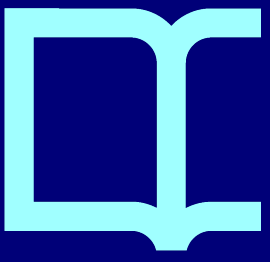

Journal of Outdoor Recreation and Tourism 44 (2023) 100644

Contents lists available at ScienceDirect

Journal of Outdoor Recreation and Tourism

journal homepage: www.elsevier.com/locate/jort

Research Article

Selfies versus conservation: The influence of user-generated content in the image of protected natural spaces

Alex Araujo-Batlle [a], Lluís Alfons Garay-Tamajón [b,*], Soledad Morales-Pérez [b]

[a] TecnoCampus, Universitat Pompeu Fabra, Parc TecnoCampus Mataró-Maresme, Carrer d'Ernest Lluch, 32, 08302, Mataró, Barcelona, Spain
[b] Faculty of Economics and Business, Universitat Oberta de Catalunya, Avinguda Tibidabo, 39, 08035, Barcelona, Spain

ARTICLE INFO

Keywords:
Social media
Destination image
DMO
UGC
Natural spaces
Sustainability

ABSTRACT

This study uses geolocated Instagram posts to understand the influence of User-Generated Content (UGC) on image projection and its influence on the behaviours of visitors in vulnerable destinations that should be managed by sustainable precepts. Based on a sample of 34,948 posts geotagged in Congost de Mont-Rebei, a protected natural destination located in Catalonia (Spain), this study reveals the existences of three types of visitor profiles which do not always exhibit sustainable behaviour and often project narcissist images where the destination is merely a background, without contributing to the value of the place. The findings extend previous understanding of research on images of tourist destinations and visitor behaviours from a sustainable perspective. This study also provides recommendations for destination management organizations (DMOs) to improve the projection of the value of protected spaces and influence the behaviour of its visitors.

Management implications: For industry, administrations and those responsible for managing vulnerable destinations, this work shows the importance of incorporating social media analysis into the management of flows and spaces. Not only to analysing the type of content that is projected on social media as just another element for determining the profile of the visitor; it can also be especially relevant as a tool for measuring activity, helping to plan actions that guarantee the sustainability of the destination. Having a communication strategy on social media should enable DMOs to reinforce the social value of protected spaces and preserve their natural resources.

1. Introduction

The projected image of a destination through different channels, and its influence on the desire to visit, revisit or recommend a destination, has been widely analysed in recent decades (Kang & Schuett, 2013; Leung et al., 2013; Souiden et al., 2017). Most of them described the destination image as a set of different components and attributes: cognitive, affective, conative, and unique (Gartner, 1994; Ghazali & Cai, 2013; Hosany et al., 2006; Kang & Schuett, 2013; Qu et al., 2011). Following Gartner's (1994) model, the classification of these attributes and components into cognitive and affective was the most accepted model (Garay, 2019; Noela et al., 2018). The literature defines cognitive attributes as those based on rational elements (for example the resources, the characteristics, or the location) and affective attributes as those based on emotional aspects of a destination (for example, expressing gratitude, happiness, or admiration) (Garay, 2019; Hosany et al., 2006).

In recent years, this process has been especially disrupted by the emergence of social media platforms, and academia has been prolific in its analysis (Buhalis & Law, 2008; Kotler & Gertner, 2002; Leung et al., 2013), highlighting important novelties such as the increase in the credibility of image projected by organic sources, mainly UGC (Marine-Roig & Ferrer-Rosell, 2018; Stepchenkova & Zhan, 2013). Albanie et al. (2017) argues that social media platforms have the objective of acquiring and retaining users while Taylor (2020) or Christou et al. (2020) show that selfies are the publications that generate most engagement on those social media platforms. Thus, this type of publication contributes to enhancing the platform's goals.

Indeed, the popularity of certain platforms based on multimedia resources, above all Instagram, has had a decisive influence on the popularisation of certain (mature or emergent) destinations (Shuqair & Cragg, 2017; Zasina, 2018) in international tourism's latest growth surge. Even so, Smith (2018) associates the selfie representations on Instagram with a perpetuation of colonial behaviours transforming the spaces to a "playground for the rich" and promoting visitors over the territory. Canavan (2017) also points out that these social media

* Corresponding author.
E-mail addresses: aaraujo@tecnocampus.cat (A. Araujo-Batlle), lgaray@uoc.edu (L.A. Garay-Tamajón), smoralespe@uoc.edu (S. Morales-Pérez).

https://doi.org/10.1016/j.jort.2023.100644
Received 1 July 2022; Received in revised form 13 April 2023; Accepted 27 April 2023
Available online 3 June 2023

representations prioritise individual ego over surroundings and are more likely less engaged with other issues and not concerned with ethical investments. Hence, he concludes that narcissism normalisation in tourism could be a bad ally for the sustainability of territories. In fact, Instagram is one of the fastest-growing social media platforms (Ferrara et al., 2014), and Alonso-Almeida et al. (2019) and Gretzel (2019) have explained its contribution to the growth of tourism demand while others have highlighted its role in the promotion of 'ego travel' (Eberhard, 2019).

However, there is still a research gap in terms of the impacts of this kind of image projected onto vulnerable and/or natural destinations. Some of these destinations lost visits during the COVID-19 crisis, but many of them have seen the number of visitors grow during the pandemic, especially due to the transfer of much of the domestic demand towards these spaces due to international travel restrictions (McGinlay et al., 2020). The general objective of this work is to analyse the development and the potential impact of posts on one of the main contemporary social media platforms, Instagram, relating to natural and vulnerable destinations.

First, with the objective to determine the growth of recent years, this work analyses the growth of the number of posts on Instagram relating to physical visits counted by DMO from January 2012 to December 2020. Secondly, using a qualitative approach, this work examines the post attributes projected on Instagram, and the agents who are projecting this image in these virtual spaces with the objective of identifying a) the main attributes that are being projected of the destination and b) the kind of profiles who are projecting this content, considering whether they are DMO profiles or UGC. We have selected Congost de Mont-Rebei, a vulnerable natural destination located in Catalonia, Spain. It has almost exponentially multiplied the number of visitors in the last decade and is simultaneously experiencing a drastic change in its visitor profile.

2. Conceptual framework

2.1. Social media and destination image

As literature has shown, the projection of the image of a destination is formed through a set of primarily cognitive and affective evaluations (Gartner, 1994; Ghazali & Cai, 2013; Hosany et al., 2006; Kang & Schuett, 2013; Noela et al., 2018; Qu et al., 2011). Cognitive attributes of the image are those that enable us to decide about the characteristics of the destination based on rational elements, while affective attributes refer to the emotional aspects that the destination also generates (Hosany et al., 2006). Gartner (1994) or Noela et al. (2018) add conative attributes such as those that refer to the consumption behaviour of tourists, while Qu et al. (2011) add unique attributes as the main or singular components of a destination. But beyond description, the relevant fact is that meta-analysis in this field (Afshardoost & Eshaghi, 2020) have concluded that destination images have a significant impact on the behavioural intentions of visiting and recommending a destination, mostly highlighting the impact of affective images.

Just as in other areas of tourism activity, the projection of the destination's image has been strongly impacted by the development of ICTs, especially by the role played by the Internet and social media (Ghazali & Cai, 2013). Furthermore, authors such as Zasina (2018) and Bhatt and Pickering (2022) have highlighted the importance of social media based on visual content. Instagram is an example of a "visual" social media platform where real-time experiences are mostly grouped around a theme or hashtag (de Veirman et al., 2017). Indeed, Shuqair and Cragg (2017) show how Instagram posts could change users' perceptions and behavioural intentions during the pre-visit stage.

