The lighting dimension of perceived tourist image: The case of Barcelona

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Abstract

Perceived tourist image has been studied from different dimensions. However, destination lighting, as a dimension of the perceived tourist image, has so far been unexplored. This research letter analyses illumination of tourist sites as a dimension of the perceived night-time tourist image. Results show that lighting is a relevant issue for image perception, and is related to the image projected by some monuments and tourist attractions. Results show that age and origin are determining factors of this dimension of image perception. Some managerial and research implications are also considered and discussed.

Keywords: illumination, perceived tourist image, personal factors, tourist sites.

Introduction

Ever since the invention of electricity, lighting cities has been an important urban issue. Lighting, however, does more than merely providing safety and order. It is used for other purposes such as attracting the consumer's eye in commercial areas, or creating a specific ambience during a particular period of the year (e.g. Christmas time). By contrasting light and dark, a city can reinvent itself at night (Demers, 2010). Thus, lighting has become an essential element of night-time urban landscapes. Illumination enhances and beautifies monuments and other spaces, changing the city skyline and ranking some spaces higher than others in the eyes of tourists (Bourgeois, 2002). In essence, lighting urban spaces and monuments changes the cityscape, and consequently its image (Demers, 2010; Mons, 2000).

Tourists perceive organic and induced images (Gunn, 1972), which comprise the sum of beliefs, ideas, and impressions that a person has of a destination (Crompton, 1979). Images are formed by affective and cognitive evaluations, which include the physical elements of the destination (Baloglu & McCleary, 1999; Xu, Ling & Pratt, 2017), such as monuments, buildings, and statues, among others. These images are influenced by a number of personal (e.g. age, gender etc.) and stimulus factors (e.g. information sources, previous experience etc.) (Baloglou & McCleary, 1999).

Generally, lighting of these physical spaces is one of their features, and it is part of its attractiveness in places such as the New York skyline. The relevance of lighting for tourism image relates on whether marketers use this issue to promote specific attractions or the destination in itself, in order to influence on tourist image perception. Bourgeois (2002) points out that attractions' lighting contributes to the promotion of the city's brand image; and Demers (2010) mentions that the transformation of Québec city's image trough the illumination of the Burge building on the Old Harbour generated more tourist attractiveness resulting in an increase of visitors. Similarly, New York has capitalized the lighting image of some of its top attractions to create a guide that promotes nocturnal tours (Mantei, 2012). Therefore, depending on the strategy followed by marketers, lighting might be an essential part of the perceived image of a specific tourist attraction, or the destination as a whole; which can influence decision-making and consumer behaviour at the destination. This can result in an increase of the number of tourists,

appeal for new market segments, and the determination of whether visits of tourism attractions are nocturnal or diurnal (Mantei, 2012).

Although illumination is a relevant topic, it is underexplored. The relationship between tourism and lighting has been mainly explored from the perspective of urban planning and development (Mallet, 2012). More specifically, previous studies on tourism destination image (TDI) have only considered night-time in terms of the attractiveness of nightlife (Baloglu & McCleary, 1999; Kim & Perdue, 2011; Xu, *et al.* 2017), but no other dimensions outside of this, such as night-time ambience, illumination of attractions, etc. In order to bridge this gap, this paper aims to explore illumination as a dimension of night-time on perceived tourist image; and to determine to what extent monuments and tourist attractions are associated to lighting, and whether personal factors influence this image perception or not.

Method

Barcelona (Spain) was chosen as a case study, considering its importance as a city destination, with 8.9 million tourists staying in hotels in 2017 (Barcelona Tourism Board, 2018). Data collection was conducted by means of a structured questionnaire to tourist visiting Barcelona, with trained interviewers using tablet computers. The sample was stratified over the months, according to the distribution of the number of tourists in each period. A random sample was distributed over mornings and afternoons, weekdays and weekends in various tourist spots, in order to have a more representative sample. The final sample (table 1) comprised 858 valid questionnaires.

