

Emotions and Cognitions When Reading Online Reviews: Effect on Tourism Service Image

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Abstract: The purpose of this study is to examine how online reviews from other users in a tourism service website generate emotions and cognitions that contribute to the formation of the image of a tourism service. We used a real website of a rural destination as a tourism service. We tested the proposed conceptual model using structural equation modeling. Our results show a correspondence between consumers' thoughts and the cognitive dimension of image, as well as between the emotions expressed by subjects and the affective dimension of image. Results confirm that the image of a tourism service is an important predictor of tourism service preferences. This overall image influences consumers' future intentions, not only to buy the service but also to recommend it to other consumers. In summary, we propose and test a model that shows how online reviews significantly influence image formation and subsequent consumer behaviors. To date, little is known about to what extent online reviews are useful to generate cognitive and emotional responses in potential tourists. Consequently, understanding its role in a tourist's decision making process, and assessing the relationships between utility of online reviews, emotions, cognitions and image towards the tourism service will make both scientific and practical contributions. While contributing to the body of knowledge on image formation process, our results are also relevant for public administrations and tourism marketing managers.

Keywords: Online Reviews, Emotions, Cognitions, Tourism Service, Image.

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Introduction

Imagine that you are planning to visit a specific destination and need to book a tourism service in that area. You could ask friends, check out a travel agency, or search on the Internet. Nowadays, a great deal of interesting and relevant content can be found online, including reviews that can be considered as part of travel planning (Naranga-javana *et al.*, 2017; Xiang *et al.*, 2015). Many online resources enable potential tourists to search for possible destinations, transportation, accommodation, and leisure activities, as well as to purchase these services (Hajli, 2014). Among these resources, online reviews have become critical, with hundreds of millions of potential visitors consulting them every year. Travellers across the globe use the TripAdvisor site to browse more than 760 million reviews and opinions of 8.3 million accommodations, restaurants, experiences, airlines and cruises (Tripadvisor, 2018). Therein, travellers share their experiences and emotions to help potential tourists to form an impression of tourism services, as well as contributing to the development of the service's image.

Previous research has shown that online browsing influences both the cognitive and the affective dimensions of image, although most such research has focused on the cognitive component alone (Bigné *et al.*, 2009). However, the influence of online reviews on image is yet to be fully revealed (Jani & Hwang, 2011). To the best of our knowledge, the effect of online reviews on the emotional and cognitive responses evoked by potential tourists is mostly unknown. Many studies have claimed that emotional responses are involved in communication processes (Allen *et al.*, 2005; Pestana *et al.*, 2019; Hosany & Gilbert,

2010; Prayag *et al.*, 2017), but extant research has failed to combine both cognitions and emotions in a holistic communication model. This paper aims to contribute to this underexplored area in the literature of tourism service image. We examine the bi-dimensional nature of overall image, in terms of its emotional and cognitive components, as well as its effect on behavioural intentions (purchase and recommendation). A theoretical model that relates emotional and cognitive consequences of online reviews with the image of a tourism service is proposed. Results of the study are discussed in light of previous studies' findings, and implications and recommendations for future research are presented at the end of the paper.

Literature review and hypotheses

The Perceived Usefulness of Online Reviews in Tourism. Online reviews (recommendations and experience sharing) are a valuable source of 'real-time' information on consumer attitudes (Ye *et al.*, 2009). Analysing opinions allows capturing both modified holistic images held by experienced tourists and baseline images held by potential tourists (Jani & Hwang, 2011). Liu *et al.* (2011) identified four objectives of online consumer reviews: (1) to assist consumers in making accurate choices, (2) to reduce the cognitive costs of making such choices, (3) to help consumers form an unbiased understanding of the product, and (4) to construct a set of evaluative criteria. Online consumer reviews are heavily relied on by potential tourists in forming images of tourism services, since the previous quality of these services cannot be ascertained otherwise, due to their experiential nature (Cox *et al.*, 2009).

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Previous studies have shown that online reviews influence travellers' decisions (Abubakar & Ilkan, 2016; Vermeulen & Seegers, 2009) and trip-planning processes (Gretzel & Yoo, 2008; Mendes-Filho *et al.*, 2018). However, the degree of influence of online reviews in the tourism industry is still largely unknown to either tourism researchers or practitioners (Chong *et al.*, 2018; Liu & Park, 2015).