This social media follows the logic of platforms based on recommendation algorithms (Albanie et al., 2017), where the most successful content is promoted and turned into a mass phenomenon (Foer, 2017; Lanier, 2011). Studies such as Smith (2018) point to the role of this type of social media when projecting a destination's image, where ego-targeting plays a leading role and where elements related to the characteristics of the destination are pushed to the background or directly disappear. For Dinhopl and Gretzel (2016), the tourists' perspective has undergone a new change in these platforms, positioning them at the centre of the narrative, placing destinations in the background, and thus projecting an image conditioned on the reality of the visitors and their audiences.

Regarding this last element, Kang and Schuett (2013) and Gretzel (2019) have thoroughly analysed how these projected images seek to enhance the identification of the individual and reflect idyllic experiences that attract the approval of the audience. This type of behaviour is directly related to narcissism and the projection of the ego (Christou et al., 2020; McCain & Campbell, 2018), especially on those more visual platforms where selfies are more enhanced (Taylor, 2020). Not only have the association of narcissism and social media long been analysed by many authors, as we can see in Casale and Banchi (2020); authors such as Canavan (2017) point out that these kinds of visitors are less committed to the surroundings, and this could affect their commitment to sustainability questions (Canavan, 2017).

Although this kind of platform has become one of the main promotional tools for DMOs, they have also contributed to increasing the presence and power of UGC. In this context, Stepchenkova and Zhan (2013), Mak (2017) and Bhatt and Pickering (2022), show the duality of the messages projected by DMOs and UGC which can cause clear divergences and distortions in the image of a certain destination that reaches potential tourists. Marine-Roig and Ferrer-Rosell (2018) describe this gap and define three kind of information sources: induced source (the most controlled usually managed by DMO's), autonomous source (semi-controlled, usually managed by specialist media or users), and organic sources (not controlled by the DMOs). Marine-Roig and Ferrer-Rosell (2018) also show that the credibility of the destination image perceived from organic sources (publications by UGC) is higher than the credibility of destination image perceived from publications by induced sources (such as DMOs).

2.2. The control dilemma and an approach to biopolitical marketing

The strength and prominence of UGC in the projection of a destination's image has made it necessary to reconsider classical marketing strategies in recent years, forcing the incorporation of social media as a strategic communication channel, either by creating their own channels or integrating themselves into the existing social media platforms (Leung et al., 2013). Works such as Fernández-Cavia et al. (2020) show how traditional communication channels, apart from virtual spaces, have become a source of secondary information both when choosing the destination and when planning the trip. DMOs face one of their main dilemmas when communicating through social media: controlling or going with the flow, directing or leaving freedom of movement. Zwick and Bradshaw (2016) pointed out that one of the ideas adopted by new marketers is that the community has to be wild and anarchic to be valuable and productive.

Nevertheless, Van Dijck and Nieborg (2009) have argued that the Web 2.0 concept of Tim O'Reilly (200 5) has been deeply transformed in recent years: the promise of a more horizontal, fairer digital world, where producers would be consumers (prosumers) forming the seed of a new economy, has finally become another tool for the prevailing traditional economic models. Similarly, Jenkins (2015) highlights the complex coexistence between the content generated by the community and business interests. Focusing on tourism, Smith (2018) states that the publication of UGC on social media is commodifying the image of destinations through a reality where "content is exchanged for likes". Zwick and Bradshaw (2016) named this phenomenon "biopolitical marketing", claiming that the concept of "consumer communities" is practically non-existent; and that these communities around a product or brand are generally small narcissistic islands where user participation is transitory and the relationship between them is definitely weak (Zwick &

Bradshaw, 2016).

2.3. The impacts of the projected image: the case of vulnerable destinations

In any case, leaving aside the possibility of introducing ethical or aesthetic assessments, this tendency to prioritise personal image over the needs of destinations in these virtual spaces can ultimately lead to significant impacts on their day-to-day reality. Different authors (Leung et al., 2013; Marine-Roig & Ferrer-Rosell, 2018; Stepchenkova & Zhan, 2013) point out that this content generates expectations among potential visitors that often do not correspond to the reality of the destinations, which can lead to discrepancies and problems when planning and managing these spaces. Specific case studies of this effect can be found in the works of Alonso-Almeida et al. (2019) and Gretzel (2019), which show how social media is not the only cause, but it is a significant variable to consider when talking about the recent wave of "touristification" of certain places (Alonso-Almeida et al., 2019; Gretzel, 2019). Importantly, Lee et al. (2017) have also shown the connection between online posts and offline visitors and how social media could be an indicator to explore.

Social media posts and their projected image can have an even more significant impact on destinations whose main attraction resources are natural, especially institutionally protected and vulnerable destinations. In fact, Devine (2017) has already warned of the growing transformation of "nature" and "green" spaces due to their increasing commodification. Considering that the global COVID-19 pandemic has completely altered the dynamics and realities of tourism activity around the world (Gössling et al., 2020), boosting rural tourism (Vaishar & Šťastná, 2020) and adding more pressure to the management of protected tourism spaces (Birendra, 2021), this work addresses a growing problem in the post-pandemic era.

Hence, the first specific objective of this paper is to determine whether there is any correlation between the growth of UGC posted on Instagram, and the growth of the number of visitors to this destination, with special attention to 2020 and the exceptional situation caused by the COVID-19 pandemic. The second specific objective is to identify the attributes making up the image of the destination projected by this UGC, analysing the extent to which this image approaches or moves away from that desired by DMOs. We would also like to see if the image projected prioritises the needs of protection and sustainability in these spaces or, conversely, promotes other elements. Finally, the third objective is to identify the dominant user profiles in its projection, focusing on the type of source that is projecting a certain image of the destination.

3. Materials and methods

3.1. Case study

To address the issues raised, the research is articulated through the case-study of Congost de Mont-Rebei (Fig. 1). Located between the Spanish regions of Catalonia and Aragon, this is a geological formation that rises up to five hundred metres over the River Noguera Ribagorçana as it crosses the Serra del Montsec, covering a length of over 40 km. This destination is officially protected by the Catalan Government as a Space of Natural Interest and is listed as a Wildlife Refuge and Partial Nature Reserve included in the Area of Natural Interest of the Serra de Montsec, the Origens Geopark and the Natura 2000 Network (Fundació Catalunya - La Pedrera, 2020).

According to the information published on the website of the Catalan Tourism Agency, this space offers several routes and natural attractions, especially aimed at lovers of climbing and adventure sports. The space is privately owned and is managed by the Catalunya La Pedrera Foundation, an organisation that manages diverse Catalan cultural and natural resources with the aim of preserving them and making them accessible

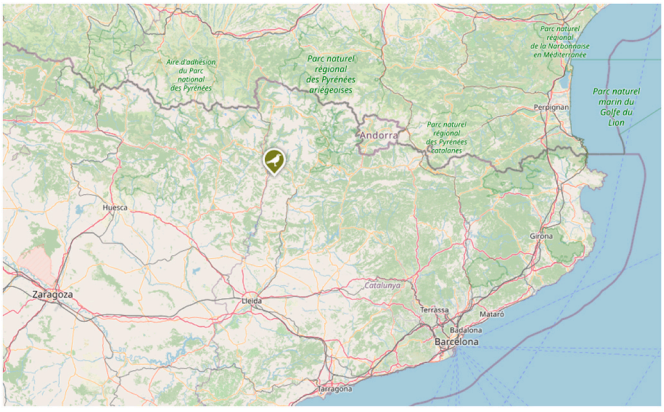

Fig. 1. Location of Congost de Mont-Rebei.
Source: Catalan Tourism Agency, 2021

to the public (Fundació Catalunya - La Pedrera, 2020). The space was acquired by the Foundation with the aim of preserving its natural and landscape values and this led to the development of a technical plan for forest management and improvement as well as the development of a set of conservation measures for the natural heritage.

