%*	*29,45%*	*7,36%*

In this way, we can observe how CLUSTER 1 *("beaches and climate"*), with 34.20% of individuals, is the one that groups together the greatest number of visitors to Tarragona, and in which the highest scores are attained in relation with factor 2 which we defined as "beaches, climate and hospitality". Then it comes CLUSTER 3 ("*value for money*"), with 29.45% of visitors, in which the highest scores are attained in relation with factor 5 which we defined as "value for money and accommodation, and proximity to other places". With a very similar percentage,

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28.99% of visitors, is CLUSTER 2 ("*gastronomy and ambience*"), in which the highest scores are recorded in factors 4 and 3, defined as "gastronomy, traditions and culture" and "nightlife scene, Mediterranean and cultural", respectively. And finally, CLUSTER 4 ("*cultural heritage and comfort*"), with 7.36% of visitors, scores highest in factor 1: "heritage, culture and comfortability".

Graph 1. Differences between conglomerates of factorial scores
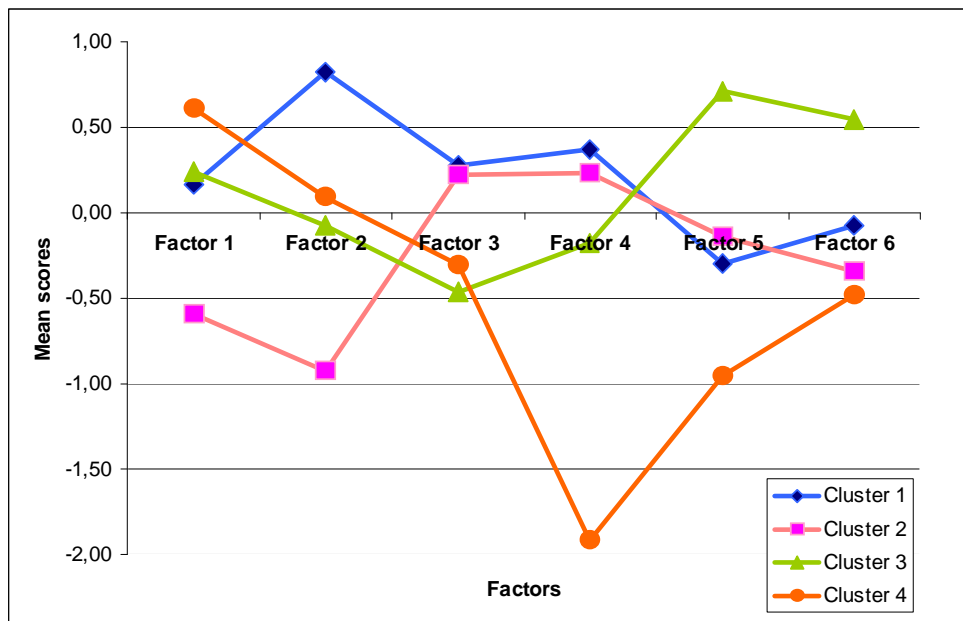
This cluster analysis has enabled us to segment visitors to Tarragona into four groups, in accordance with their greater similarity in respect of the factors that constitute the tourism image of the city, complementing the previously performed factorial analysis. The main characteristics of the visitors belonging to the four conglomerates we have identified are presented in Table 8. We can see how the visitors of cluster 1 visit the city mainly during the month of August (25.0%), July (14.6%) and June (10,4%). The presence of international visitors (56.2%) slightly exceeds the number of visitors from Spain (43.8%) and there is a more intensive use of apartments and apart-hotels (20.1%) than in the other groups. After "recommendation by friends and family", as the main reason for their visit comes the attraction of the city's monuments and heritage (9.7%), above the "beach" motive (6.9%). This group also contains the highest percentage of people that are visiting Tarragona for the first time (70.6%) and also the use of internet (10.4%) as a source of information is higher than for the other groups.

Table 8. Characteristics of Tarragona visitors by clusters obtained from city image factors