Before they have an impact on decisions, online reviews may lead the potential tourist to develop cognitive and emotional responses. In parallel to what has been found in marketing communications literature (Batra & Ray, 1986), information from online reviews will help the receiver develop cognitive and emotional responses towards the tourism service. Consumers' access to information related to attributes, experiences, and feelings shared by other tourists might help them to form an impression about the tourism service (Jani & Hwang, 2011).

Given its importance as an information source (Ye *et al.*, 2009), the more useful online reviews are for the potential tourist, the more responses can be expected, as the tourist will dedicate more resources to processing this information (Papathanassis & Knolle, 2011). Therefore, based on the perceived usefulness of online review information (Casaló *et al.*, 2015), potential tourists will generate more favourable cognitions and emotions related to the tourism service. Thus, we propose the following hypotheses:

H1: Perceived usefulness of online reviews related to a tourism service increases the favourableness of the cognitions evoked.

H2: Perceived usefulness of online reviews related to a tourism service increases the favourableness of the emotions evoked.

Tourism Service Image: The Role of Emotions and Cognitions. Image has been one of the most explored concepts in tourism research (Chen, 2001). It is composed of two dimensions: cognitive and affective (Crompton, 1979). However, except for some exceptions (Baloglu & McCleary, 1999; Mackay & Fesenmaier, 2000), most image studies have focused exclusively on the cognitive dimension (Leisen, 2001). Evaluation of affective qualities might become even more important than objective, perceptible properties of tourism services (Kim & Richardson, 2003). Only recently, several studies (Moreno-Gil & Martín-Santana, 2015; Papadimitriou *et al.*, 2018) have highlighted the cognitive-affective nature of image, pointing out that it is integrated not only by the individual's cognitive evaluations, but also their affective evaluations (Kim & Richardson, 2003; Pike & Ryan, 2004). The coexistence of both components may better explain the image tourists have of a tourism service (Baloglu & Brinberg, 1997; Marinao *et al.*, 2012).

Emotions are now recognized to play a critical role in the consumption experience (Prayag *et al.*, 2013). Zajonc (1980) challenged researchers to consider more than cognition in their attempts to understand human behaviour, while Holbrook and Hirschman (1982) led the charge to take into account consumers' 'feelings, fantasies, and fun' as part of the overall consumption experience. The inclusion of emotions into a theoretical framework is particularly critical for experiential services (Bigné *et al.*, 2008; Mattila & Enz, 2002; Prayag *et al.*, 2017).

As suggested by Batra and Ahtola (1991, p. 159), "consumers purchase goods and services and perform consumption behaviour for two basic reasons: (a) consummatory affective (hedonic) gratification (from sensory attributes), and (b) instrumental, utilitarian reasons." Previous studies have suggested that hospitality and tourism services are likely to be high in both (Batra & Ahtola, 1991; Voss *et al.*, 2003).

Voss *et al.* (2003) conceptualized the hedonic and utilitarian constructs as dimensions of the brand attitude concept. The hedonic dimension of a consumption experience can be derived from a product's uniqueness, symbolic meaning, or the emotional arousal and imagery it evokes (Holbrook and Hirschman, 1982). In contrast, the utilitarian dimension is associated with products or services that are instrumental in fulfilling functional goals.

The affective evaluation of image, also known as the hedonic dimension (Batra & Ahtola, 1991), is associated with the emotions generated by the stimulus, while the cognitive evaluation or utilitarian dimension is related to the consumer's beliefs and perceived attributes. In the tourism context, the utilitarian dimension of a tourism service image will be based on the beliefs the consumer has of the attributes of that tourism service (Pike & Ryan, 2004), while the hedonic dimension will be based on the tourist's feelings towards the tourism service (Kim & Richardson, 2003).

Thus, in an attempt to reach a more favourable image, individuals who produce a higher number of emotions will generate a more favourable hedonic dimension of image. Similarly, individuals who produce a higher number of cognitions will generate a more favourable utilitarian dimension of image. Therefore, in a tourism context, the number of cognitions and emotions generated through consumers' exposure to online reviews will directly impact the utilitarian and hedonic dimensions of the tourism service's image. Formally, we propose the following hypotheses:

H3: Favourableness of emotions influences the hedonic dimension of image of the related tourism service.