In recent years there has been an increase in visitors to this destination who, in a fragile space like this, can cause certain imbalances (Lavanguardia, 20 20). But it is not just an isolated case. Many natural spaces around the world are trying to balance tourism development and conservation (Birendra, 2021). Moreover, the current context has brought new layers of complexity, and Vaishar and Šťastná (2020) show how COVID-19 has caused a change in tourism demand, especially domestic demand, which has shifted its attention (and its movements) towards these natural spaces due to restrictions on travel to urban destinations during the pandemic.

3.2. Methodological design

The methodology used in this work is articulated through a sequential mixed design combining quantitative and qualitative techniques, a strong methodological strategy when dealing with research in tourism studies (Decrop, 1999). Table 1 shows the two stages of the methodological design describing the source, the data collected, the period of the analysis and the aim of each stage.

In a first stage and for the quantitative analysis, on the one hand the visitor data in Congost de Mont-Rebei was collected, provided by the Catalunya-La Pedrera Foundation. The data was collected using an automatic count system in physical spaces, counting 694,266 visitors from January 2012 to December 2020. On the other hand, the Instagram

Table 1
Methodological design. Data collection.

Fist stage. For quantitative analysis				
Source	Data collection	Period	Sample	Aim
Instagram	Geolocated posts	From Jan 2012 to Dec 2020	34,948 posts	To know total number of geolocated posts published
DMO	Automated visitor count	From Jan 2012 to Dec 2020	694,266 visitors	To know total physical visitors counted.
Second stage. For qualitative analysis				
Source	**Data selection**	**Period**	**Sample**	**Aim**
Instagram	25 posts with most likes per year	From Jan 2016 to Dec 2020	125 posts	To evaluate the attributes of the post and the profiles who published it.

Source: By the authors

sample was collected in the first months of 2021 and includes 34,948 posts published from January 2012 when the Instagram platform implemented the geolocation function (Tsotsis, 2012), to December 2020. The first data are situated in 2012 because that is when the Instagram platform implemented the functionality for geolocating a post on a map, as other references have also denoted (Tsotsis, 2012). This is in any case a representative sample, as it includes all posts geolocated to Congost de Mont-Rebei in this nine-year period. Research has started to use big data from social media for monitoring destination image due the increasing number of available automation tools to obtain data. In our case, data on Instagram posts were collected from the public platform's website with Phantombuster© software; this platform lets us get only the public data published by users. The data was gathered from posts geolocated in Congost de Mont-Rebei.

Following the model described by Highfield and Leaver (2014) for analysing Instagram posts, a database was created with the following variables: a) post URL, b) post photo, c) post text, d) date of publication, e) cumulative number of likes, f) number of comments, and g) type of post (photo or video). Geolocation was chosen for two reasons: firstly, because geolocated posts enable travellers to have a direct link to the destination. Anyone who sees the post can click on the geolocation and directly obtain the necessary information to reach the destination. Secondly, because Instagram suggests the location of the space automatically when it detects that the photograph is being taken in the space. From descriptive analysis of visitors and geolocated posts on Instagram, a correlation analysis was carried out between the variables "number of visitors", "number of posts" and "number of interactions".

After this first quantitative stage, and with the objective of observing what attributes were projected in the posts, a qualitative analysis of Instagram posts was conducted. Qualitative analysis of post on Instagram as a projection tool for a destination has been used by several authors (Fatanti & Suyadnya, 2015; Shuqair & Cragg, 2017; Wijesinghe et al., 2020; Zasina, 2018), while the encoding of projection from the textual elements of online posts has also been systematised and classified by authors such as Garay (2019).

To conduct this content analysis, a sample of Instagram activity for the last five years was taken, choosing the 25 posts with the most likes of each year, with a total of 125 posts. We chose the most-liked post because the literature (Foer, 2017; Lanier, 2011) has shown that social media algorithms will push up the posts that have the most impact on the platform users. The selected period (from 2016 to 2020) was chosen because of the growth in posts geolocated at Congost de Mont-Rebei on Instagram in this period. The posts included in the analysis were all public posts available from public profiles on Instagram platforms. Following Ayers et al. (2018), we did not include photos of the posts in the paper without users' full consent.

The coding procedure was done in three steps. First, we analysed and coded the elements projected by the photos; secondly, we focused on analysing and coding the elements projected by the text, both carried out using public posts published on Instagram; finally, the third step analysed the elements projected by the information of user profile. This step analysed only public user profiles. This triple approach used two codebooks. The first codebook, represented in Table 2, was used to analyse the textual elements of the posts. It includes the different affective and cognitive attributes, this last classified into hard or soft, to better differentiate the tourist destination cognitive attributes. The codebook was based on variables proposed by different authors referenced in Table 2.

The analysis of the photos and the user profile was developed using a second codebook (Table 3), constructed from the literature on biopolitical marketing and references about the characteristics of Instagram as a social media platform. It is important to add that to ensure analysis validity a peer check was conducted in accordance with the literature (Mayring, 2014). This check was performed by all the research co-authors and different content analysis experts. These researchers analysed and provided feedback on the codes, making it possible to further refine the content analysis and re-evaluate the original codes.

Table 2
Codebook. Affective, and hard and soft cognitive attributes of Congost de Mont-Rebei's image on Instagram.

Affective attributes		
Code	Description	Authors
Admiration	Admiration. Special consideration towards someone or something	Gartner (1994), Ghazali and Cai (2013), Garay (2019)
Fun	Fun. Enjoyment of some activity or product	
Gratitude	Gratitude. Expression of gratitude or admiration for another person, thing or place	
Interest	Interest. Utility or value of someone or something	
Soft cognitive elements: Variables		
Code	**Description**	**Authors**
Lifestyle	Lifestyle. The way of life of a person or group is expressed	Gartner (1994), Kotler and Gertner (2002), Garay (2019)
Identity	Identity. Set of features that define someone or something differently	
Information	Information. Basic information or news about someone or something is expressed	
Soft cognitive attributes: Products		
Code	**Description**	**Authors**
Cultural	Cultural. Tourism related to cultural aspects of the destination	Gartner (1994), Kotler and Gertner (2002), Garay (2019)
Sports/ Activity	Sport/Activity. Tourism related to nature or sport, usually through some activity	
Hard cognitive attributes: Variables		
Code	**Description**	**Authors**
Climate	Climate. Weather conditions that characterise the region	Gartner (1994), Kotler and Gertner (2002), Garay (2019)
Landscape	Landscape. Part of a territory that can be observed with perspective	
Resources	Resources. Items that produce the attraction of the destination	
Supplies	Supplies. Set of activities at the service of tourists (hotels, restaurants, intermediaries, guides)	

Source: By the authors based on the references indicated.