	Cluster 1 "beaches & climate" 34,20%	Cluster 2 "gastronomy & atmosphere" 28,99%	Cluster 3 "quality-price" 29,45%	Cluster 4 "cultural heritage i comfort" 7,36%
Month	**August (25,0%)** July (14,6%) June (10,4%)	**September (14,8%)** **November (14,8%)** March (10,7%)	**July (24,2%)** June (15,3%) August (15,3%)	**April (22,6%)** **May (22,6%)** December (12,9%)
Country	Spain (43,8%) **Foreigns (56,2%)** / France (16,7%)	Spain (54,9%) Foreings (45,1%) / France (7,4%)	Spain (49,2%) **Foreigns (49,8%)** / France (13,7%)	Spain (61,3%) Foreigns (38,7%)
Accommodation	Hotel (36,1%) Family/friend home (30,6%) **Apartment/aparthotel (20,1%)**	Hotel (39,7%) **Family/friend home (34,5%)** Apartment/aparthotel (13,8%)	**Hotel (55,0%)** Family/friend home (21,7%) Apartment/aparthotel (13,3%)	**Family/friend home (35,5%)** Hotel (32,3%) Apartment/aparthotel (16,2%)
Stay days	1 day (27,3%) 3 days (21,0%) 4 days (20,3%) a 80,4% not more than 4 days 4,3 days of average stay	1 day (31,1%) 3 days (23,0%) 2 days (21,3%) **a 86,1% not more than 4 days** **3,3 days of average stay**	1 day(25,8%) 3 days (24,2%) 2 days (15,3%) a 79,0% not more than 4 days 4,1 days of average stay	2 days (16,1%) 1 day (12,9%) 5 days (12,9%) **a 50,0% not more than 4 days** **7,3 days of average stay**
With whom?	**With the partner (33,1%)** Alone (30,3%) With the family (14,1%) With friends (14,1%)	**Alone (42,9%)** With the partner (21,0%) With the family (16,8%) With friends (15,1%)	**Alone (41,9%)** With the partner (27,4%) With the family (15,3%) With friends (10,5%)	With the partner (51,6%) **Alone (19,4%)** With the family (16,1%) With friends (12,9%)
Main reasons to visit Tarragona	Friends or family recommendation (20,8%) **Heritage attractiveness (9,7%)** Relatives or friends home availability (7,6%) **Beach (6,9%)**	Friends or family recommendation (23,0%) **Heritage attractiveness (11,5%)** **Cultural events (11,5%)** Relatives or friends home availability (9,8%)	Friends or family recommendation (13,7%) **Beach (12,1%)** Curiosity (10,5%) **Heritage attractiveness(8,1%)** **Cultural events (8,1%)**	Friends or family recommendation(22,6%) **Heritage attractiveness (16,1%)** Beach (9,7%) Visit family or friends (9,7%)
Tarragona Information obtained from	**Friends and relatives (41,7%)** Own knowledge (36,1%) **Internet (10,4%)**	**Own knowledge (44,6%)** Friends and relatives (32,2%) Internet (7,4%)	**Friends and relatives (38,7%)** **Own knowledge (37,1%)** Internet (9,7%)	**Own knowledge (48,4%)** Friends and relatives (35,5%) Internet (6,5%)
Repeat visit	**No (70,6%)**	No (67,2%)	No (68,5%)	No (64,5%)
Prior know Tarragona World Heritage site	**Yes (76,9%)**	Yes (73,0%)	Yes (72,6%)	Yes (64,5%)
Education level	University (72,1%)	University (68,1%)	University (73,0%)	**University (77,5%)**
Family income	between 1.001& 2.000 euros/month (60,6%) more than 2.000 euros/month (26,2%) **1.000 or less euros/month (13,1%)**	between 1.001 & 2.000 euros/month (57,0%) **more than 2.000 euros/month (33,3%)** 1.000 or less euros/month (9,6%)	**between 1.001 & 2.000 euros/month (62,9%)** more than 2.000 euros/month (25,0%) 1.000 or less euros/month (12,1%)	between 1.001 & 2.000 euros/month (58,1%) more than 2.000 euros/month (25,8%) **1.000 or less euros/month (16,1%)**
Age	**between 25 & 44 years (66,7%)** between 18 & 24 years (20,8%) between 45 & 64 years (11,8%) more than 65 years(0,7%) *average age 32,1 years*	**between 25 & 44 years (59,0%)** **between 18 & 24 years (24,6%)** between 45 & 64 years (13,9%) more than 65 years (2,5%) *average age 32,8 years*	**between 25 & 44 years (66,1%)** between 18 & 24 years (20,2%) between 45 & 64 years (10,5%) more than 65 years (2,4%) *average age 33,8 years*	**between 25 & 44 years (64,5%)** between 18 & 24 years (12,9%) between 45 & 64 years (12,9%) **more than 65 years (9,7%)** *average age 36,6 years*
Gender	man (52,1%) woman(47,9%)	man (52,5%) woman (47,5%)	man (53,2%) woman (46,8%)	man (54,8%) woman (45,2%)

If we analyse the characteristics of cluster 4, we can see that the visitors are concentrated mainly in the months of April (22.6%) and May (22.6%), and it is the group with the highest Spanish provenance (61.3%). Also, greater use is observed of houses of family or friends (35.5%) for accommodation, as well as recording a much higher average length of stay (7.3 days) than the other groups. On the other hand, the motive "attraction of the city's monuments and heritage" (16.1%) records the highest scores, with visiting family and friends (9.7%) at the same level as the beach. It is the group with the highest number of tourists that had visited Tarragona previously (34.5%), having the greatest knowledge of the city (48.4%) and making less use of internet as a source of information (6.5%). We also observe a higher percentage of visitors who were unaware that Tarragona had been declared World Heritage by UNESCO.

