Title:

Exploring social media as a tool for disentangling cultural ecosystem service values of whale-watching to inform environmental judgements and ethics: The case of Húsavík, Iceland

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Abstract

This explorative study contributes to developing methods using social media data and social network theory in tourism studies to unravel cultural ecosystem values. Focused on the case of an emblematic village for whale-watching activity, Húsavík, in Skjálfandi Bay, Iceland, this study explores the cultural ecosystem service values of individuals as expressed through social media (TripAdvisor and Instagram) related to the practice of whale-watching. The aim is to document the cultural ecosystem service values and environmental judgements which provide information that could be used in future marine planning efforts. For this, 650 TripAdvisor entries posted between 2019 and 2021 were analyzed, together with 100 images posted on Instagram between 2021 and 2022. The Social Network Analysis enabled visualization of the interconnected hashtag networks underscoring human-nature interactions. Instead of environmental and conservation values, the results show that they relate to "ocular consumption" and "aesthetic consumption". The lack of conservation values, cultural heritage values, or even spiritual values is likely a reflection of the Instagram and TripAdvisor platforms. We conclude that social media data should always be complementary to narrative and qualitative data.

Keywords:

Whale-watching values, nature-based tourism, social media data, cultural ecosystem services, sustainable management.

1. Introduction

According to the World Tourism Organization (WTO), tourism in general can contribute to the United Nation's Sustainable Development Goals (SDGs) including Goal 8 which states the need to meet "sustained, inclusive and sustainable economic growth, employment and decent work for all", Goal 12 which is focused on "responsible consumption and production patterns", and Goal 14 ensuring "life below water" (https://sdgs.un.org/goals). However, the growing demand for tourism calls into question the whether the possibilities of the role of tourism in attaining specific SDGs is a reality based on the current trends and practices in the industry. Specifically, tourism contributing to and underpinning environmental awareness and pro-environmental

attitudes seems largely overshadowed by the negative environmental and social impacts of tourism.

As a response to the problem of measuring tourism sustainability, scholars argue that ecotourism is an important community-based conservation option that fosters development (Young 1999, Zappes 2013), especially in countries where environmental degradation impedes equitable access to resources that undermine poverty (Young 1999). Furthermore, it has also been understood that nature-based tourism involves the development of non-extractive recreational activities (Alban et al. 2006). In some cases, it is specifically highlighted as an economic activity that complements other economic activities rather than replacing them (Mallard 2019).

In this vein, scholars call for valuation of tourist activities by assessing trade-offs between tourism drivers and social, economic, and environmental results according to each activity's specificity (Hoyt et al., 2014)

Whale-watching has been identified by Curtin (2003) as marine ecotourism and a special type of wildlife-based tourism with potential to foment environmental awareness and attitudes. Indeed, "ecotourism" is a polysemous concept meaning it has various definitions (Hoyt et al. 2014), it is often ambiguous and needs to be operationalized according to the characteristics of whale-watching. Therefore, whale-watching contains different terms. For example, cetacean-based tourism (CBT) refers to whale-watching tourism, including swimming with and feeding dolphins and whales (Rocha et al. 2020). Although whale-watching is often identified as a boat and sea-based activity, it can also be land-based or aerial (Hoyt et al.2014). Furthermore, commercial whale watching has been distinguished from recreational whale-watching when whales are observed from privately owned recreational vessels. The distinction implies the difference between opportunistic whale-watching, when the purpose of the commercial trip is not focused on whale-watching, and "targeted whale-watching" specializing in whale watching. Sometimes non-motorized boats are also an option for whale-watching (e.g. kayaking) (Hoyt et al. 2014).

The International Whaling Commission (IWC) calls the activities related to commercial whale-watching "whale ecotourism" and specifies the principles that should characterize it. Among these principles, striving for low environmental impact is emphasized, such as reducing emissions and disposing of debris in an appropriate manner. In addition, the principles include attention to providing benefits to the local communities in the broader sense (employment and financial aid, education, cultural and social local projects). It is recommended that not only whale-watching operators but also land-based tourist activities including museums and other services engage in this benefit provision/sharing (Hoyt et al., 2014). Furthermore, the diversity of whale-watching options ought to be evaluated according to environmental and animal welfare impacts. Although, as Curtin (2003) points out, there is a lack of baseline marine ecological data to measure biologically significant tourist disturbance that could inform limits of acceptable change (LAC) in the environment.