Finally, following Khezrnezhad and Heydarichianeh (2016) and Ryan and Ninov (2011), a correlation analysis was conducted to analyse the composition of the destination image projected by the 125 posts with more likes from 2016 to 2020. Most used attributes from codebooks' categories (Table 2 and Table 3) were selected and, because the characteristics of the variables and the number of samples, a non-parametric Spearman correlation (rho) was conducted, following the indications of references as the one of Bishara and Hittner (2012).

4. Results

4.1. Actual visitor numbers to congost de Mont-Rebei and related instagram posts

As shown in Fig. 2, the growth of visitors in Congost increased each year from 2012 to 2016 when the number of visitors was the highest, exceeding 100,000 visitors in a year. On the other hand, 2017 was the year when the number of annual Instagram posts geolocated in Congost de Mont-Rebei also grew significantly (Fig. 3).

To observe if there are a correlation between Instagram posts and visitors in Congost from 2012 to 2020, we conduct a correlation analysis. There was a significant correlation between the number of visitors and the number of posts on Instagram. The strongest correlations occur between the number of posts with likes (0.927, p-value <0.0001) and

Table 3
Codebook. Biopolitical marketing and Instagram attributes of Congost de Mont-Rebei's image in Instagram.

Biopolitical marketing attributes		
Code	Description	Authors
Weak Relationship	Weak relationship with the community. Low connection with other members or elements of the community.	Zwick and Bradshaw (2016), McCain and Campbell (2018), Christou et al. (2020), Casale and Banchi (2020); Taylor (2020)
Narcissistic Island	Narcissistic island. Posts and/or comments are made without expecting a response or interaction related to the purpose of the community.	
Agent	Agent: Post by an institution, organisation or tourist promotion company among the posts made by users to promote a product, destination or resource.	Zwick and Bradshaw (2016)
Instagram attributes		
Code	**Description**	**Authors**
Idealised	Idyllic photo: Content that seeks to project idyllic experiences through an attractive and prepared image.	Gretzel (2019), Conti and Lexhagen (2020)
Extreme	Extreme: Content that seeks to show extreme activities or situations.	Van Dijck and Nieborg (2009)
User-centred	User-centred: Content that includes the user as the main element of the image, projecting it as a centre of interest.	Kang and Schuett (2013); Dinhopl and Gretzel (2016); Canavan (2017); Smith (2018); Christou et al. (2020); Taylor (2020)

Source: By the authors based on the references indicated.

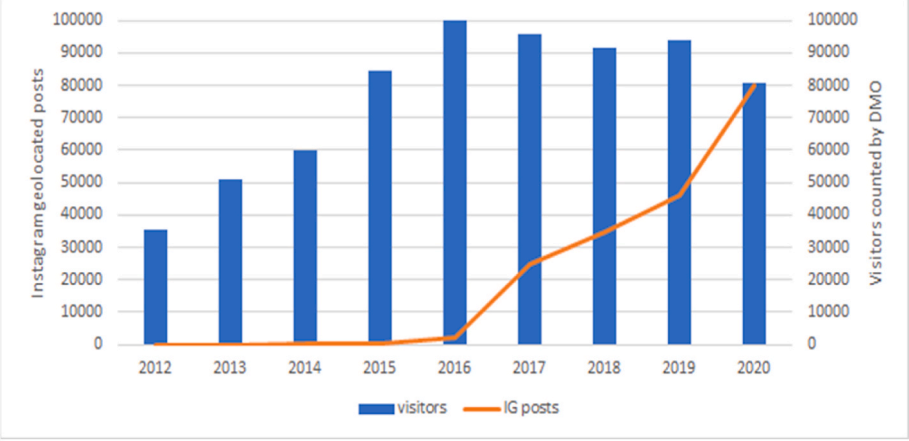

Fig. 2. Growth of the number of visitors to Congost de Mont-Rebei and geolocated posts in this space on Instagram. 2012–2020.
Source: By the authors

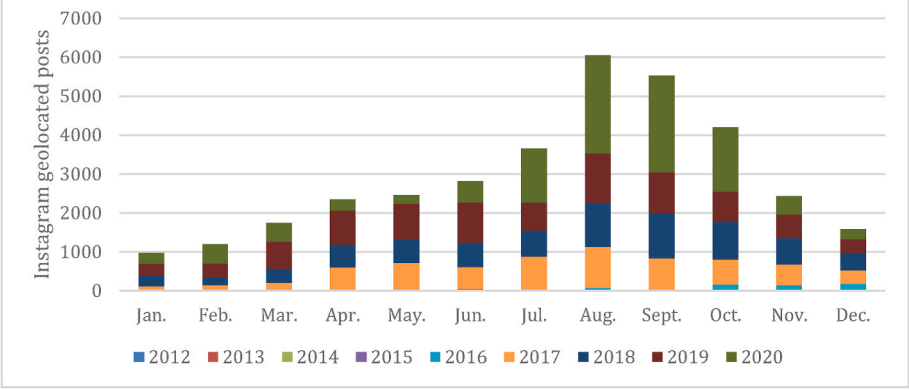

Fig. 3. Monthly growth of geolocated Instagram posts in Congost de Mont-Rebei. 2012–2020.
Source: By the authors

comments (0.949, p-value<0,0001), as well as between likes and comments (0.965, p-value<0,0001). This is an expected result, as all these indicators are related to activity on Instagram. A second aspect to highlight, already observable in Fig. 2, is the growth of activity on Instagram over the years. The correlation between the years and the number of posts is 0.663 (p-value <0.0001). Finally, and perhaps one of the most remarkable elements, we see that between 2016 and 2020, there is also a correlation between the number of visitors and Instagram posts (0.449, p-value<0,0014).

4.2. Attributes of the most liked posts from 2016 to 2020

First, according to the information about the characteristics of the space, its values, and the information about what to do in this space,

provided by the DMO (Fundació Catalunya - La Pedrera, 2020), the attributes projected in the official web site are related to cognitive attributes such as "landscape" or "nature", or activities like hiking. Fig. 4 shows images of the official website of Congost de Mont-Rebei that can be identified as an induced source.

Analysing the most-liked posts related to Congost de Mont-Rebei on Instagram in the last 5 years, we can observe that the most-used affective attributes were admiration (19%, Table 4a) and fun (10%, Table 4a). In soft cognitive elements: variables, information was the most used (24%, Table 4a). This group of publications provided just information about the place or the surroundings. In soft cognitive elements: products, attributes related to sports and adventure were the most used (29%). Finally, and related to hard cognitive elements: variables, landscape (67%, Table 4a) was the most used attribute.

According to the characteristics of the analysed platform, Instagram, 34% (Table 4b) of posts are "user-centred" (34%, Table 4b). Most of them are related to such biopolitical marketing attributes as "narcissist Island" (42%, Table 4b) and "weak Relationship" (41%, Table 4b) showing posts by users that are not directly related with the natural area. Nevertheless, 31% (Table 4b) of analysed publications have the "agent" attribute, meaning that the profile making the post is a DMO or a promotional stakeholder of the destination.

In addition, it is also important to highlight the fact that the proportions of attributes do not change significantly with the outbreak of the pandemic and the subsequent situation. It seems that the appeals for a change in the tourist model were not having much impact on the projected image of these destinations, at least in these spaces of communication and image dissemination.

4.3. The projected image and related attributes

To understand the combination of attributes in the posts with more likes from 2016 to 2020, a Spearman correlation (rho) analysis was done to observe the attributes that appear associated and are defining the projected destination image of Congost de Mont-Rebei. Attributes included are those that were more used according to Tables 4a and 4b: affective attributes such as admiration (49%, Table 4a) and fun (10%, Table 4a); soft cognitive attributes such as sports and activity (29%,

Fig. 4. Information published on the official website.
Source: Fundació Catalunya - La Pedrera. (2020).

