

## Development of an index to assess the brand image of tourist destinations

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**Título:** Desarrollo de un índice para evaluar la imagen de marca de destinos turísticos.

**Resumen:** La imagen de un destino turístico constituye un elemento fundamental en los diferentes modelos que analizan el proceso de elección por parte del consumidor (Moutinho, 1984; Chon, 1990; Baloglu & McCleary, 1999). Los diferentes estudios consultados sugieren que aquellos destinos que poseen una imagen positiva gozan de una mayor probabilidad de ser considerados y finalmente elegidos en un proceso de decisión. El objetivo del presente estudio es proponer una metodología que permita evaluar la imagen de marca como un constructo de carácter psicológico, a partir de la percepción que los sujetos tienen de los atributos que definen distintos destinos turísticos. Para llevar a cabo este trabajo y llegar a proponer un índice de imagen de carácter cuantitativo, se analizaron los datos correspondientes a una encuesta de 916 turistas españoles.

**Palabras clave:** Turismo; imagen de marca; comportamiento del consumidor; análisis multivariante.

**Abstract:** A destination's image constitutes a central factor in the different models that analyze travel decision-making and its selection (Moutinho, 1984; Chon, 1990; Baloglu & McCleary, 1999). The studies consulted suggest that destinations with a positive image will have a higher probability of being considered and finally chosen in the selection process. The aim of this study is to propose a methodology for measuring brand image as an entirely psychological construct, deriving from the subjects' perceptions of its component attributes. To develop and evaluate this measure, we analyzed the results of a survey of 916 tourists.

**Key words:** Tourism; brand image; consumer behaviour; multivariate analysis.

### Introduction

Increasing economic development and massive availability of products and services means that it is increasingly difficult for firms to reach consumers. The principal problem is to emerge from the "communications noise" constituted by the environment, and to achieve the image and market position desired. To this end, firms aim for products and services that can be readily identified and recognized. Image thus becomes a centrally important tool in the struggle to attract the consumer's attention, and as a result firms devote increasing attention to its study.

But this concern, the new cult of image, is not exclusive to brands and products. People aspire to an attractive appearance, and in this way to appeal to others and be loved. Public or private institutions and organizations attempt to offer a better service every day, to sell an image of organizational culture that meets the needs and requirements of their clients. And of course, countries attempt to compete and offer a tourism product in a market that is increasingly saturated and in which it is increasingly difficult to compete. The various studies consulted (Hunt, 1975; Moutinho, 1984; Gartner, 1986; Woodside & Lysonski, 1989; Chon, 1990; Jenkins, 1999; Bigné, Sánchez & Sánchez, 2001) suggest that those destinations with a positive image will have a higher probability of being considered and finally chosen in the process of selection of the destination to visit.

### Objectives

The principal aim of the study presented in what follows is to propose a methodology for the measurement of *brand image*, understood as an entirely psychological construct formed from subjects' perceptions of its different component attributes.

In the case which concerns us, and in application to the tourism market, the Image Index proposed should reflect the Value of the Image of the different destinations on the basis of the sum of the individual perceptions of the target group on a list of attributes that define the image.

We are aware that when talking about the image of a tourist destination it is not possible to summarize everything that that destination represents in a single value. In fact, the proposed index is not going to resolve all the problems of image measurement, but should present itself as a useful tool for completing the information supplied by other analyses, such as for example *awareness*, strengths and weaknesses, positioning maps, etc.

However, the proposed image index should be capable of resolving at least two questions: 1) It should be sensitive to the different tourist sectors, which implies estimation of one value per subject; and 2) it should allow assessment of the development of the image over time, and should thus be easy to apply and to interpret.

### Method

#### Development of scales

The first step in measurement of the image value of a brand consists of the appropriate *identification* of the *attributes* that participate in the configuration of the image. To this

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end we performed a review of the existing literature on tourist destination image (Goodrich, 1978; Woodside & Lysonski, 1989; Calantone *et al.*, 1989; Baloglu & McCleary, 1999; Pike, 2002). In addition, and in complementary fashion, we formed two discussion groups with experts and consumers.