Arguably sustainability is implicit across ecotourism activities (La Manna et al. 2020). However, there is a great diversity of whale-watching activities and whether they can all be understood as ecotourism and if they automatically imply sustainability is still under discussion (Rocha et al. 2020). According to Rocha et al. (2020), both terms "ecotourism" and "sustainability" "involves education and interpretation of the natural environment, whilst being managed to be ecologically sustainable and minimizing negative impacts. Sustainable ecotourism activities can thus benefit socio-economic growth whilst also encouraging pro-environmental behaviour" (Rocha et al. 2020, p. 1). Nevertheless, the educational is not always included as part of whale-watching activities, as already pointed out by some scholars, whereas it is paramount to identify it as ecotourism (D'Souza et al., 2019; Curtin, 2003).

More fundamentally, values have been conceived as drivers of sustainable ecotourism initiatives involving innovation, enterprise creation, and development (Hoarau-Heemstra, 2016). Accordingly, whale-watching can be classified as nature-based tourism involving values that are closely dependent on nature, thus enhancing the appreciation of nature. Sustainability assessments of whale-watching activities should include analysis of their underlying values. Values, whether relational or instrumental, are what have been used thus far to identify sustainability drivers (Hoarau-Heemstra 2016). Using social media posts as data to explore emotions and values has proven to be a useful tool in tourism studies (Hale et al., 2017, Prakash et al. 2019, Teles Da Mota and Pickering, 2022, Calcagni et al., 2019).

Whale-watching is an activity that attracts visitors from a wide range of localities and cultural backgrounds and therefore makes for an interesting topic in ecotourism. It is experienced through a variety of cultural understandings of human-nature relationships (Cook et al., 2020). Whale-watching is thereby a fundamentally cultural activity in experiencing and understanding the environment and thus provides an interesting platform to study cultural ecosystem services (CES) (Cook et al., 2020). The concept of CES explores the ways in which benefits of nature are transferred to society and human well-being through values such as spiritual enrichment, aesthetic experiences, and recreation (Hirons, Comberti and Dunford, 2016; Cook et al.,2020).

As part of a larger study on marine governance and value systems related to marine space, this pilot research aims to document the CES values of visitors to Húsavík to add a knowledge-base that could be used in future marine planning efforts. Therefore, the main objectives of this study are: (1) to explore if social media and digital platforms could be a useful tool in gathering baseline data on whale-watcher's subjective environmental judgements, shedding light on human-environment relationships embodied in momentary tourism experiences. Such nature-based tourism, whale-watching experiences are represented and mediated through photographs and social media platforms. Therefore, perceptions of the environment and its valuation, opinions of satisfaction and dissatisfaction, and reasons given, are projected as portraits and first-hand experiences reported on TripAdvisor and Instagram. This is what we understand as judgements about the environment through the experience of whale-watching

activities. On these social media platforms people post their pictures, link hashtags, and share comments reflective of their lived moment. By exploring such expressions of personal experiences, we can better understand value in nature-based tourism (Mandic, 2022) and identify their potential to assess aspects to consider in management decision-making; (2) and to shed light on the strengths and weaknesses of the development of methods using social media data and social network theory in the context of tourism studies.

Finally, the results of this pilot study can be extrapolated to other whale-watching cases and the data can be scaled to inform protected area managers in different regions of the world.

2. Materials and Methods

2.1 Study Area

This study is focused on Húsavík, a coastal community of Skjálfandi Bay, Iceland, an emblematic village for a whale-watching activity dubbed, by locals, the "Whale-watching capital of Europe" (Einarsson, 2009). The town's more recent claim to fame is as the scene of the Netflix film Eurovision Song Contest: The Story of Fire Saga starring Will Ferrell, Rachel McAdams, Pierce Brosnan and many in the population of Húsavík: https://es.wikipedia.org/wiki/Eurovision_Song_Contest:_The_Story_of_Fire_Saga.