Table 4a
Absolute and relative frequencies of the affective and soft cognitive attributes that make up the image of Congost de Mont-Rebei on Instagram
Absolute values in numbers and frequencies as a percentage of total post.

	2020		2019		2018		2017		2016		Total	
	Abs	Rel	Abs	Rel	Abs	Rel	Abs	Rel	Abs	Rel	Abs	Rel
Affective attributes												
Admiration	3	12%	2	8%	10	40%	4	16%	5	20%	24	19%
Fun	3	12%	4	16%	1	4%	3	12%	1	4%	12	10%
Gratitude	3	12%	1	4%	1	4%	0	0%	0	0%	5	4%
Interest	1	4%	0	0%	0	0%	0	0%	1	4%	2	2%
Soft cognitive elements: variables												
Identity	0	0%	0	0%	0	0%	1	4%	0	0%	1	1%
Information	6	24%	8	32%	7	28%	6	24%	3	12%	30	24%
Lifestyle	3	12%	2	8%	4	16%	2	8%	0	0%	11	9%
Soft cognitive elements: products												
Cultural	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Sports/Activity	10	40%	5	20%	8	32%	4	16%	9	36%	36	29%

Source: By the authors

Table 4b
Absolute and relative frequencies of the hard cognitive, biopolitical marketing and image attributes that make up the image of Congost de Mont-Rebei on Instagram
Absolute values in numbers and frequencies as a percentage of total post.

	2020		2019		2018		2017		2016		Total	
	Abs	Rel	Abs	Rel	Abs	Rel	Abs	Rel	Abs	Rel	Abs	Rel
Hard cognitive elements: variables												
Climate	0	0%	1	4%	1	4%	0	0%	1	4%	3	2%
Landscape	13	52%	14	56%	18	72%	16	64%	15	60%	76	61%
Resources	0	0%	0	0%	0	0%	0	0%	2	8%	2	2%
Supplies	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Biopolitical Marketing attributes												
Agent	7	28%	11	44%	12	48%	7	28%	2	8%	39	31%
Narcissist Island	11	44%	13	52%	5	20%	11	44%	13	52%	53	42%
Weak Relationship	12	48%	13	52%	7	28%	7	28%	12	48%	51	41%
Instagram attributes												
User-centred	13	52%	12	48%	4	16%	8	32%	5	20%	42	34%
Extreme	5	20%	0	0%	1	4%	0	0%	0	0%	6	5%
Idealised	6	24%	4	16%	1	4%	2	8%	1	4%	14	11%

Source: By the authors

Table 4a) and information (24%, Table 4a); hard cognitive elements such as landscape (61%, Table 4b); biopolitical marketing attributes such as agent (31%, Table 4b), narcissist island (42%, Table 4b) and weak relationship (41%, Table 4b); and Instagram attributes such as user-centred (34%, Table 4b).

As we can see in Table 5, affective attributes such as "admiration" have a significant negative correlation with "narcissist island" (−0.25, P-value <0.05). That means that these narcissist profiles do not project admiration towards the territory. The attribute "narcissist island" also has a negative correlation with "landscape" (−0.27, P-value <0.05), "agent" (−0.51, P-value <0.05) and "information" (−0.44, P-value <0.05) attributes. That means that these narcissist profiles neither give information about the place nor show the landscape, and they are not agents related to the territory. Indeed, "narcissist island" attribute have a positive correlation with "user-centred" (0.62, P-value <0.05) and "weak relation" (0.57, P-value <0.05) attributes.

Parallel to that, profiles with the attribute "agent" have a negative correlation with the other biopolitical attributes "narcissist island" (−0.51, P-value <0.05) and "weak relation" (−0.56, P-value <0.05), and with attributes such as "user centred" (−0.48, P-value <0.05 "fun" (−0.22, P-value <0.05) and "sports/activities" (−0.35, P-value <0.05). Moreover, the "agent" attribute also has a positive correlation with "information" (0.47, P-value <0.05) and "landscape" (0.47, P-value <0.05) attributes. Finally, we can find some attributes such as "sport/

Table 5
Spearman correlation (rho) between most-used attributes
* Means a p-value <0.05

	Ad.	Fun	Lnd.	Sp/Ac	Inf.	Ag.	N. Is.	W. Rel.	Us.Cen.
Admiration	1	−.16	.02	.14	−.08	.02	**−.25***	.00	−.17
Fun	−.16	1	**−.29***	**.27***	**−.18***	**−.22***	−.10	**.28***	.06
Landscape	.02	**−.29***	1	**−.43***	**.30***	**.47***	**−.27***	**−.40***	**−.40***
Sport/Activity	.14	**.27***	**−.43***	1	**−.19***	**−.35***	−.08	.08	.03
Information	−.08	**−.18***	**.30***	**−.19***	1	**.47***	**−.44***	**−.35***	**−.21***
Agent	.02	**−.22***	**.47***	**−.35***	**.47***	1	**−.51***	**−.56***	**−.48***
Narcissist Island	**−.25***	−.10	**−.27***	−.08	**−.44***	**−.51***	1	**.57***	**.62***
Weak Relationship	.00	**.28***	**−.40***	.08	**−.35***	**−.56***	**.57***	1	**.58***
User-centred	−.17	.06	**−.40***	.03	**−.21***	**−.48***	**.62***	**.58***	1

Source: By the authors

activity" correlated positively with "fun" (0.27, P-value <0.05) but negatively with "agent" (−0.35, P-value <0.05). This attribute has no significant correlation with other biopolitical attributes referred to with narcissistic characteristics of the profile.

5. Discussion

The general objective of this work was to analyse the development and the potential impact of the posts on Instagram, related to a natural and vulnerable destination such as Congost de Mont-Rebei. First, we have seen how the photos taken in a destination like that and published in a social media platform as Instagram, have grown significantly while the pattern of monthly posts follows the growth of the number of visitors. This fact confirms the close relationship between the development of certain social media platforms and the adoption of these technologies by visitors, a fact also pointed out by several authors (Conti & Lexhagen, 2020; Smith, 2018; Zasina, 2018).

Special attention must be paid to what happened during the pandemic. In the case of Congost de Mont-Rebei, although the institutional tools for measuring visits indicate a moderate decrease in visitors between 2019 and 2020, activity on social media more than doubled. The reason for this decrease is that in October 2020 there was a landslide that forced the closure of the access points. This paradox seems to show that, despite the subsequent closure of access points and, therefore, the decrease in the official count of visitors to this space, activity continued to grow on Instagram. According to Statista (2023), the number of Instagram users in Spain did not grow in this proportion during this period.

In this sense, the data may suggest that the natural space continued to receive visitors irregularly, despite being formally closed. This aspect could be supported by the work of Vaishar and Šťastná (2020) and Birendra (2021) on the growth of interest in natural destinations during the pandemic. In this sense, from an operational perspective, we can affirm that the number of posts could be really an indicator for observing volume of activity in natural spaces (Lee et al., 2017). This fact may show that the influx of visitors into that kind of natural spaces is difficult to control if managers cannot rely on the collaboration and responsibility of visitors.

Secondly, the aim of this work was to analyse the image projected on Instagram of this natural space in terms of the attributes of the destination image of most liked posts from 2016 to 2020. The landscape value is the main attribute gleaned from the social media posts. Working from the theses of Qu et al. (2011), this should be one of the unique attributes of this destination. However, a second aspect that emerges from the results is the pre-eminence of attributes related to ego-targeting, confirming what has been established by different authors (Christou et al., 2020; McCain & Campbell, 2018; Taylor, 2020).