Table 1: Sample profile

Perceived image was evaluated by means of a photo-elicitation question. The photo-elicitation technique is used extensively in tourism research (Hung, 2018; Matteucci, 2013; Zainuddin, 2010). This technique consists of inserting photographs into a research interview which evoke deeper elements of human consciousness than words (Harper, 2002), and can be used as a technique for triggering responses (Cederholm, 2004). This method is useful for empirical studies and may add validity and reliability to a word-based survey (Harper, 2002). The question included an illuminated and not illuminated picture of each tourist attraction (Figure 1) and it was formulated as follows: "Please choose the most representative picture of each tourist attraction in Barcelona". Interviewers were trained to ensure that respondents understood each of the questions, thus guaranteeing the quality of the data collected. The questionnaire also included socio-demographics, among other types of variables.

Figure 1: Pictures displayed in photo-elicitation question

Descriptive statistics were used with photo-elicitation data in order to identify whether attractions are more representative as illuminated or non-illuminated sights. Afterwards, Anova and Chi-square ($\chi 2$) tests were conducted in order to analyse whether variables of profile are related to image perception.

Results

Results from the photo-elicitation question (Table 2) show that lighting is more representative of the image of some sites. Light is part of the characteristics and charm of the perceived image of Agbar Tower and Montjuïc Magic Fountain (94.3% and 92.3%, respectively). Illumination is also strongly associated with the Harbour and Arenas, and it is seen as an intrinsic part of their perceived image. In contrast, more than 70% of respondents chose pictures without illumination of MNAC and Sagrada Família. However, there is a third group of sites where illumination is not perceived as an inherent

characteristic of its image (i.e. La Rambla or Casa Batlló). Therefore, the perceived image of these sights is vague in terms of illumination, with balanced results.

Table 2: Sites percentages from photo-elicitation question.

Results from the Anova test (Table 3) show that the average age is statistically different between non-illuminated and illuminated pictures of the majority of sites. In general, younger people usually choose pictures depicting illuminated sights, while older people tend to choose the picture of the sights without lighting. Apart from this, age is not related to illumination for the Agbar Tower, the MNAC and the Sagrada Família.

Table 3: ANOVA test for illuminated and non-illuminated sites by age.

Results in Table 4 depict that the origin of respondents has a statistical significance no matter whether the picture of each site chosen is illuminated, or non-illuminated. In general, national tourists tend to choose the non-illuminated picture more frequently than international tourists.

However, it is also relevant to point out that those sights which are not statistically significant show the existence of a consolidated image around the world. For instance, the Agbar Tower and the Magic Fountain are clearly perceived as illuminated sights for people of all origins. In contrast, the Sagrada Família is usually perceived as a non-illuminated sight.

Chi-square (χ^2) test was also performed by gender and education, and no statistical differences were found.

Table 4: Illuminated and non-illuminated sights by origin.

Discussion and conclusions

This article explores illumination of tourist attractions of a destination as a dimension of night-time on perceived tourist image, contributing to academic literature by providing a deeper knowledge of features characterising TDI.

Therefore, this study demonstrates that illumination of attractions is a relevant feature of perceived image of physical elements of the destination. In the case of Barcelona, sights have been identified in which illumination is a salient element of its perceived image, while in others it is not. This confers the city with a certain night-time attractiveness based on some of its monuments and tourist attractions, and predictably might contribute to drawing visitors to these attractions, as Mantei (2012) pointed out.

Additionally, previous studies have determined that personal factors influence tourist image perception (Baloglu & McCleary, 1999). This study has also demonstrated that some socio-demographic variables (age and origin) influence perception of lighting dimension of TDI, while others do not (gender and education). In particular, it has been confirmed that younger tourists frequently tend to associate lighting as a relevant feature of the various sights of the destination. Regarding tourists' origin, Crompton (1979) confirmed the influence of geographical location as a conditioning factor on perceived tourist image; this has also been demonstrated in later studies by Beerli & Martín (2004). Specifically, results from the study show that international tourists tend to choose pictures with the site illuminated, because they consider that represent better the image of the site. The study concluded that neither gender nor education are influential factors in the lighting dimension of the perceived image of the sights. These results are not in concordance with Beerli & Martín (2004), in a study which determined that gender and education were a determining factor in the perception of the cognitive component of the perceived

image. Moreover, it has been found that lighting is an intrinsic feature of some sights, such as the Agbar Tower or the Magical Fountain, in which their perceived image is not conceived without illumination.