Since its inception in 1995, the whale-watching activities have transformed Húsavík from a primarily fishing-based community to a tourism hot spot (Figure 1). These developments, along with other growing activities in the bay, have prompted the local municipality to launch the application for official coastal and marine planning of the area in 2020 (Sveitarstjórn Norðurþings, 2020), although at the time of writing this official process has not commenced (Wilke, 2023).

Fig.1. a) *Skjálfandi Bay and the coastal town of Húsavík as seen from local Húsavíkurfjall mountain. b) The town of Húsavík and its harbour, seen from whale watching sailing boat Opal. Photos by author Maria Wilke*

2.2 Data Collection and analysis

The use of social media to study nature-based tourism dates back to 2012, when many platforms were launched (Teles Da Mota and Pickering, 2022). However, ethnographic research along the digital highway has been with us for a while (see van Ginkel, 2007). As a complement to traditional data sources, content analysis of social media posts enables researchers to overcome spatial and temporal limitations, while also collecting data less intrusively and less costly. Social media content has been used especially in unveiling users' preferences and CES perceptions informing socio-ecological interactions (Calcagni et al., 2019).

In this study we focused on TripAdvisor comments and Instagram posts. TripAdvisor comments offer an immediate satisfaction valuation of tourism activities where early thoughts issued from users' momentary judgments provide valuable insights into their

perception of nature-based tourism activities. This provides baseline information that complements a more in-depth analysis of nature-based statements as reported in the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) (Report IPBES, 2022, p. 16). Also, Instagram has been suggested as a good platform for analyzing images (Angradi et al., 2018; Tenkanen et al., 2017) and hashtags that express emotions and context. Snippets of reality are captured through the eyes of a camera and are associated with hashtags to express emotions, feelings, and sensations accompanying the images. The pictures and hashtags become primary data for the researcher to understand context, values, opinions, and motivations. Nevertheless, as values usually are entangled with experiences becoming indivisible and axiomatic, narratives to understand values as contextually rooted are necessary (Sanna and Eja, 2017). Therefore, it is recommended to consider that social media data is complementary to narrative and qualitative data obtained during fieldwork.

For this study we followed a data collection protocol adapted according to digital availability, platform characteristics and collection options described in the following sections.

2.2.1. TripAdvisor data analysis

Around 650 entries from a total of 2721 entries on TripAdvisor commenting on whale-watching in Húsavík from three different companies offering such trips were analyzed case by case. The comments were written by visitors in English and non-English languages (Dutch, German, Italian, French, and Danish). In total, 160 posted reviews between 2019 and 2022 were found to contain aspects that could be analysed for value indicators according to different criteria of classification taken from the narrative (see Table 1). The information was manually selected and classified in an Excel sheet. The coding and classification of information collected was adapted from a larger project to which this part of the research belongs. The original table was prepared to collect different overarching value groups, among them the CES on which this paper focuses (see Table 1).

Each comment received a code that identifies, first, the number of the entry (e.g., Comment 1 = C1) and, secondly, the date of entry in TripAdvisor (e.g., month and year = C1_092022). The classification assigned a "value indicator" to key aspects highlighted in the comment, e.g., commentaries on climate, carrying capacity of ships, business practices, environmental briefing, etc. They correspond to free codes that describe the substantial relative to the content.