The results obtained were pooled and analysed until we had drawn up a definitive list comprised of 21 attributes: 1) Quality of hotels and accommodation; 2) Good restaurant service and food; 3) Gastronomic quality and variety; 4) Quality and variety of shops; 5) Ease-of-use and quality of transport; 6) Friendliness and politeness of local people; 7) Quality of service from professionals; 8) Pleasant climate; 9) Natural attractions of beaches; 10) Landscape beauty; 11) Cultural and architectural attractions; 12) Variety of tourist attractions; 13) Safety on the streets; 14) Water and beach quality; 15) Too crowded; 16) Environmental noise; 17) Adequate signposting; 18) Cleanliness and care of surroundings; 19) Value for money; 20) Good tourist information services; 21) Attractive publicity.

**Development of the image index**

If we assume that the attributes are positive criteria, then associating them with stimuli indicates that this particular subject perceives that stimulus with a high value. In this connection, the most highly valued destination (with best image) will be that which has the greatest number of associations.

In our case, and given that we used data on association between stimuli and attributes, we had a matrix of *n* subjects, *m* attributes and *r* stimuli, from which we constructed *n mxr* association tables. In each cell the response was symbolized by  $\pi_{ijk}$ , which represents the response of subject *i* to attribute *j* in combination with stimulus *k*. In a conventional association table,  $\pi_{ijk}$  can take only two values: 1 if the interviewee has associated that attribute with that stimulus, and 0 if not.

Subject I

Stímuli

	1	2	...	k	...	r
1	$\pi_{i11}$	$\pi_{i12}$	...	$\pi_{i1k}$	...	$\pi_{i1r}$
2	$\pi_{i21}$	$\pi_{i22}$	...	$\pi_{i2k}$	...	$\pi_{i2r}$
...	...	...	...	...	...	...
j	$\pi_{ij1}$	$\pi_{ij2}$	...	$\pi_{ijk}$	...	$\pi_{ijr}$
...	...	...	...	...	...	...
m	$\pi_{im1}$	$\pi_{im2}$	...	$\pi_{imk}$	...	$\pi_{imr}$

Attributes

If we group these *n* tables of association between stimuli and attributes, we obtain an *mxr* frequency matrix using which we can study the strengths and weaknesses of a destination, compare destinations, or apply multivariate techniques with which to study positioning in the tourism market (Varela, García, Braña & Rial, 2002; Varela, Picón & Braña, 2004).

From this matrix, which additionally serves as input for the application of data-reduction techniques, we proceeded to calculate the Image Index, the development of which is described in what follows.

Given the way in which the associations table has been constructed (with zeroes and ones), and for subject *i*, the image of destination *k* will be equal to the sum of the values of this column, that is:

$$I_{ik} = \sum_j^m \pi_{ijk} \tag{1}$$

The principal drawback of this index is that it is very probable that not all attributes that participate in the image of a brand will be positive. In other words, there will be some attributes whose association with a particular stimulus will not add value to the image, but will rather detract value from it. Consider for example an attribute like *too crowded*. In this case, and given the way in which it is worded, the destination associated with this attribute will presumably detract value in the final Image Index. In fact, it is very possible that the destination with best brand image will be that which possesses some attributes and not others. The attributes “noise” and “crowded” should detract good image from the stimulus if they are associated with it, while the remaining attributes, for example “green landscape” and “pleasant climate”, should add to it.