These results contribute to academic literature by providing a better understanding of TDI dimensions; and determining that there is a dimension based on illumination of a destination's physical elements. In this context, photo-elicitation has been a useful tool to support identification of the most representative image of each one of the tourist sights examined. It is widely recognised as an empirical method used to obtain consistent data during the interviewing process (Harper, 2002; Matteucci, 2013). Therefore, this study allows to justify that future studies may include specific statements to assess this dimension on the cognitive component of the TDI (i.e. "We can enjoy the night-time illumination of the city"; "Illumination helps me to remember the monument or the place better"). For instance, a study based on quantitative assessment of TDI, which includes the dimension of illumination, can confirm the weight of this dimension in relation to other dimensions of the TDI (i.e. quality of the experience, attractions, etc.). Consequently, it is possible to determine the role of this dimension in more complex models of TDI analysis.

For destination marketers, it is essential to understand the value of lighting as part of the TDI, and also to know that they can purposely model patterns of the tourism image of a city by creating two different scopes, based on night and day perspectives in order to increase attractiveness of the destination. In this context, this study determines that some socio-demographic variables influence visitors' perception of illumination as a feature of perceived image of the sights. However, more research is needed to confirm these findings. This is a relevant issue that marketers can also consider to develop their communication strategy based on illumination as a TDI feature.

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Table 1: Sample profile

	Frequency	%
Gender		
Male	435	50.7
Female	421	49.1
Age (mean = 35.7)		
Less than 25	197	23.2
25 to 34	248	29.2
35 to 44	183	21.6
45 to 54	132	15.5
More than 54	89	10.5
Origin		
National	142	17.2
International	396	48.1
Other	286	34.7

Table 2: Sites percentages from photo-elicitation question.

Sites	% Illuminated	% Non-illuminated	% Total
Agbar Tower	94.3	5.7	100
Magic Fountain	92.4	7.6	100
Harbour	68.8	31.2	100
Las Arenas	62.7	37.3	100
La Rambla	50.4	49.6	100
Casa Batlló	48.5	51.5	100
Cathedral	46.5	53.5	100
View from the bunker	41.6	58.4	100
MNAC	27.6	72.4	100
Sagrada Família	25.9	74.1	100

Table 3: ANOVA test for illuminated and non-illuminated sites by age.

Sites	Age		F-statistic	p-value.
	Non-illuminated pictures	Illuminated pictures		
Agbar Tower	36.29	35.49	.176	.675
Magic Fountain	38.77	35.29	4.380	.037
Harbour	37.86	34.56	12.239	.000
Las Arenas	39.98	32.97	63.692	.000
La Rambla	36.38	34.72	3.550	.060
Casa Batlló	36.44	34.73	3.783	.052
Cathedral	37.30	33.64	17.609	.000
View from the bunker	36.75	33.83	10,963	.001
MNAC	35.79	35.06	.553	.457
Sagrada Família	35.99	34.43	2.382	.123

Table 4: Illuminated and non-illuminated sights by origin.