H4: Favourableness of cognitions influences the utilitarian dimension of image of the related tourism service.

The Relationship between the Image Dimensions of a Tourism Service. The distinction and direction of the relationship between cognitive and affective components have been discussed in several tourism decision-making models (Baloglu & McCleary, 1999; Lin *et al.*, 2007). The findings show that both cognitive and affective evaluations exert a direct impact on overall image. Several studies have included cognitive and affective attributes in the measurement of image (Papadimitriou *et al.*, 2018; Moreno-Gil & Martín-Santana, 2015; Wang & Hsu, 2010).

As stated by Gartner (1993), people's perceptions of various attributes interact to form an overall image. The combination of cognitive and affective evaluations gives rise to an overall or composite image that is greater than the sum of its parts (Calantone *et al.*, 1989). Ahmed (1991) suggested that the evaluation of the overall image and its two main components should all be considered and assessed. Indeed, the

overall image has been considered a third component of the image, which may be similar to, or different from, the cognitive or affective perceptions of the tourism service (Baloglu & McCleary, 1999; Gartner, 1993). In line with this research vein, tourism service image should be considered a multi-dimensional phenomenon that includes not only beliefs about the service attributes, but also feelings towards the tourism service. Consequently, we propose that the utilitarian and hedonic dimensions of a tourism service image are positively related to the overall image of the tourism service. We thus derive the following hypotheses:

H5: The hedonic dimension of image of a tourism service positively influences the service's overall image.

H6: The utilitarian dimension of image of a tourism service positively influences the service's overall image.

In the past, image literature showed that the cognitive evaluation had an indirect influence on the overall image through the affective evaluation (Baloglu & McCleary, 1999; Beerli & Martin, 2004; Lin *et al.*, 2007). Consumer behaviour literature seems to support the opposite. For example, Coulter (1998) found a direct link between feelings and cognitions, while Pham *et al.* (2001) later showed that feelings could guide and, consequently, predict thoughts. They argued that once feelings have been registered, the initial affective response will lead to subsequent thought generation through automatic and controlled processes. Therefore, the initial affective response will lead the subject to retrieve congruent material through this affect (Blaney, 1986). This process will lead to a more elaborate, relevant, and, in short, cognitive response (Cohen & Areni, 1991). Additionally, López and Ruiz (2011) demonstrated that emotions exert a direct influence on thoughts, while the impact of the former on attitude flows both directly and indirectly through cognitions. These recent results provide strong support for the intervening role of affective evaluation on cognitive evaluations. Managerial practices in tourism also support the relevance of affective evaluation, since companies are becoming increasingly focused on engaging consumers in affective experiences. On the basis of previous literature and recent managerial practices, we propose the following hypothesis:

H7: The hedonic dimension of image of a tourism service positively influences its utilitarian dimension.

Image and Tourist Behaviours. Tourism image is an important issue that affects the way in which tourists make decisions regarding their choice of destination (Camprubi *et al.*, 2014). While tourist behaviours include the choice of a tourism service and subsequent evaluations including recommendations (Kneesel *et al.*, 2010), behavioural intentions such as intention to purchase and to recommend have become a basic metrics to evaluate the success of a tourism service (Kneesel *et al.*, 2010; Qu *et al.*, 2011; Wang & Hsu, 2010).

Literature has shown that the overall image of a tourism service is influential not only for the selection process itself (Baloglu & McCleary, 1999), but also for tourist behaviour in general (Bigné *et al.*, 2001). For example, Lee *et al.* (2005) argued that individuals' favourable ima-

ge will lead to greater levels of behavioural intentions. Thus, we expect that if a person holds a positive overall image of a particular tourism service, he/she will be more likely to purchase that service. Thus, we can derive the following hypothesis:

H8: The overall image of a tourism service positively influences the intention to purchase the tourism service.