Observing the associated attributes to identify the destination image projected, we identify a first set of posts published through institutional profiles, most of them DMOs or tourist stakeholders close to the Congost de Mont-Rebei. These profiles are projecting attributes highlighting the landscape and informing about what they are showing. A second set of posts came from the content generated by users with profiles linked to physical activity: athletes, hikers, nature lovers. In this case, the image projected by these users reflects fun as well as outdoor activities. However, a third set of posts comes from profiles totally disconnected from the natural characteristics of the analysed area. The main attributes that are projected here are user-centred, showing a very weak relationship with the destination, where nature is subject to and at the service of extolling the individual. Posts position users as a centre of interest, leaving the attributes of the destination in the background or even in a dark plane (Christou et al., 2020).

These results confirm a reality that already points to the works of Kang and Schuett (2013), Dinhopl and Gretzel (2016) or Smith (2018) about narcissism. In addition, as Taylor (2020) showed, these kinds of posts also have the power to elicit similar feelings, subsequently motivating other visitors to reproduce the same patterns. In this sense, the normalisation of this narcissism at a social level, often assumed as an inherent part of new technological platforms, finds an optimal framework in the context of tourism (Canavan, 2017). It seems that, according to Zwick and Bradshaw's (2016) thesis, it is not true that the community must be wild and anarchic to be valuable and productive. According to Canavan (2017), this normalisation of content focused on ego and selfies could affect the sustainability of certain destinations. Thus, in this case, the community could be the worst ally for the space's sustainability especially in fragile natural spaces as the Congost de Mont-Rebei.

Moreover, as we have seen in the work of Marine-Roig and Ferrer-Rosell (2018), the credibility of organic sources (publications by users not related to the institutional profiles) is higher than in publications by induced sources (such as DMOs or official profiles). In the case of Congost de Mont-Rebei, nearly half of the analysed posts have biopolitical attributes such as narcissism and weak relation with community. Thus, there could be clear divergences between this projected image and the image projected by the DMO and promotion agents. It confirms the phenomenon shown by works such as Stepchenkova and Zhan (2013) or Leung et al. (2013).

These results have several implications. Firstly, and in line with Shuqair and Cragg's work (2017), Instagram posts can change the perception of potential visitors about some aspects of the destination. Also, as Souiden et al. (2017) pointed out, the projected image shapes the personality of a destination and may also model the attitudes and behaviours of future visitors. Instagram and its UGC may be helping to enhance a knock-on effect of a certain visitor profile that responds to a certain stereotype. If this stereotype differs from the planning and nature of the destination, this can cause discrepancies between the expectations of visitors and the actual destination, implying imbalances that will require new strategies to manage the reality of the destination. It is probably the materialisation of the phenomenon that Smith (2018) labelled as "colonisation of spaces", where the user reproduces colonial patterns, imposing their own reality ahead of that of the area where it is located.

A second implication already mentioned by Canavan (2017) relates to the consequences that this can have for the conservation and sustainability of this kind of natural and/or vulnerable area, pointing to the possibility that DMOs should articulate strategies to contrast this projection of ego-centred destinations. It is at this point that the biopolitical marketing theses of Zwick and Bradshaw (2016) are clearly shown: we have communities far from the nature of the destination and DMOs adopting the same language as users to try to correct this divergence. Authors from other areas of knowledge, such as Van Dijck and Nieborg (2009) or Jenkins (2015), warned how the theoretical 2.0 scenario where users added value to brands, products or content, freely and altruistically, does not respond to the reality of today.

6. Conclusions

6.1. Main conclusions

On the one hand, although some traditional media have highlighted a change in nature tourism habits during the pandemic, one of the first conclusions of this study is that there is not yet an academic basis that shows how the pandemic has contributed to bringing more visitors to natural spaces. We currently have only a few examples of how these spaces have become a less crowded, nearby alternative for mass tourism during the pandemic (Birendra, 2021; Vaishar & Šťastná, 2020). Nevertheless, this study shows how the geolocated activity in social media platforms could provide more information about the activity in certain destinations, such as natural destinations, where it's difficult and complex to control access.

This study also shows how physical spaces become iconised and used as a platform to project personal image and ego for some tourists through social media. In any case, beyond narcissism, there is a

relationship between the increase in posts on these social media platforms and the arrival of more visitors, which in certain emerging, unexplored, or vulnerable destinations can end up creating tensions and forcing them to rethink their management models to preserve the principles of a sustainable natural area.

However, the logic of big social media platforms is the race to attract user attention and engagement. This means that the content that is most enhanced is what is best suited to this goal. The consequences can already be seen in political or social issues, leading some platforms to take a step forward by not contributing to the promotion of certain content due to its implications beyond social media. The same may be happening in the tourism sector. The knock-on effect of social media does not have the same implications for all destinations, and this study shows the need for some vulnerable destinations to start taking measures to regulate access and preserve their value. As stated by Singh (2018), tourism is not only a business, but it also has physical, social, cultural and political implications.

6.2. Managerial implications

For industry, administrations and those responsible for managing vulnerable destinations, this work shows the importance of incorporating the analysis of social media into the management of flows and spaces. We are talking not only about analysing the type of content that is projected on social media as just another element for determining the profile of the visitor. It can also be relevant as a tool for measuring activity, helping to plan actions that guarantee the sustainability of destinations especially in open and natural spaces where the access count is not easy. Besides, having a communication strategy on social media should enable DMOs to enhance its natural values as also pointed out by Bhatt and Pickering (2022). Moreover, considering the secondary role that official channels can play in the decision-making of visitors (Fernández-Cavia et al., 2020), ego can also play a useable role in promoting sustainability (Canavan, 2017), for example by working with influencers to enhance an image aligned with management objectives and raising awareness about the adoption of sustainable behaviours.

6.3. Limitations and future research directions

This study presents some methodological limitations. On the one hand, we have only analysed activity on Instagram. This does not make it possible to construct a complete vision of the set of factors that explain the growth of visitors and the change of profile that is taking place. Thus, a more all-encompassing approach would be needed, incorporating other aspects beyond this social media platform related to physical elements (accesses, facilities, equipment, etc.) or other communication and marketing strategies that may generate this calling effect, such as possible actions by administrations, organizations or operators that offer services in this space. In fact, studies such as those of Garay (2019) or Ghazali and Cai (2013) already point to the need to incorporate all stakeholders to explain the attributes that are projected in the image of a certain destination.

On the other hand, other limitations relate to qualitative analysis. Firstly, due to the volume of posts analysed. An analysis based on a wider sample would contribute both to focusing further on the set of resulting profiles, and to validating the part of the codebook regarding the attributes of biopolitical marketing and platform. A second aspect is the qualitative assessment of the attributes of posts. Being able to work with the contrasting views of more researchers would help give more strength to the observations made regarding the attributes of each post, which is an important aspect in qualitative research.

CRediT authorship contribution statement

Alex Araujo-Batlle: Conceptualization, Methodology, Software, Formal analysis, Investigation, Writing – original draft. **Lluís Alfons Garay-Tamajón:** Validation, Resources, Writing – review & editing, Visualization, Supervision, Project administration. **Soledad Morales-Pérez:** Validation, Resources, Writing – review & editing, Supervision, Project administration.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

This work was supported by the Spanish Research Agency (Agencia Estatal de Investigación. Ministerio de Ciencia e Innovación) under grant PID2020-118757RB-I00.