		% National	% European	% Other	%Total	p-value
MNAC	Non-illuminated	78.2	73.4	67.7	72.3	
	Illuminated	21.8	26.6	32.3	27.7	.059
Arenas	Non-illuminated	47.9	36.2	31.9	36.7	
	Illuminated	52.1	63.8	68.1	63.3	.005
Agbar Tower	Non-illuminated	5.0	6.1	6.0	5.8	
	Illuminated	95.0	93.9	94.0	94.2	.885
Magic Fountain	Non-illuminated	5.6	8.4	8.1	7.8	
	Illuminated	94.4	91.6	91.9	92.2	.570
View from the bunker	Non-illuminated	66.7	59.0	53.0	58.2	
	Illuminated	33.3	41.0	47.0	41.8	.024
Sagrada Família	Non-illuminated	76.1	75.7	69.9	73.8	
	Illuminated	23.9	24.3	30.1	26.2	.190
Cathedral	Non-illuminated	66.2	50.9	48.1	52.6	
	Illuminated	33.8	49.1	51.9	47.4	.001
Casa Batlló	Non-illuminated	61.3	51.5	44.2	50.7	
	Illuminated	38.7	48.5	55.8	49.3	.004
Harbour	Non-illuminated	36.6	28.4	30.5	30.5	
	Illuminated	63.4	71.6	69.5	69.5	.186
La Rambla	Non-illuminated	62.7	48.5	43.9	49.3	
	Illuminated	37.3	51.5	56.1	50.7	.001
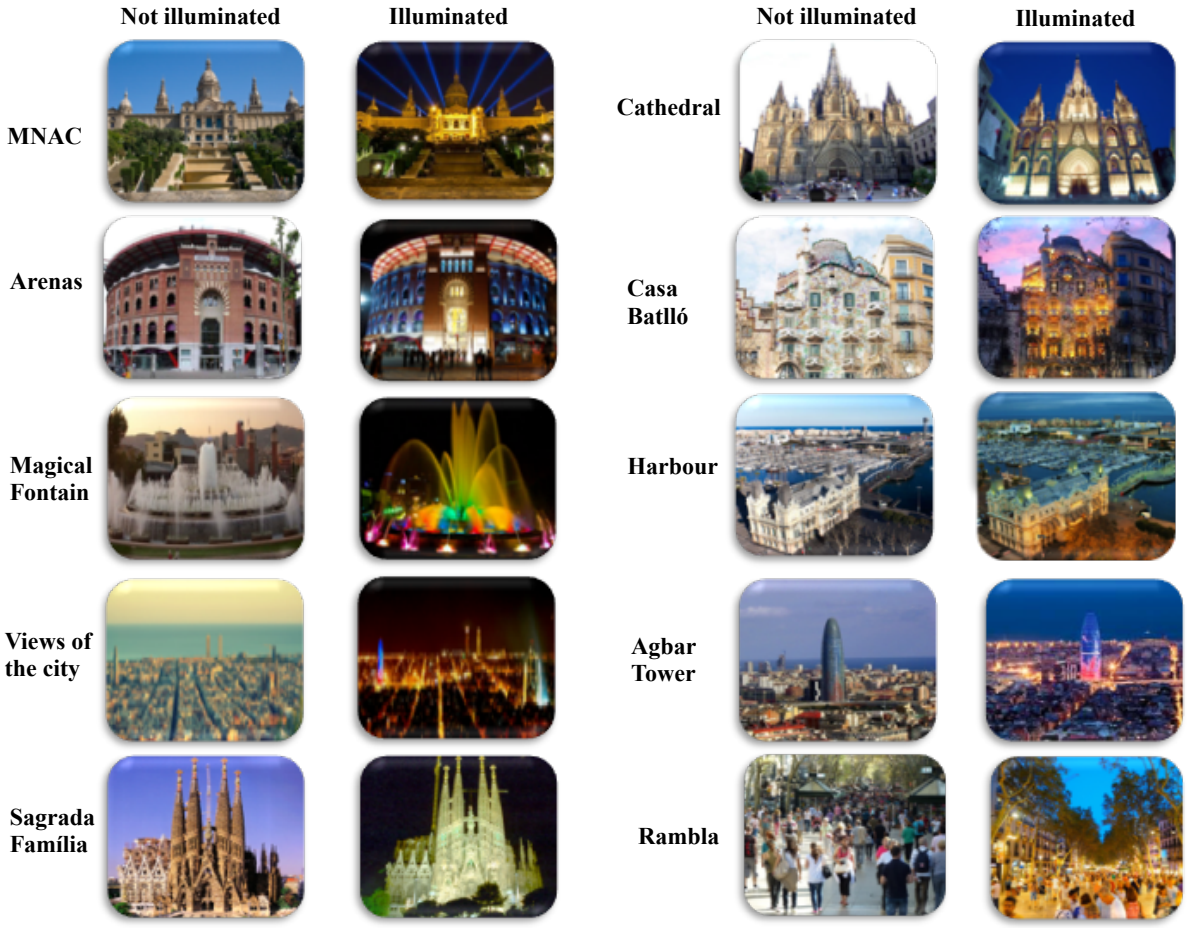
Figure 1: Pictures displayed in photo-elicitation question.