Previous research has shown that overall image may condition after-decision-making behaviours, including the willingness to recommend (Bigné *et al.*, 2001; Lee *et al.*, 2005). The more positive the overall image of a destination perceived by a tourist, the greater the likelihood that the tourist will recommend it to other potential tourists, such as friends and relatives (Zhang *et al.*, 2014). Therefore, research has established a positive influence of overall image on tourists' intention to recommend. Bigné *et al.* (2001) empirically showed that overall image is a direct antecedent of intention to recommend a destination following purchase. We thus expect that the more positive the image of a tourism service, the more likely it is that the tourist will recommend the service to others (e. g. face to face, or via online reviews or chats). Therefore, we propose the following hypothesis:

H9: The overall image of a tourism service positively influences the tourist's intention to recommend it.

Research method

Design and procedure. We used a real website of a rural destination as a contextual stimulus in this study. The selection of rural tourism services was motivated by the fact that image formation process mainly occurs through destination websites in this type of small touristic services. The expansion of rural tourism explains the growing number of academic papers published in this field (Herrero & San Martín, 2012; Lanfranchi *et al.*, 2014; Hidalgo-Alcázar *et al.*, 2015). In addition, rural tourism is one of the most active sectors on the Internet. Currently, it is the main medium through which 8 out of 10 rural travelers (83.79%) looking for accommodation organize their trip when selecting rural tourism. Following previous research (Mulpuru *et al.*, 2007), the website included info about the destination area and the accommodation, and a section containing positive online reviews. In Spain, more than 96% of travelers say they read others' online reviews before choose rural accommodation because it helps them make a decision and 58.4% always leave a rating after their stay (Clubrural, 2021). The perceived usefulness of online reviews seems to be well represented in this context.

A sample of students was recruited through advertisements located at different points of a Spanish university. A gift was offered in reward for completing the questionnaire. The survey population consisted of individuals with no previous knowledge about the tourism service used in the study. We collected 242 valid questionnaires. The sample average age was 22 (ranging from 18 to 28) and 51.7% were women. The main dependent variables, such as overall image and intention to purchase and recommend the tourism service, were not significantly affected by these variables.

Students are considered ideal samples for testing theoretical predictions about the relationships among variables (Calder *et al.*, 1981), which is in line with the purpose of this study. Singh *et al.* (2000) also suggested that the effects of advertising on students and the public are the same. In addition, student samples have been used frequently in marketing (Keh & Pang, 2010) and tourism studies (Lee & Gretzel, 2012).

On arrival at the computer lab, the subjects were informed about the procedure and instructed to freely navigate the rural accommodation website, as if they were looking to book a weekend trip. After website exposure, the individuals answered questions concerning the variables included in the proposed model. We also asked participants whether they had accessed the online reviews section during website exposure. A total of 160 individuals (66.1%) indicated that they had accessed the online reviews generated by other users. Since our independent variable is perceived usefulness of online reviews, the results reported here include only the 160 individuals who accessed those reviews. This procedure ensured a more realistic and natural setting, as individuals were not forced to read the online reviews.

Encoding of Emotions and Cognitions. Following previous literature (López & Ruiz, 2011; Sicilia *et al.*, 2005), the participants wrote down all the thoughts that came into their minds while they were navigating the website. They were then instructed to write down all the emotions they experienced during exposure (Coulter, 1998; López *et al.*, 2007). Through this procedure, the subjects were not forced to make list of specific emotions, but were free to disclose how they felt (Pham *et al.*, 2001).

Two independent judges, unfamiliar with the study objectives, classified the cognitive and emotional responses as positive, negative or neutral. The two judges were very consistent in their classifications. For thought content, the judges agreed 90 percent of the time. As recommended by Rose *et al.* (1990), a third judge solved disagreements. To facilitate their task, we provided them with a list of 56 feelings from Burke and Edell (1989). As net responses is an approximation to the level of cognitive and emotional persuasion of the individual (Campbell & Keller, 2003; Rose *et al.*, 1990; Sicilia *et al.*, 2005), favourableness of emotions/cognitions was calculated by subtracting the number of unfavourable responses from the number of favourable ones (Campbell & Keller, 2003). Neutral responses were not considered in the calculation.