With regard to cluster 3, visitors are concentrated in the summer months, but unlike the first group, here it is mainly in July (24.2%) and June (15.3%). This is the group that makes the most use of hotels (55.0%) for their accommodation, with the beach motive (12.1%) most greatly represented, following recommendation by family or friends. Finally, in cluster 2, visitors are concentrated in the months of September (14.8%) and November (14.8%), with a significant use of houses of family or friends (34.5%) for their accommodation and with the shortest average length of stay (3.3 days) of the four groups. Their main motives for visiting also highlight the attraction of the city's monuments and heritage (11.5%) and the cultural events (11.5%), although it is also the only group in which having access to a family or friend's house (9.8%) appears among the top reasons.

5. Conclusions

The analysis carried out in this work allows a more adequate understanding of how the attributes come into play that make up the cognitive, holistic and unique components of the image, in the formation of a tourist destination image. We first analysed the attributes that constitute the cognitive component of the image, with the aim of observing visitors' assessment in regard of these attributes. The respondents were offered a block of 21 attributes to measure cognitive image. Given that the set of variables (attributes) can relate with each other, factorial analysis is applied in order to analyse this list of attributes, and in this way, the number of variables is reduced to 6 new variables (factors) which enable identifying the correlation that exists between the list of attributes (variables) that was initially provided to the respondents. Given that our research is carried out in the Tarragona city, and the city is blessed with an extraordinary patrimonial value, in the set of cognitive attributes, those which allowed visitors to value the city's cultural heritage were included. These variables are strongly related within factor 1 ("heritage, culture and comfortability"), and factor 4 ("gastronomy, traditions and culture"). In the first case, cultural and historical heritage are associated with the fact that Tarragona is a safe city, suitable for resting and is well communicated, whereas in the second case, the supply of cultural activities is associated with the presence of a wealth of gastronomy and traditions

that are worth getting to know. Logically, the other factors also help us to complete the image of Tarragona city as perceived by its tourists, with factor 2, in the main, containing the elements related with the attractiveness of its beaches and pleasant climate. Also, factor 3 contains the most representative elements of a Mediterranean town such as its nightlife scene, its commercial attractiveness and its suitability for family holidays. Factor 5 could be synthesized with the destination's good value for money (or price-quality) component, whereas factor 6 includes the elements related with the quality of the natural environment.

In second place, the results of the analysis of the holistic (functional and psychological) component and the unique component would indicate that the general image *a priori* held by visitors (functional component) is closely linked to the city's natural and cultural setting, whereas the psychological component would indicate that most tourists value the city as a quiet (peaceful), pleasant place and its cultural atmosphere is also highly esteemed. Insofar as the city's unique component, this is closely related with the elements of heritage ("Roman ruins", "city walls" and "Roman circus"), in addition to the beaches and the sea. To this end, the new logo adopted by Tarragona Tourist Board seems to have got it right as it unites the patrimonial elements (represented by the amphitheatre) with the backdrop of the sea, as an illustration of the interest in boosting the city's tourist image via these two elements.

On the other hand, the factorial analysis underlines the relevance of the "unique historical and cultural heritage" characteristic in the configuration of the city's tourist image, as it is the element with the heaviest weight in the main factor that determines the image of Tarragona. That is to say, visitors clearly recognize the cultural heritage elements in the image of this tourist destination. However, when performing the segmentation of these same visitors, using cluster analysis, we find that the smallest group (7.36%) is the one that includes the individuals that differ the most for highlighting the elements of cultural heritage in their constitution of the city's tourism image. With a far higher percentage, 34.20%, is the group that is mainly characterized for identifying the image of the city with its beaches and climate. This means that despite the generalized acknowledgement of the Tarragona image as a heritage and cultural destination, this characteristic does not obtain the same relevance when it comes to being configured as a factor that agglutinates the most significant segment of the visitors to the city.

The segmentation of visitors according to the main factors that shape the tourism image of Tarragona city has enabled us to identify four groups with different characteristics in such aspects, among others, as the time of the year of their visit, their nationality, the type of accommodation used, the length of their stay and the main reasons for their visit. This allows us to match the perceived image of the city with different visitor profiles. To this end, ascertaining and analysing the components that make up the image of a tourist destination, has meant that we can better evaluate the results of the tourist policies implemented and improve the strategies of promotion and communication of such destinations in order to try to take competitive advantage.

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Camarero, M.; Carrion-i-Silvestre, J.LL. (AQR-IREA).;**Tamarit**, **C.**
"New evidence of the real interest rate parity for OECD countries using panel unit root tests with breaks"
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Karanassou, M.; Sala, H. (GEAP).;**Snower** , **D. J.**
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Bermúdez Morata, Ll. (RFA-IREA); **Guillén Estany, M.** (RFA-IREA), **Solé Auró, A**. (RFA-IREA)
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"Does grade retention affect achievement? Some evidence from PISA"
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Arespa, M. (CREB)
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"The Innovation and Imitation Dichotomy in Spanish firms: do absorptive capacity and the technological frontier matter?"
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