From this point of view, in addition to the associations table, it is necessary to construct an overall vector of weights or directions (for all cases). This vector contains a value for each attribute:

$$\delta_j = \begin{cases} -1 & \text{if the attribute is negative} \\ +1 & \text{if the attribute is positive} \end{cases}$$

Thus, an Index that registers the value of the Image of Brand *k* for subject *i* can be written as follows:

$$I_{ik} = \sum_j^m \pi_{ijk} \delta_j \tag{2}$$

The minimum value will occur when the subject associates with that stimulus all the negative attributes and none of the positive attributes, in which case expression (2) will give the following result:

$$\text{mín} = \sum_j^m \frac{\delta_j - 1}{2} = \frac{1}{2} \left( \sum_j^m \delta_j - m \right) \tag{3}$$

The maximum value will arise when the subject associates with that stimulus all the positive attributes and none of the *negative* attributes, in which case expression (2) will give the following result:

$$\max = \sum_j \frac{\delta_j + 1}{2} = \frac{1}{2} \left( \sum_j \delta_j + m \right) \quad (4)$$

The index derives from consideration of expression (2), expressed by its minimum (3) and maximum (4), in such a way that the result lies within (0,1):

$$I_{ik} = \frac{\sum_j \pi_{ijk} \delta_j - \frac{1}{2} \left( \sum_j \delta_j - m \right)}{\frac{1}{2} \left( \sum_j \delta_j + m \right) - \frac{1}{2} \left( \sum_j \delta_j - m \right)} = \frac{1}{m} \sum_j \pi_{ijk} \delta_j - \frac{1}{2m} \sum_j \delta_j + \frac{1}{2} \quad (5)$$

But given that the two final summands of expression (5) are constants, the index can be formulated as follows:

$$I_{ik} = \frac{1}{m} \sum_j \pi_{ijk} \delta_j + p \quad (6)$$

$$\text{where } p = -\frac{1}{2} \left( \frac{1}{m} \sum_j \delta_j - m \right) = \frac{1 - \bar{\delta}}{2}$$

Note the intuitive and direct interpretation of the index. If all the attributes are positive,  $p=0$  and the index gives the mean of the association coefficients, which as noted can take values of 0 and 1. With increasing numbers of negative attributes, the value of the constant  $p$  will be greater. Thus, for example, if we have as many positive as negative attributes, the value of the constant  $p$  will be equal to 0.5. At the other extreme, only negative attributes exist, so that the best possible image will give a value of 0 in the left part of the summand and of 1 in the constant  $p$ , with the result that the image index will again reach its maximum expression with 1.

However, and even bearing in mind that there is no single image (Barich & Kotler, 1991), we need a measure which tells us the mean value of brand  $k$  in a given segment. To this end, we propose the calculation of an *Image Index* that goes beyond the subjects and provides information about a homogeneous group of consumers. This Image Index for the brand  $k$  might be:

$$I_k = \frac{1}{n} \sum_i^n I_{ik} \quad (7)$$

Thanks to this index we can provide information to brand managers about the existence of differences between the different segments under study. In our particular case, and considering the value of a brand image of a tourism product, the index proposed will permit the presentation of results by regions of residence, tourist segments (sun-and-sand tourism, cultural tourism, etc.), etc., facilitating deci-

sion-making for improved management of the tourism product.

Nevertheless, to approach the concept of image effectively, it is necessary to introduce one final consideration. The Image Index ( $I_{ik}$ ) proposed above indicates absolute image, understanding the image of a brand  $k$  as the sum of its individual perceptions. We are aware that when we come to assess a brand, it is always necessary to take into account the rest of the competing market. In other words, a subject may give Galicia a score of 0.64 out of 1. For this subject Galicia will have a good image if the rest of the destinations evaluated have scores below 0.64, or at least if the mean rating of the destinations is below this value. If it is the case that the rest of the destinations are rated above 0.64, the image of Galicia for this subject, even if it is positive, is worse than that of the other destinations.