References

Afshardoost, M., & Eshaghi, M. S. (2020). Destination image and tourist behavioural intentions: A meta-analysis. *Tourism Management, 81*. https://doi.org/10.1016/j.tourman.2020.104154

Albanie, S., Shakespeare, H., & Gunter, T. (2017). Unknowable manipulators: Social Network curator algorithms. In *30th conference on neural information processing systems (NIPS 2016)*. http://arxiv.org/abs/1701.04895.

Alonso-Almeida, M. del M., Borrajo-Millán, F., & Yi, L. (2019). Are social media data pushing overtourism? The case of Barcelona and Chinese tourists. *Sustainability, 11* (12), 1–17. https://doi.org/10.3390/SU11123356

Ayers, J. W., Caputi, T. L., Nebeker, C., & Dredze, M. (2018). Don't quote me: Reverse identification of research participants in social media studies. *NPJ digital medicine, 1* (1), 1–2.

Bhatt, P., & Pickering, C. M. (2022). Destination image of Chitwan National Park, Nepal: Insights from a content analysis of online photographs. *Journal of Outdoor Recreation and Tourism, 37*. https://doi.org/10.1016/j.jort.2022.100488

Birendra, K. C. (2021). Complexity in balancing conservation and tourism in protected areas: Contemporary issues and beyond. *Tourism and Hospitality Research, 22*(2). https://doi.org/10.1177/14673584211015807

Bishara, A. J., & Hittner, J. B. (2012). Testing the significance of a correlation with nonnormal data: Comparison of Pearson, Spearman, transformation, and resampling approaches. *Psychological Methods, 17*(3), 399–417. https://doi.org/10.1037/a0028087

Buhalis, D., & Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the internet—the state of eTourism research. *Tourism Management, 29*(4), 609–623. https://doi.org/10.1016/j.tourman.2008.01.005

Canavan, B. (2017). Narcissism normalisation: Tourism influences and sustainability implications. *Journal of Sustainable Tourism, 25*(9), 1322–1337. https://doi.org/10.1080/09669582.2016.1263309

Casale, S., & Banchi, V. (2020). Narcissism and problematic social media use: A systematic literature review. *Addictive Behaviors Reports, 11*, Article 100252. https://doi.org/10.1016/j.abrep.2020.100252. June 2020.

Christou, P., Farmaki, A., Saveriades, A., & Georgiou, M. (2020). Travel selfies on social media, narcissism and the "attraction-shading effect.". *Journal of Hospitality and Tourism Management, 43*, 289–293. https://doi.org/10.1016/j.jhtm.2020.01.014

Conti, E., & Lexhagen, M. (2020). Instagramming nature-based tourism experiences: A netnographic study of online photography and value creation. *Tourism Management Perspectives, 34*, Article 100650. https://doi.org/10.1016/j.tmp.2020.100650. April 2020.

De Veirman, M., Cauberghe, V., & Hudders, L. (2017). Marketing through instagram influencers: The impact of number of followers and product divergence on brand attitude. *International Journal of Advertising, 36*(5), 798–828. https://doi.org/10.1080/02650487.2017.1348035

Decrop, A. (1999). Triangulation in qualitative research tourism. *Tourism Management, 20*(1), 157–161. https://doi.org/10.1016/S0261-5177(98)00102-2

Devine, J. A. (2017). Colonizing space and commodifying place: tourism's violent geographies. *Journal of Sustainable Tourism, 25*(5), 634–650. https://doi.org/10.1080/09669582.2016.1226849

Dinhopl, A., & Gretzel, U. (2016). Selfie-taking as touristic looking. *Annals of Tourism Research, 57*, 126–139. https://doi.org/10.1016/j.annals.2015.12.015

Eberhard, M. (2019). Ego trip and the instagram travel photos syndrom. September 15 *The Medium* https://medium.com/@mari.eberhard/ego-trip-and-the-instagram-travel-photos-syndrom-2f5b8981859d.

Fatanti, M. N., & Suyadnya, I. W. (2015). Beyond user gaze: How instagram creates tourism destination brand? *Procedia - Social and Behavioral Sciences, 211*, 1089–1095. https://doi.org/10.1016/j.sbspro.2015.11.145

Fernández-Cavia, J., Vinyals-Mirabent, S., Fernández-Planells, A., Weber, W., & Pedraza-Jiménez, R. (2020). Fuentes de información para los turistas en las distintas etapas del viaje. May *Profesional De La Información, 29*(2) https://revista.profesionaldelainformacion.com/index.php/EPI/article/view/73339.