Measurement Scales. In order to ensure content validity, items for the other constructs were primarily obtained from prior studies in the tourism context, and were included in the questionnaire using 10-point scales. Affective image was measured through Russel's (1980) four bipolar affective items: 'pleasant/unpleasant', 'relaxing/distressing', 'arousing/sleepy', and 'exciting/gloomy' (Baloglu & McCleary, 1999), while for the cognitive image we used the most applicable items of Ong and Horbunluekit's (1997) scale (Ekinci & Hosany, 2006): 'isolated/accessible', 'unfriendly/friendly', 'dirty/clean', 'quiet/noisy', and 'unsafe/safe.' The respondents were also asked to rate their overall image of the tourism service using three bipolar items: 'unfavourable/favourable', 'bad/good', 'negative/positive' (Baloglu & McCleary, 1999). Behavioural intentions were measured through four items adapted from Kneesel *et al.* (2010) related to recommendation and booking the tourism service. Perceived usefulness of online reviews included four items, such as 'These reviews allow me to get an idea of this tourism service' (Gilly *et al.*, 1998).

A favourable attitude toward using online reviews is more likely to encourage travellers to use these reviews when making travel plans (Mendes-Filho *et al.*, 2012). Therefore, we included a measure of the general attitude towards reviews, which allowed us to control for this potential confounding effect (Park *et al.*, 2007). Finally, the questionnaire asked for respondents' gender, age, and city of residence.

Results

Reliability, and convergent and discriminant validity of the measurement instrument. A confirmatory factor analysis (CFA) containing all the multi-item constructs in our framework was estimated with Structural Equation Modelling (EQS) (Bentler, 2005) using the maximum likelihood method. Raw data screening showed evidence of non-normal distribution (Mardia's coefficient normalized estimate = 40.3), and the recommendation of Hu *et al.* (1992) of correcting the statistics was followed in this study. We, therefore report robust statistics (Satorra & Bentler, 1988).

An initial CFA led to the deletion of two items related to the cognitive image dimension ('isolated/accessible' and 'unfriendly/friendly') based on low loading estimates (below .60), patterns of residuals, and Lagrange multiplier tests (Anderson & Gerbing, 1988). The results of the final CFA (Table 1) provide a good fit to the data (S-B (df=216)=300.95, $p < .01$; NNFI=.90; CFI=.92; IFI=.92; RMSEA=.050), evidence of convergent validity (Hair *et al.*, 1998), and show high internal consistency of the constructs (Fornell & Larcker, 1981).

Table 1: Internal consistency and convergent validity of the theoretical construct measures

Variable	Indicator	Factor loading	Robust t-value	Loading average	CA	CR	AVE
Perceived usefulness of online reviews	OR1	.841**	8.806	.823	.894	.894	.678
	OR2	.823**	7.951				
	OR3	.779**	8.501				
	OR4	.850**	9.484				
Utilitarian dimension of image	UD3	.806**	5.533	.730	.768	.775	.537
	UD4	.644**	2.988				
	UD5	.739**	10.125				
Hedonic dimension of image	HD1	.779**	5.386	.773	.842	.856	.600
	HD2	.683**	8.289				
	HD3	.805**	8.742				
	HD4	.823**	6.010				
Overall image	OI1	.868**	6.485	.868	.898	.902	.754
	OI2	.859**	8.338				
	OI3	.878**	7.099				
Purchase intention	P1	.957**	14.073	.952	.950	.950	.905
	P2	.946**	13.736				
Intention to recommend	R1	.964**	13.268	.965	.964	.964	.931
	R2	.966**	12.333				
General attitude toward reviews	e-WOM1	.904**	8.785	.809	.867	.885	.660
	e-WOM2	.838**	9.295				
	e-WOM3	.682**	11.302				
	e-WOM4	.810**	9.984				

Note: The table shows the results of the final confirmatory factor analysis (CFA) that provide a good fit to the data (S-B (df=216)=300.95; p<.01; NNFI=.90; CFI=.92; IFI=.92; RMSEA=.050). The total sample is 160.

The meaning of the acronyms used is as follows: CA =Cronbach's alpha; CR = Composite reliability; AVE = Average variance extracted; *p<.05, **p<.01

Measures used in the study exhibited sufficient evidence of reliability, and convergent and discriminant validity (Table 2) as none of the 95% confidence intervals (CIs) of the individual elements of the latent fac-

tor correlation matrix contained the value of 1.0 (Anderson & Gerbing, 1988), while the shared variance between pairs of constructs was always lower than the corresponding AVE (Fornell & Larcker, 1981).