Table 1. Codification and classification of data from TripAdvisor

Number of the entry	Code of the entry	Value Indicator (Narrative value Description) or free code	Overarching Value Group	Related Value	Quotes
	C (of comment) number of entry_data (month/year) E.g.: C1_072019		Cultural Ecosystem Service related	Spirituality	
				Beauty	
				Pleasure	
				Wisdom	

These "value indicators" were associated with "related values" according to the Millennium Ecosystem Assessment (MEA) for the classification of CES (Hirons, Comberti, and Dunford, 2016). The values include spirituality, beauty, pleasure, and wisdom. "Spirituality" was expressed through comments related to the connection with nature and identified through metaphors referring to the "spiritual" sensations of sailing and contact with the sea and the landscape. "Beauty" was expressed through comments referring to the beauty of the landscape and animals. While "pleasure" includes all comments expressing enjoyment, opinions about the service of the whale-watching companies, and the valuation of the activity as an attraction. Finally, "wisdom" was found to be expressed through comments that make some reference to the knowledge of whales transmitted by the companies, the knowledge acquired, environmental assessments, and cultural heritage (e.g., references to the history of fishing). The 160 Trip Advisor quotes were categorised through Excel and coded according to the above value indictor descriptions.

2.2.2. Instagram data analysis – Social Network Analysis

Since the inception of Twitter in 2006, and later adopted by various social networks, hashtags (#; also referred to as the pound key) have evolved into a fundamental aspect of social media discourse. Initially, the concept of hashtagging revolved around affixing a # symbol before a pertinent keyword, empowering users to interconnect their posts with additional content centered on the same topic. (Rauschnabel, P. et. al., 2019).

User posts from Instagram[1] were collected through the Apify web scraping tool, specifically the Instagram Hashtag Scraper[2] module. The dataset covers posts from 09/28/2021 till 10/03/2022. We obtained the last 100 images from public accounts posting about whale watching under the hashtags #Husavik and #Whalewatching. The selection and data scraping criteria were the #Husavik hashtag occurrence with other hashtags in the images posted on the specified dates. The content of the photographs

[1] "Instagram is a free photo and video-sharing app available on iPhone and Android. People can upload photos or videos to our service and share them with their followers or with a selected group of friends" (https://help.instagram.com)

[2] https://apify.com/zuzka/instagram-hashtag-scraper

was also classified and categorized, paying particular attention to images related to the sea and maritime and coastal aspects. The general classification was as follows: animals, architecture, boats, gourmet (food), landscape, museum, thermal, people, selfie, and off-topic.

Analysing a hashtag network can assist in pinpointing relevant and popular topics on social media. Moreover, they enable the identification of communities or users groups with shared interests, providing valuable insights into the dynamics of online communities. Moreover, it becomes feasible to conduct sentiment analysis, gaining an understanding of the overall attitude towards whale-watching. In the realm of hashtag networks, maintaining the authentic spellings and keeping words intact as users wrote them is profoundly significant for various reasons. Hashtags serve as a distinctive form of metadata employed in social media to organize and give context to content. They represent the immediate perception about a topic reflected in the associated words.

Analyzing social media data using Social Network Analysis (SNA) is a novel approach that enables visualization of the interconnected social media data underscoring human-nature interactions, as pointed out by Ruiz-Frau et al. (2020). The network that results is a static photograph of a certain moment. Although it is not representative, it is a useful map to show the type of conversations that arise on social network sites and how people associate images and words. The goal of using SNA was to explore what cultural ecosystem service values may have been present in the hashtags and how they related to each other. To visualize the hashtag networks, a database was created that included the first ten hashtags of each image. It should be noted that some photos have a single tag while others may contain more than ten. Once the data matrix was established according to its frequency of appearance and its connection with other labels, it was visualized and calculated with the Gephi (Bastian, Heymann and Jacomy, 2009) network visualization software.

3.**Results**

3.1 TripAdvisor analysis

The analysis of values associated with whale-watching in the TripAdvisor comments indicates that the most value entry was "pleasure" amounting to 105 entries, and it is further connected to value indicators such as “seeing the whales”, “fun”, and “excitement” (Table 2). The value indicator of “sustainable tourism” was classified within the related value “pleasure” since it is associated with the “carrying capacity” of the boat and therefore contrary to “mass tourism” (Table 2). On the other hand, 17 entries referred to the related value “beauty” commenting on sailing as an enjoyable activity, how nice the whales are, a sunset, or simply the trip by boat (Table 2).

Table 2: Information extracted from the protocol of "casting" Table 1.