Ferrara, E., Interdonato, R., & Tagarelli, A. (2014). Online popularity and topical interests through the lens of instagram. In *Proceedings of the 25th ACM conference on Hypertext and social media* (pp. 24–34). https://doi.org/10.1145/2631775.2631808
Foer, F. (2017). *Un mundo sin ideas.* Ediciones Paidós.
Fundació Catalunya - La Pedrera. (2020). Congost de Mont-rebei. https://www.fundaciocatalunya-lapedrera.com/sites/default/files/2020-06/FulletMapa_CMR_CAT%5B1%5D.pdf.
Garay, L. (2019). #Visitspain. Breaking down affective and cognitive attributes in the social media construction of the tourist destination image. *Tourism Management Perspectives, 32*, Article 100560. https://doi.org/10.1016/j.tmp.2019.100560
Gartner, W. C. (1994). Image Formation process. *Journal of Travel & Tourism Marketing, 2*(2–3), 191–216. https://doi.org/10.1300/J073v02n02_12
Ghazali, R. M., & Cai, L. (2013). Social media sites in destination image formation. *Tourism Social Science Series, 18*, 73–86. https://doi.org/10.1108/S1571-5043(2013)0000018007
Gössling, S., Scott, D., Hall, C. M., Gössling, S., Scott, D., & Pandemics, C. M. H. (2020). Pandemics, tourism and global change: A rapid assessment of COVID-19. *Journal of Sustainable Tourism, 29*(1), 1–20. https://doi.org/10.1080/09669582.2020.1758708
Gretzel, U. (2019). The role of social media in creating and addressing overtourism. In E. R. Dodds, & R. Butler (Eds.), *Overtourism Issues, realities and solutions* (pp. 62–75). https://doi.org/10.1515/9783110607369-005. Lewes, England.
Highfield, T., & Leaver, T. (2014). A methodology for mapping Instagram hashtags. *First Monday, 20*(1). https://doi.org/10.5210/fm.v20i1.5563
Hosany, S., Ekinci, Y., & Uysal, M. (2006). Destination image and destination personality: An application of branding theories to tourism places. *Journal of Business Research, 59*(5), 638–642. https://doi.org/10.1016/j.jbusres.2006.01.001
Jenkins, H. (2015). *Cultura transmedia: La creación de contenido y valor en una cultura en red.* Gedisa.
Kang, M., & Schuett, M. A. (2013). Determinants of sharing travel experiences in social media. *Journal of Travel & Tourism Marketing, 30*(1–2), 93–107. https://doi.org/10.1080/10548408.2013.751237
Khezrnezhad, P., & Heydarichianeh, R. (2016). Analysis of effective factors in the formation of destination image of urban tourism - case Study: City of Urmia. *Journal of Urban Studies, 6*(21), 5–16. Retrieved from http://urbstudies.uok.ac.ir/article_45998.html.
Kotler, P., & Gertner, D. (2002). Country as brand, product, and beyond: A place marketing and brand management perspective. *Journal of Brand Management, 9*, 249–261. https://doi.org/10.1057/palgrave.bm.2540076
Lanier, J. (2011). *Contra el rebaño digital: Un manifiesto.* Debate.
Lavanguardia. (2020). Un desprendimiento de rocas obliga a cerrar los accesos al Congost de Mont-rebei. September 13 https://www.lavanguardia.com/local/lleida/20201113/49423125571/desprendimiento-rocas-obliga-cerrar-accesos-congost-de-mont-rebei-pallars-jussa.html.
Lee, M. K., Yoon, H. Y., & Park, H. W. (2017). From online via offline to online: How online visibility of tourism information shapes and is shaped by offline visits. *Journal of Travel & Tourism Marketing, 34*(9), 1143–1154. http://10.1080/10548408.2017.1330727.
Leung, D., Law, R., van Hoof, H., & Buhalis, D. (2013). Social media in tourism and hospitality: A literature review. *Journal of Travel & Tourism Marketing, 30*(1–2), 3–22. https://doi.org/10.1080/10548408.2013.750919
Mak, A. H. N. (2017). Online destination image: Comparing national tourism organisation's and tourists' perspectives. *Tourism Management, 60*, 280–297. https://doi.org/10.1016/j.tourman.2016.12.012
Marine-Roig, E., & Ferrer-Rosell, B. (2018). Measuring the gap between projected and perceived destination images of Catalonia using compositional analysis. *Tourism Management, 68*(February), 236–249. https://doi.org/10.1016/j.tourman.2018.03.020
Mayring, P. (2014). Qualitative content analysis: Theoretical foundation, basic procedures and software solution. *SSOAR Open Access Repository*. Retrieved 15/06/2021 from https://www.ssoar.info/ssoar/handle/document/39517.
McCain, J. L., & Campbell, W. K. (2018). Narcissism and social media use: A meta-analytic review. *Psychology of Popular Media Culture, 7*(3), 308–327. https://doi.org/10.1037/ppm0000137
McGinlay, J., Gkoumas, V., Holtvoeth, J., Fuertes, R. F. A., Bazhenova, E., Benzoni, A., … Jones, N. (2020). The impact of COVID-19 on the management of European protected areas and policy implications. *Forests, 11*(11), 1214. https://doi.org/10.3390/f11111214
Noela, M., Reynold, J., & Ian, M. (2018). Australia's cognitive, affective and conative destination image: an Emirati tourist perspective. *Journal of Islamic Marketing Article, 9*(1).
O'Reilly, T. (2005). What is web 2.0. September 30 https://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html.
Qu, H., Kim, L. H., & Im, H. H. (2011). A model of destination branding: Integrating the concepts of the branding and destination image. *Tourism Management, 32*(3), 465–476. https://doi.org/10.1016/j.tourman.2010.03.014
Ryan, C., & Ninov, I. (2011). Dimensions of destination images-the relationship between specific sites and overall perceptions of place: The example of dubai creek and "greater dubai.". *Journal of Travel & Tourism Marketing, 28*(7), 751–764. https://doi.org/10.1080/10548408.2011.611743
Shuqair, S., & Cragg, P. (2017). The Immediate Impact of Instagram Posts on Changing the viewer's perceptions towards travel destinations. *Asia Pacific Jornal of Advanced Business and Social Studies, 3*(2), 1–12. https://doi.org/10.25275/apjabssv3i2bus1
Singh, T. (2018). Is over-tourism the downside of mass tourism? *Tourism Recreation Research, 43*(4), 415–416. https://doi.org/10.1080/02508281.2018.1513890
Smith, S. P. (2018). Instagram abroad: Performance, consumption and colonial narrative in tourism. *Postcolonial Studies, 21*(2), 172–191. https://doi.org/10.1080/13688790.2018.1461173
Souiden, N., Ladhari, R., & Chiadmi, N. E. (2017). Destination personality and destination image. *Journal of Hospitality and Tourism Management, 32*, 54–70. https://doi.org/10.1016/j.jhtm.2017.04.003
Statista. (2023). Número de usuarios de Instagram en España entre 2015 y 2021. *Stat.* Retrieved January 8, 2023, from https://es.statista.com/estadisticas/878407/numero-de-usuarios-de-instagram-en-espana/.
Stepchenkova, S., & Zhan, F. (2013). Visual destination images of Peru: Comparative content analysis of DMOs and user-generated photography. *Tourism Management, 36*, 590–601. https://doi.org/10.1016/j.tourman.2012.08.006
Taylor, D. G. (2020). Putting the "self" in selfies: How narcissism, envy and self-promotion motivate sharing of travel photos through social media. *Journal of Travel & Tourism Marketing, 37*(1), 64–77. https://doi.org/10.1080/10548408.2020.1711847
Tsotsis, A. (2012). Instagram 3.0 bets big on geolocation with photo maps, letting you showcase the story behind your photos. AUGUST 16 *Techcrunch.com* https://techcrunch.com/2012/08/16/instagram-3-0-bets-big-on-geolocation-with-photo-maps-letting-you-showcase-the-story-behind-your-photos/.
Vaishar, A., & Šťastná, M. (2020). Impact of the COVID-19 pandemic on rural tourism in Czechia Preliminary considerations. *Current Issues in Tourism*. https://doi.org/10.1080/13683500.2020.1839027
Van Dijck, J., & Nieborg, D. (2009). Wikinomics and its discontents: A critical analysis of web 2.0 business manifestos. *New Media & Society, 11*(5), 855–874. https://doi.org/10.1177/1461444809105356
Wijesinghe, S. N. R., Mura, P., & Tavakoli, R. (2020). A postcolonial feminist analysis of official tourism representations of Sri Lanka on Instagram. *Tourism Management Perspectives, 36*, 1–12. https://doi.org/10.1016/j.tmp.2020.100756
Zasina, J. (2018). The Instagram image of the city. Insights from Lodz, Poland. *Bulletin Geographique, 42*(42), 213–225. https://doi.org/10.2478/bog-2018-0040
Zwick, D., & Bradshaw, A. (2016). Biopolitical marketing and social media brand communities. *Theory, Culture & Society, 33*(5), 91–115. https://doi.org/10.1177/0263276415625333

Alex Araujo Batlle is Associate Professor of Business Studies at the Escola Superior de Ciencias Socials i de l'Empresa, Tecnocampus at Universitat Pompeu Fabra. He is also a member of GRAEFES research group, focused on economics, business and entrepreneurship, marketing and, in general, on the economic and social environments from an applied point of view. His main areas of research are the implications of information and communication technologies (ICT) in business and tourism.

Lluís Garay-Tamajón is Associate Professor at Universitat Oberta de Catalunya (UOC), Barcelona, Spain. His main areas of research interest concern diverse forces transforming the tourism activity, highlighting the collaborative, co-creative, sustainable and responsible processes causing disruptive impacts on urban and rural socio-economic environments and organizations. He is the coordinator of the NOUTUR research group (UOC) which aims to analyse the impacts that tourism and leisure activities are causing within the contexts of destinations (territories), organizations (both business and non-business) and consumption patterns (both tourists and residents).

Soledad Morales Pérez is Associate Professor of Economics and Business Studies at Universitat Oberta de Catalunya (UOC) and member of the UOC tourism research group NOUTUR. At present, her research interests include the analysis of collaborative economies in socio-spatial transformations of tourism spaces, new narratives and measurement of tourist sustainability, and event tourism impacts in public space.