Table 2: Discriminant validity of the theoretical construct measures

Construct	Mean	SD	1	2	3	4	5	6	7
1. Perceived usefulness of online reviews	7.81	1.67	.68	.26	.32	.41	.28	.31	.64
2. Utilitarian dimension of image	8.64	1.25	[.26; .77]	.54	.57	.42	.19	.12	.07
3. Hedonic dimension of image	7.88	1.40	[.36; .78]	[.63; .88]	.60	.49	.29	.23	.12
4. Overall image	8.32	1.44	[.49; .79]	[.36; .94]	[.44; .96]	.75	.53	.55	.18
5. Purchase intention	6.90	2.11	[.38; .78]	[.22; .66]	[.33; .74]	[.62; .83]	.91	.57	.13
6. Intention to recommend	7.72	2.07	[.40; .71]	[.13; .57]	[.27; .69]	[.63; .86]	[.66; .84]	.93	.15
7. General attitude toward reviews	7.66	1.78	[.71; .89]	[.02; .50]	[.14; .57]	[.19; .66]	[.15; .57]	[.17; .59]	.66

Note: Diagonal represents the AVE, while above the diagonal the shared variance (squared correlations) is represented. Below the diagonal, the 95% CI for the estimated factor correlations is provided.

Descriptive Analysis of Cognitions and Emotions. Overall, 712 cognitive responses and 533 emotional responses were recorded. Table 3 shows averaged values of total (sum of favourable, unfavourable,

and neutral responses) and net (difference between favourable and unfavourable) emotions and cognitions. For both emotions and cognitions, favourableness remained at similar levels.

Table 3: Descriptive analysis of the emotions and cognitions evoked towards the accommodation

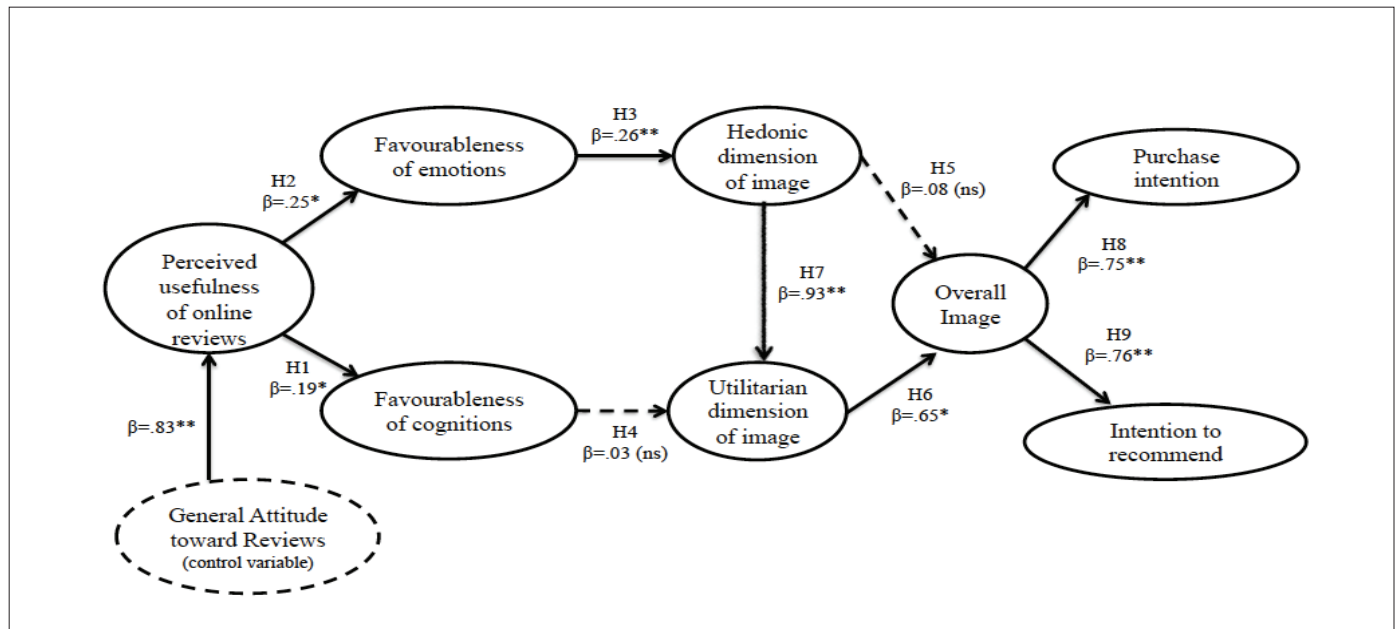
	Cognitions		Emotions	
	N	Mean value	N	Mean value
Favourable	602	2.49	510	2.11
Unfavourable	46	0.19	23	0.10
Neutral	64	0.26	-	-
TOTAL	712	2.94	533	2.20
Net	556	2.30	487	2.01