The above comments necessitate the introduction of a final modification with respect to the proposed index, which leads us to propose the Relative Image Index. To achieve an interpretation on the basis of each subject's relative image, as a function of his or her perception of the full set of stimuli, index (6) can be expressed in terms of the subject's mean for all stimuli, in such a way that a result with value 1 indicates the mean value:

$$Ir_{ik} = \frac{I_{ik}}{\frac{1}{r} \sum_k I_{ik}} = \frac{I_{ik}}{\bar{I}_i} \quad (8)$$

For a group of subjects or tourist segment, the Relative Image index is as follows:

$$Ir_k = \frac{1}{n} \sum_i^n Ir_{ik} \quad (9)$$

With regard to the interpretation of this new index, the resulting values can be grouped into three bands:

- $Ir_{ik} < 1$ : subject  $i$  considers that brand  $k$  has a relative image that is worse than expected (image worse than the rest of the destinations considered). The index referred to the total sample ( $Ir_k$ ) tells us that brand  $k$  is being badly rated by subjects.
- $Ir_{ik} = 1$ : subject  $i$  considers that brand  $k$  has an intermediate relative image; in other words, for that subject brand  $k$  represents a balanced image: there are better- and worse-rated brands.
- $Ir_{ik} > 1$ : subject  $i$  considers that brand  $k$  has a better relative image than expected (image better than the rest of the destinations considered). If the index is referred to the total sample, it tells us that for most subjects, this brand was rated better than the other destinations.

Among the advantages of this index, we would stress

that an index of image by subject will enable us to segment the results for different segments. Thus, and whereas a global index offers very little information, particularly when there is a lot of variability in the sample, an index by subject will allow us to provide information about image broken down by autonomous communities, reason for travel, tourist profile, etc.

### Data collection

For sample selection we used a random procedure with stratification by autonomous community, age and sex. The size of the sample used allows us to interpret the results with a confidence level of 95.5% ( $Z=1.96$ ;  $p=q=50$ ) and a sampling error of  $\pm 3.25\%$ . Starting from the list of selected attributes, a door-to-door survey was performed of 916 subjects resident in Spanish national territory and who had travelled at least once in the last two years. The interviewees were asked to state which tourist destination of a list of eleven possible destinations they associated with each of the above-mentioned attributes. With respect to data collection, we consider it important to stress two aspects. The first refers to the type of data, since although there are some authors who prefer to perform studies of image through profile or metric data, we consider that the use of association data improves the quality of information collection (Varela *et al.* 2004), above all when the number of stimuli and attributes is high, as in the present case. Secondly, the proposed methodology implies the use of multiple choice for the image study, unlike other studies which simply note which brand is the best for each of the attributes considered. In this way the image corresponds more closely to reality, where we find brands which for a subject share the same attribute. Thus for example, in the case of the tourism market, an attribute like *quality of hotels and accommodation* may be shared by several tourist destinations. Conversely, if we merely note which destination is that which is most closely associated with that attribute (a single response), the image of less well known destinations, destinations which are not at "the top of the subject's mind", will be clearly disadvantaged, in view of the greater reputation of the market leaders.

### Data analysis

In our case, and given that we have a total of twenty-one attributes, where 19 are positive and 2 are negative (*too crowded* and *too noisy*), the value of the constant  $p$  in expression (6) for calculation of brand Image by subject will be equal to 0.0952.

$$p = \frac{1 - \bar{\delta}}{2} = \frac{1 - 0,8095}{2} = 0,0952$$

## Results

### Absolute Image Index

The following figure shows the results of applying the proposed Image Index to the matrix of data of association between stimuli and attributes. In the first case the values represented are *Absolute Image Indices* ( $I_k$ ), whose values lie in the interval (0,1).

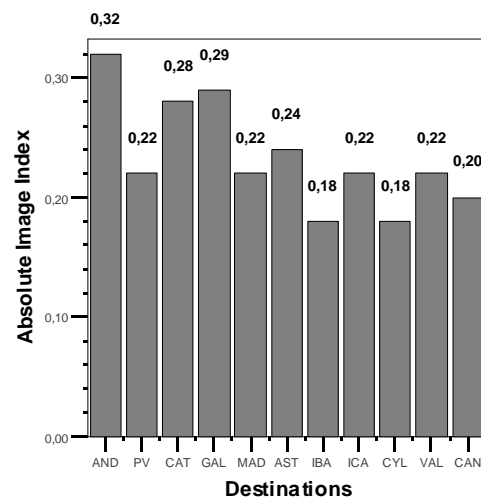


Figure 1: *Absolute Image Indices* of the eleven destinations considered

The Absolute Image results indicate that the most highly rated destinations are Andalucía (0.32), Galicia (0.29) and Catalonia (0.28), while the Balearic Islands and the Community of Castilla y León are among the least highly rated.