Values	**Value indicators/Value description or free code**	**Example quotes**
Spirituality	Connection to nature	"Where the dark black of the sea becomes heterogeneous...where the sudden swell makes you feel like a free bird" (C40_ 082019).
Beauty	Physical beauty of the experience	"A qualified guide with a lot of information but leaving moments without comment to let us enjoy the landscape" (C126_ 072019). "I also enjoyed the beautiful scenery of the snow-capped mountains" (C133_ 082022) "A first-class trip in a beautifully colored wooden boot" (C84_ 072019).
Pleasure	Fun, weather, excitement, sustainable tourism, seeing whales, safety	"It was an exhilarating experience; great fun and we really enjoyed the thrill of looking for and being the first to spot a whale to follow" (C60_ 072019). "Few people on the ship, few ships at sea" (C12_ 072019). "Despite a bit of rain, the staff made our experience really enjoyable" (C27_ 092019). "Viewing of a large number of whales in magnificent weather" (C52_ 072019).
Wisdom	Respect for nature, knowledge, cultural heritage	"I also felt that this company respects nature and the whales, which is very important to me" (C118_ 072019). "Seeing whales is as much a priority as not disturbing them. The captain was excellent in getting us close to the whale without disturbing the animal. The tour guide's information about the whales was an added bonus" (C157_ 092022).

		"They are very respectful of the animals as they leave enough distance so as not to disturb them" (C105_ 052019).

The value-related to "wisdom" accounts for 34 entries. Most of these entries referred to education and environmental awareness with a focus on the distance kept between the boat and the whales and appreciation for cultural heritage (Table 2). Interestingly, only one comment refers explicitly to the ethical aspect of the whale-watching activity: *"It's as important to me that the tour is ethical, doesn't disturb the whales, as it is to see them. The captain was great. We got close. The tour guide (…) was informative & interesting. We thoroughly enjoyed the whale & the boat journey"* (C153_ 092022). It should be noted that several comments were critical, accompanied by some disappointment: *"…This is a business in which for seeing the tail of a whale after chasing it for an hour, they make more than 1,500 euros on the way out. And the torn and disgusting suits that you have to wear, that's another chapter. (…)*" (C139_ 062022).

Only eight comments associated with the category "wisdom" mentioned some aspect related to cultural heritage. For example: "*To be on a traditional fishing vessel made the experience really authentic and after donning thermal hooded overalls and a safety briefing, we went off in search of whales*" (C59_072019). In the final category, four comments were classified as "spirituality", as they express the feeling of connection with nature blurring the division between humans and nature (Table 1).

3.2 Instagram hashtag analysis

The social network results from Instagram hashtags indicate that the hashtag #Whalewatching features more times than images of whales (Fig. 2). Five relevant nodes stand out, showing how a close relationship is formed between the three main nodes, but how there is a core that is strongly linked. 295 hashtags that are related through 1018 links were collected. Figure 3 shows the 174 hashtags that co-appear the most in Instagram images joined by 961 links. Those that appear occasionally are filtered out, leaving the core more interconnected.