Note: The table shows averaged values of total (sum of favourable, unfavourable, and neutral responses) and net (difference between favourable and unfavourable) emotions and cognitions. The total sample is 242.

Test of the Conceptual Model. We tested the proposed conceptual model using structural equation modelling (SEM). The empirical estimates for the main-effects model are shown in Figure 1. The

results indicate that the data fit to our conceptual model was acceptable ($SBX^2(df=258) = 383.47, p < .01; NNFI = .89; CFI = .90; IFI = .90; RMSEA = .055$).

Figure 1: Structural model



Note: * $p < .05$, ** $p < .01$. The figure shows the results of the hypothesized relationships. The results indicate that the data fit to our conceptual model was acceptable ($S-BX^2(df=258) = 383.47; p < .01; NNFI = .89; CFI = .90; IFI = .90; RMSEA = .055$). The total sample is 160.

The results of the hypothesized relationships are also reported in Figure 1. Regarding the influence of others' opinions, perceived usefulness of online reviews was able to generate more favourableness in both emotions ($\beta = .19; p < .05$) and cognitions evoked ($\beta = .25; p < .05$), after accounting for the variance explained by general attitude toward reviews ($\beta = .83; p < .01$). These results provide support for both hypotheses H1 and H2. We also confirmed the correspondence between the favourableness of emotions and the hedonic dimension of image ($\beta = .26; p < .01$), but not between the favourableness of cognitions and the utilitarian dimension of image ($\beta = .03; p > .05$). These results provide support for hypothesis H3, but not for hypothesis H4.

The results also showed that the hedonic dimension of image

influenced the utilitarian dimension ($\beta = .93; p < .01$), but its effect on the overall image ($\beta = .08; p > .05$) was not significant ($\beta = .08; p > .05$). However, the utilitarian dimension of image had an effect on the overall image ($\beta = .65; p < .05$). These results provide support for hypotheses H6 and H7, but not for hypothesis H5. Finally, the overall image had an impact on both purchase intentions and intention to recommend the tourism service. These results support hypothesis H8 ($\beta = .75; p < .01$) and hypothesis H9 ($\beta = .76; p < .01$).

We also checked for the indirect effects using the bootstrap method (Hayes, 2009). As shown in Table 4, the indirect effect through the hedonic and utilitarian dimensions of image is positive and significant ($\beta = .11, [.03; .22]$). Therefore, the effect of emotions on overall

image was mediated through the hedonic and utilitarian dimensions of image. The indirect effect between emotions and the utilitarian dimension of image through the hedonic dimension of image was also

significant ($\beta = .19, [.06; .33]$), as was the indirect effect between the hedonic dimension and overall image through the utilitarian dimension ($\beta = .36, [.23; .50]$).

Table 4: Summary of indirect effects

Model	Estimate	Bias corrected Bootstrapped confidence interval
Ind1: Favourableness of emotions → Hedonic dimension → Utilitarian dimension → Overall Image	.11	[.03; .22]
Ind2: Favourableness of emotions → Hedonic dimension → Utilitarian dimension	.19	[.06; .33]
Ind3: Hedonic dimension → Utilitarian dimension → Overall Image	.36	[.23; .50]

Conclusion

Theoretical contributions. Interpersonal communications are an important information source among tourists (Litvin *et al.*, 2008). With the spread of the Internet, virtual interactions among consumers have become commonplace, which has led some tourism researchers to point out that online reviews play an important role in the acquisition and retention of consumers (Vermeulen & Seegers, 2009; Ye *et al.*, 2011).