However, a detailed analysis of the above figure shows that the absolute Image Index is not capable of discriminating adequately between the image value of the different destinations. In fact, the difference between the maximum value obtained, which corresponds to Andalucía, and the minimum, of the Balearic Islands and Castilla y León with 0.18, scarcely exceeds 10%. This is due to the fact that the upper and lower limits of the interval considered (0,1) are fictitious values, where 0 represents the worst image possible (stimulus associated by all subjects with negative attributes, in no case with a positive attribute), and 1 the ideal image (stimulus associated by all subjects with positive attributes, in no case with a negative attribute). Of course, we are aware that it is very difficult to obtain these values, so that it is necessary to perform a transformation, in view of each subject's ratings.

Likewise, the Absolute Image Index is not capable of discriminating between destinations with good image and destinations with an image worse than expected. To explore the image concept in greater depth, the Image Index proposed should take account of this type of information.

### Relative Image Index

The second image proposed: the *Relative Image Index*, is capable of supplying information that more faithfully represents subjects' opinions with respect to image. Recall that this second index, in addition to offering an image value for each destination, offers the reference value (1) which allows us to state which destinations have a positive image and which have a poor image. The results are shown in the following figure.

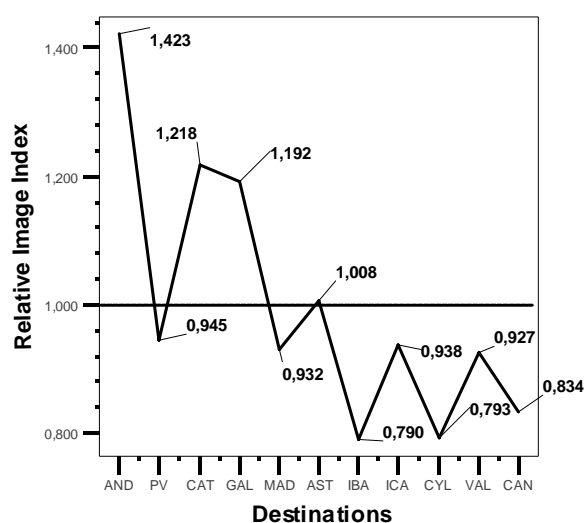


Figure 2: *Relative Image* Indices of the eleven destinations considered

As regards the image of the principal tourist destinations of Spain, the above results provide much clearer information. From the point of view of Relative Image (i.e. taking into account the other destinations considered), Andalucía is the most highly rated destination, with an Image Index of 1.423, followed by Catalonia and Galicia with 1.218 and 1.192 respectively. Asturias is the fourth destination in terms of absolute image, with a value slightly greater than 1 (1.008). In the case of the least highly rated destinations, it can be noted that the Balearic Isles (0.790), Castilla y León (0.793) and Cantabria (0.834) are the destinations with lowest image values.

Although the above data tell us about the overall image that tourists have of the different destinations considered, it is worth stressing that one of the major advantages of this index is precisely the possibility of presenting results for different segments. From this viewpoint, and in line with Barich & Kotler (1991), we consider that a brand does not have only one image, but rather several, implying a need to present the above results as a function of the segments that are of interest for the management of the tourist product in question. In our case, and by way of example, we have decided to differentiate the results in terms of the different areas under study.