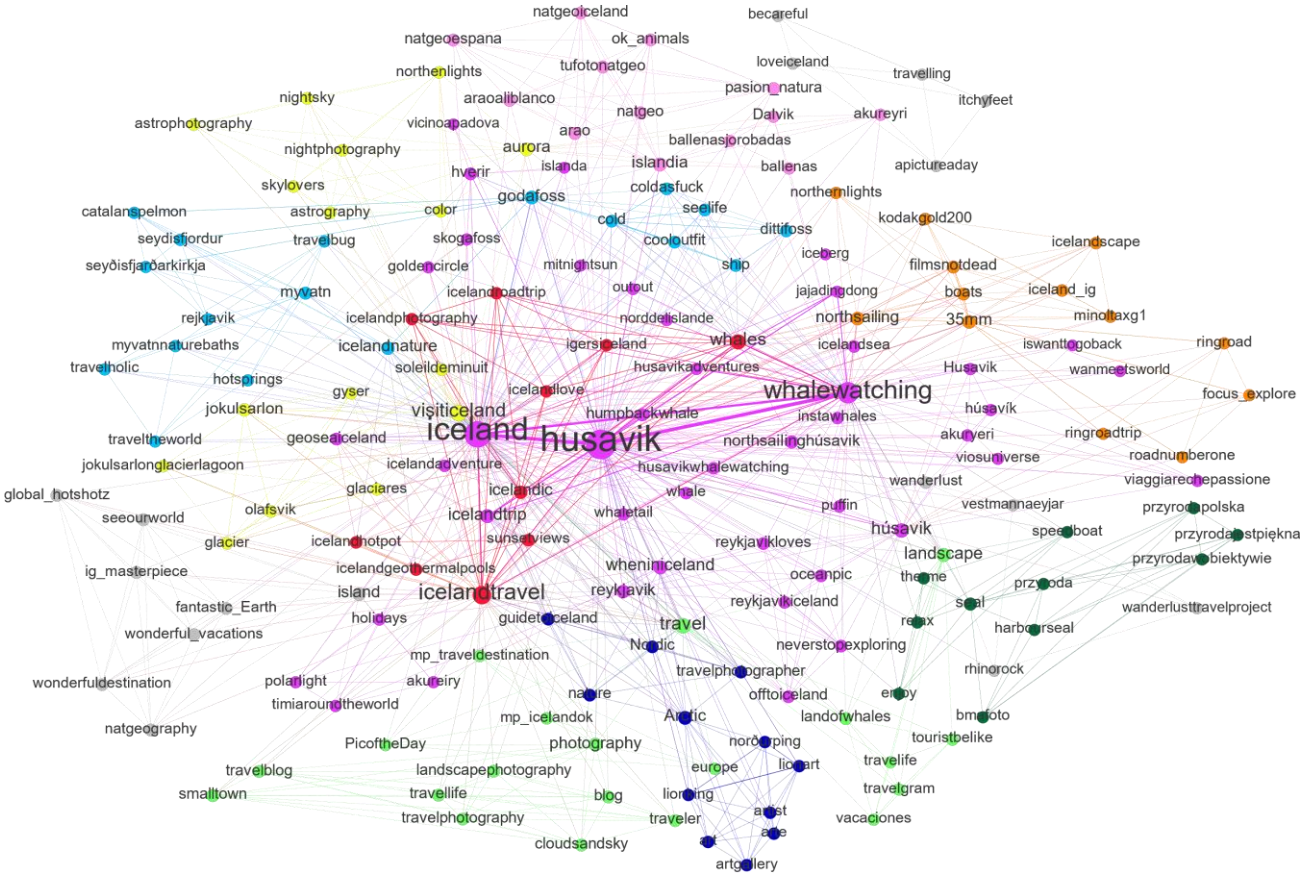

Fig. 2. Size of nodes indicates the degree. The color and thickness of ties indicate higher co-appearance in different images.

There are six relevant clusters inside the filtered network (Fig. 2). Although modularity is normally used for very large networks, in this case, it allows for the review of how the hashtags are associated and the formation of small narrative units around the images. The violet cluster is the main cluster (25.29%) bringing together terms associated with tourism and the most emblematic places and attractions (e.g., #Husavik, #Whalewatching, #Whales, #Icelandsea). The cluster in light blue (10.34%) positions Iceland as a destination specially chosen for its nature and Arctic climate attracting travellers, containing miscellaneous topics weather and nature stand out (e.g., #cold, #icelandnature, #traveltheworld). Interestingly, there is a specific cluster, yellow (9.2%) dedicated to northern lights (e.g. #aurora, #skylovers, #northernlights). The cluster in light green (11.49%) shows the hashtags that have directly to do with photography, such as #travelphotography and #landscapephotography, together with the cluster in orange (7.47%) representing the hashtags that comment on technical aspects of photography (e.g. #kodak, #35mm, #minolta). Another interesting finding is the pink cluster (4,4%), representing a grouping of hashtags based on the users' language which indicates specific communities using hashtags in their local language. Future research could focus on this aspect of the specific perception of speakers of different languages.