One of the main contributions of this paper is demonstrating that online reviews generate cognitive and emotional reactions about tourism services. Although past work has shown that emotions can substantially influence the way reviews are processed (Kim & Gupta, 2012), it has not addressed considering at the same time emotions and cognitions. Moreover, we show that a link exists between the favourableness of emotions expressed by subjects and the hedonic dimension of image, but not between the favourableness of cognitions and the utilitarian dimension of image. To the best of our knowledge, these links have not been empirically tested before in image literature. Additionally, we contribute to the literature on tourism service image by demonstrating that the utilitarian dimension of image is a significant antecedent of overall image. Tourists will use these image dimensions to form their impressions of, and evaluate, the tourism service in their choice process. Moreover, and contrary to previous research findings (Baloglu & McCleary, 1999; Qu *et al.*, 2011), the direct influence of the hedonic dimension of image on overall image is not significant. Instead, we obtain that the hedonic dimension of image influences the utilitarian dimension of image, which, in turn, affects the overall image. Tourists form their beliefs and opinions as a function of their feelings. Our results are consistent with previous findings concerning how affective responses are formed as a function of the cognitive responses (Baloglu & Brinberg, 1997; Gartner, 1993) and the consequences of overall image in terms of intentions to purchase and recommend the tourism service to others (Bigné *et al.*, 2001; Lee *et al.*, 2005).

Managerial implications. The major findings of this study offer meaningful implications to tourism practitioners in the context of promoting tourism services. First, creating and managing an appropriate image is important for tourism service managers because product trial before consumption is difficult and because a positive image

helps to position the tourism service. For that reason, it is necessary to identify the roles of the utilitarian and hedonic components of a tourism service image, in order to accurately implement the most effective positioning strategies (Pike & Ryan, 2004). Second, managers should encourage consumers to spread the word about their services (Verlegh *et al.*, 2013), as online reviews are an important information source in forming the tourism service image.

In addition, since tourists use hedonic and utilitarian dimensions to form images, the service's positioning strategy should emphasize not only its physical properties (which has been the usual practice up to date), but also the amalgam of emotions that the experience is able to evoke in the tourist's mind. In the first case, the individual's beliefs about the tourism service are reinforced, while in the second the service promotion affects the individual's emotional component. Analysing the relative importance of each dimension will provide tourism-marketing managers with insights about whether to introduce more emotional appeals or more cognitive stimuli when communicating with their audiences.

Our results will also help both public administrations and tourism marketing managers to understand the image-formation process and design more efficient marketing strategies for tourism service websites. By understanding the relationships between future behavioural intentions and their antecedents, tourism managers will be better informed with respect to building an attractive image and improving their efficiency. Due to the great importance of the emotional component in our results, marketers should provide more emotional information to tourists involved in trip preparation, while also providing appropriate services during the vacation to satisfy the tourists' emotional side. Tourists will then perceive a good image of the service and be more likely to recommend it to other potential travellers.

Limitations and future research lines. The limitations of the study offer potential avenues for future research. First, we used online reviews from one single website and tourism service. This research methodology should be applied to other studies and tourist destinations in order to generalize the findings. Moreover, we analyzed how online reviews from the official destination site influences on the image of a tourist destination, but further research should be conducted to find out what results could be produced in other sites or platforms. It would be interesting to address other platforms

different from the official destination site. For example, social networks such as Instagram or Facebook may also contribute to image creation and their impact on behavioral intentions should be addressed in future research. Second, taking into account the number of reviews and their valence should be of interest for subsequent studies. In our study, the comments were all mainly positive, but consumers seek to read both positive and negative reviews. While the number of positive reviews occupies a larger portion of total online reviews (Mulpuru et al., 2007), negative reviews are very influential (Chevalier & Mayzlin, 2006). Third, the sample involved only undergraduate students, which represents a particular consumer segment from a Western-centric country. Although due to their homogeneity as compared to a sample chosen from the general population, they are considered ideal samples for testing theoretical predictions about the relationships among variables (Calder et al., 1981), which is in line with the purpose of this study; the results could be replicated with a sample comprised of real consumers (not only college students) to prove the generalizability of our findings.

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