The above table allows us to assess variation in image depending on region of residence. Of particular interest are the results for *Catalonia*, whose image is positive in all regions except Andalucía and the north, where it obtains a balanced image. The case of *Andalucía* is especially interesting. Though it showed a good image (i.e. it was the most highly rated destination), analysing the results by area we find that in the communities of the north of Spain, Andalucía obtained a slightly worse rating than the remaining destinations (0.9).

Table 1: *Relative Image* Indices as a function of region of residence

	ANDALUCÍA	PAIS VASCO	CATALUÑA	GALICIA	MADRID	ASTURIAS	IBALEARES	I.CANARIAS	CASTILLA Y LEÓN	C. VALENCIANA	CANTABRIA
ANDALUCIA	2.4	0.7	1.0	1.1	1.0	0.9	0.8	1.0	0.7	0.8	0.7
VALEN-CIA/MURCIA	1.2	0.8	1.2	1.1	1.0	1.0	0.8	0.9	0.7	1.6	0.7
ZONA CENTRO	1.2	0.8	1.1	1.2	0.9	1.0	0.7	1.0	1.1	1.0	0.9
MADRID	1.1	0.9	1.1	1.2	1.3	1.0	0.8	0.9	0.8	0.8	1.0
CATALUÑA	1.5	0.9	1.8	1.2	0.7	0.9	0.8	1.0	0.7	0.7	0.7
ZONA NORTE	0.9	1.6	1.0	1.3	0.8	1.3	0.7	0.9	0.8	0.7	1.0
TOTAL	1.423	0.945	1.218	1.192	0.932	1.008	0.790	0.938	0.793	0.927	0.834

## Conclusions

One of the topics that has acquired greatest importance in recent years in publications about marketing, and specifically in the tourist sector, is that of image. The various models that study the travel decision process have considered image as one of the most important factors (Hunt, 1975; Moutinho, 1984; Gartner, 1986; Woodside & Lysonski, 1989; Chon, 1990; Tapachai & Waryszak, 2000). Naturally, there are other important factors, such as price, distance or type of product offered, but in general we can say that those destinations with a positive image will have a higher probability of being considered and finally chosen in the process of selection of the destination to visit. These comments should encourage us to reflect on the importance of concern for image, since as noted by Hebert (1988) "image exists regardless, whether or not the firm wants it [...]. If a firm does not construct its own image, others will take it upon themselves to do so; and not necessarily in the way we want".

The growing concern about the study of image has translated into a major development of techniques (Hunt, 1975; Goodrich, 1977; Crompton, 1979; Richardson & Crompton, 1988; Calantone *et al.*, 1989; Echtner & Ritchie, 1993), notably qualitative techniques and modern studies of image and positioning by the application of multivariate techniques. However, if we wish to understand image development, and quantify the changes that image undergoes over time and in response to different marketing strategies, we need to have a suitable tool. This Image Index should reflect each brand's associations in a series of attributes that constitute the im-

age, and should be sensitive to changes occurring.

In the course of the present study we have presented a tool with which to complete analyses of image and positioning, and which allows us to quantify the Brand Image of tourist destinations. The starting data matrix is constituted by data on association between stimuli (destinations) and attributes, where the subjects must decide which destination or destinations from a list they associate with each of the attributes indicated.

Starting out from this association data matrix, the image index quantifies the associations that that brand shows with each of the attributes evaluated. To this end it considers the loading of the attributes and the relative rating of each brand, allowing us to compare all of the brands. Among the advantages of this index, we would stress the following:

1. It compares the image of the different tourist destinations, since it relates the image of a destination with that of its most direct competitor.
2. It performs an objective measurement of a subjective concept: image. It is capable of summarizing in a single value the opinion of the subjects about a series of attributes determining image.
3. It permits segmentation of the results by groups of tourists, so that marketing actions can be targeted to particular subject groups and tourist profiles, ensuring more effective resource use.
4. Finally, and given that image is dynamic - in other words, it changes over time - the proposed Image Index allows us to assess development over time, and design future marketing strategies in reference to our brand.

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