3.3. Analysis of photograph contents

As gathered through the Instragram picture data, there were two types of users: personal (88%) and business (12%). Personal users can be identified as tourists and photographers, whereas business accounts are managed by travel agencies and tourism service providers. Within the pictures, there were 10 major categories of elements photographed (Table 3). For analysis of the elements within the pictures, animals represent the highest percentage (22%) but there are also several landscape and cultural categories (Table 3). As could be anticipated, the majority of animal photographs were of marine mammals: whales, dolphins, and seals (whales and dolphins together = 17% of all pictures) (Table 3).

Table 3. Categories and description in #Husavik Instagram images.

Category	**Description**	**As a percentage of total pictures analyzed**	
Animals	Whale, seals, jellyfish, birds (puffin and others), dolphin	Whale	12%
		Dolphin	5%
		Birds	3%
		Seal	1%
		Jellyfish	1%
Architecture	Houses, churches, modern structures, bridges	7%	
Boats	Fishing-boats, vessels, oak-boats, ferries	7%	
Gourmet	Food and wine in a catering/hospitality environment	6%	
Landscape	Panoramic shots in which nature predominates	Seascapes	15%
		Other landscape	18%
Museum	Highlights the skeleton of the whale	3%	
Thermal	Geothermal activities, geothermal baths	5%	
People	Groups of people on excursions, thermal activities or whale watching	4%	
Selfie	Self-portrait alone or with a couple	10%	
Others	Off-topic. Elements unrelated to these categories.	3%	

An aspect which does not correspond when photographing the landscape is when the sea (15%) is slightly less photographed than other types of landscapes (18%). Nevertheless, the sum of seascape and sea animals represent the most photographed contents (37%), pointing out the major tourism attraction of Húsavík (Table 3). Whales represent the highest percentage of photographs within the category animal (12%).

4. Reflection on the method, discussion, and conclusions

As a complement to traditional data sources, content analysis of social media posts enables researchers to overcome spatial and temporal limitations and collect data less intrusively and at lower cost. However, social media data should always be considered as complementary to narrative and qualitative data due to unreliability of social media

data. Netnography does not replace fieldwork (see van Ginkel, 2007, p. 11). There are also important differences between the platforms: whereas TripAdvisor presents information about an experience in the frame of an organized activity by a company, Instagram aspires to represent what people want to project through the global public virtual window. For example, in this case, not all users who employed the hashtag #whalewatching might have been on a whale-watching tour. Hashtags are a slice of reality, a stated preference, although not necessarily representative of experiences or values. Nevertheless, hashtags can be indicative of aspirations and desires. Further research should analyse values visitors in comparison with local stakeholders in Skjálfandi Bay. Likewise, since tourism can negatively impact the ecotourism and nature tourism attractions, analyse trade-off values between ecosystems health and tourism should also be conducted (Stefanski and Villasante, 2015).

The variety of spellings in hashtags reflects the spontaneity of users, showcasing other conventions specific to social media, such as avoiding accents or combining words to create concepts. A potential future contribution could be to explore how these hashtags can evolve into distinct concepts to promote tourism or how certain slogans may impact representation and labelling on social media.

Acting as complementary data, our results show that social media can be a good potential tool to document baseline data about environmental judgments that are projected on online platforms (for more on visitor perceptions and experiences of marine mammal watching in Iceland (see Henderson, 2020; Bertulli et al., 2016; Chauvat et al., 2021). Our results indicate that 21% of the analyzed TripAdvisor comments are concerned with environmental impacts and animal disturbance by whale-watching activities. Concerns about maintaining an appropriate distance from the animals drive visitors' evaluations of the companies regardless of the transportation means offered, contrary to findings by Verbos et al. (2018), who pointed out that these concerns were reflected in the kind of transportation chosen. This type of information has implication for the overall larger study in relation to future plans for marine protected spaces in Icelandic nearshore waters. Conceivably, formal rules about appropriate distances of whale-watching vessels from marine mammals could be adopted into future regulations. Concerns of whale watching tourists regarding animal disturbance expressed through social media could be monitored over time and used in decision-making.

Although 34% of TripAdvisor comments were classified as values related to "wisdom", "beauty" and "spirituality", it is evident that the primary driving value in the comments is pleasure. This echoes the findings of previous studies exploring whale ecosystem services (Cook et al., 2021; Malinauskaite et al., 2021), although the aesthetic values are slightly more pronounced among visitors. This is not surprising given the nature of the whale-watching operation as documented in our hashtag analysis, and this is identified in tourism literature as "aesthetic consumption" (Pace et al., 2015) or even "ocular consumption" involving proximity to wildlife (Higham et al., 2015).

In our analysis of Instagram hashtags, we anticipated discovering clear indicators of CES, akin to the coding analysis conducted on TripAdvisor. Surprisingly, we observed a conspicuous absence of hashtags associated with cultural heritage, personal connections to nature, and sustainable tourism. While the hashtag network comprised five distinct nodes, it predominantly conveyed values aligned with the pleasure derived from "ocular consumption" and the act of capturing photographs for the Instagram platform.

Even within the beauty category, the context of personal engagement with the landscape was lacking, with hashtags tending to reflect the photographic subject rather than the individual's experience of the landscape's beauty. This unexpected revelation contrasts with our initial expectations, as we had anticipated encountering hashtags embodying conservation values, cultural tourism, and even spiritual values related to the whale-watching experience. However, the scarcity of these values likely mirrors the nature of the Instagram platform.

It is crucial to acknowledge that the emphasis on pleasure and aesthetic values should not be dismissed, as these resonate with the interests of environmental groups, organizations, the media, and a substantial portion of the population (Pace et al., 2015, p. 17).

In the broader study, local entrepreneurs, when interviewed, expressed the significance of local economic diversification and tourism-driven innovation. They noted a shift from visitors primarily motivated by whale-watching to those considering extended stays in the community to explore additional services. Despite the economic importance of the visual and photographic aspects of whale-watching, our findings from visitor posts revealed a paucity of content referencing cultural and natural heritage. Notably absent were posts highlighting the whale museum, local gastronomy, or the scenic beauty of the seascape. This discrepancy underscores the need for a more comprehensive understanding of the diverse values associated with tourism experiences, encompassing not only aesthetic pleasure but also the rich cultural and natural tapestry that defines a destination.

The findings of the social media analysis do indicate a shift of whale-watching tourism valuing from ecotourism principles towards a mass tourism orientation which should be considered in management decisions. This potentially shifting balance to consumption from conservation in whale-watching tourism should also consider the cultural diversity of environmental values that can differ from society to society. Conciliation of needs usually focuses on the satisfaction of Western cultural values, which has been also highlighted in other recreational activities in the Mediterranean (Gómez, 2022), especially attractive due to its marine protected areas (Gómez, Carreño, Lloret, 2021). Whale-watching can be classified as nature-based tourism involving values that are closely dependent on nature, thus enhancing the appreciation of nature in various cultural ecosystem service indicators (Hoarau-Heemstra and Heide, 2016). This study has shown that whale-watching activities may be informed by a consumptive ethos towards cultural ecosystem services.

Finally, we conclude that an approach blurring the human-nature divide could go a step further in managing whale-watching in an integrated holistic way. This is still lacking in tourism initiatives assessment (see posthumanism approach of Cohen, 2019), but as indicated by our analysis is sorely needed to turn the tide on whale-watching tourism becoming a consumptive enterprise. We therefore align with the biocentric turn and the multispecies livelihoods framework which aims to integrate animal ethics into wildlife ecotourism (Thomsen et al., 2023), fomenting a more sustained and meaningful engagement with whales and other forms of life. Such approaches would contribute to a de-commodification of whale-watching by considering whales as stakeholders in the optimal balance of human and coexistence of human and non-human livelihoods (Thomsen et al., 2023).

5. Declaration of interest statement

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.

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