Identifying Unique Features of Norway Destination Image: Evidence from User-Generated Content

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Abstract

Purpose: This research aims to elucidate the unique features shaping Norway's destination image by analyzing User-Generated Content (UGC) from tourists. The primary focus is on identifying key themes within the UGC that are associated with both satisfaction and dissatisfaction, thereby contributing to a comprehensive understanding of the factors influencing visitors' perceptions of Norway as a destination.

Method: This research centers on TripAdvisor reviews, the prominent platform in hospitality. It specifically explores attractions in Norway by examining travel websites. The dataset, comprising 10,250 usable reviews, was processed and analyzed using Leximancer software.

Findings: Our research results demonstrated nine dominant themes in descriptions of Norway travel experiences: "Norway," "places," "train," "hiking," "rental," "expensive," "hotel," "northern lights," and "restaurants." The themes used with negative comments were "train," "rental," and "expensive." The benefits of incorporating UGC in tourist research are highlighted by the excellent insights acquired. The findings also provide a visual depiction of the primary themes and concepts in visitors' narratives, allowing for a better understanding of the key features of destination image.

Conclusion: Our study leverages Leximancer's software to autonomously identify key themes in tourists' user-generated content (UGC), offering valuable insights into how travelers perceive Norway's destination image. The prominence of specific themes is emphasized, minimizing researcher intervention and enriching the existing literature by highlighting predominant themes associated with satisfaction and dissatisfaction. Our content analysis reveals distinct perspectives from different tourist segments, with negative UGC linked to aspects such as pricing, transportation, and rentals, while positive UGC focuses on Norway's experiences, natural attractions, hotels, and restaurants. By providing a detailed examination of satisfaction ratings, our research contributes to destination image literature, offering clarity on service features that contribute to perceived "value for money." Moreover, our use of machine learning algorithms offers a practical roadmap for destination marketing organizations to enhance their marketing strategies by aligning them with tourist opinions on platforms like TripAdvisor, thus facilitating a more comprehensive understanding of the destination image.

Keywords: Destination image, Norway, online reviews, tourist experience

Norveç Destinasyon İmajının Özgün Özelliklerini Belirleme: Kullanıcı Tarafından Oluşturulan İçerikten Elde Edilen Kanıtlar

Özet

Amaç: Bu araştırma, Norveç'in destinasyon imajını şekillendiren benzersiz özellikleri aydınlatmayı amaçlamaktadır. Turistlerin Ürettiği İçerikleri (UGC) analiz ederek, UGC içindeki ana temaları belirleme odaklanmakta ve bu sayede Norveç'i bir destinasyon olarak ziyaretçilerin algılarını etkileyen faktörlerin kapsamlı bir anlayışına katkıda bulunmaktadır.

Yöntem: Bu araştırma, konaklama sektöründe öne çıkan TripAdvisor değerlendirmelerine odaklanmaktadır. Norveç'teki turistik yerleri inceleyerek seyahat web sitelerini özel olarak keşfetmektedir. 10,250 kullanılabilir değerlendirmeyi içeren veri seti, Leximancer yazılımı kullanılarak işlenmiş ve analiz edilmiştir.

Bulgular: Araştırma sonuçlarımız, Norveç seyahat deneyimlerinin tanımlamalarında dokuz baskın tema belirledi: "Norveç," "yerler," "tren," "yürüyüş," "kiralama," "pahalı," "otel," "kuzey ışıkları," ve "restoranlar." Olumsuz yorumlarla birlikte kullanılan temalar "tren," "kiralama," ve "pahalı"dır. Bulgular aynı zamanda ziyaretçi anlatılarındaki ana temaları ve kavramları görsel bir şekilde sunarak destinasyon imajının ana özelliklerini daha iyi anlamayı sağlamaktadır.

Sonuç: Çalışmamız, turistlerin ürettiği çevrimiçi içerikleri otomatik olarak tanımlamak için Leximancer yazılımını kullanmaktadır ve bu sayede seyahat edenlerin Norveç'in destinasyon imajını nasıl algıladığına dair değerli içgörüler sunmaktadır. Belirli temaların önemi vurgulanmış, araştırmacı müdahalesi en aza indirilmiş ve tatmin ve memnuniyete ilişkin öne çıkan temalar literatürü zenginleştirmiştir. İçerik analizimiz, farklı turist segmentlerinden gelen belirgin perspektifleri ortaya koymakta, olumsuz çevrimiçi içerikleri'nin fiyatlandırma, ulaşım ve kiralama gibi konularla ilişkilendirildiği, olumlu çevrimiçi içerikleri 'nin ise Norveç deneyimleri, doğal cazibe merkezleri, oteller ve restoranlara odaklandığı göstermektedir. Tatmin derecelerinin detaylı bir incelemesini sunarak, araştırmamız algılanan "karşılığını alma" konusuna katkıda bulunmaktadır. Ayrıca, makine öğrenimi algoritmalarımız, destinasyon pazarlama organizasyonları için TripAdvisor gibi platformlardaki turist görüşleriyle uyumlu bir şekilde pazarlama stratejilerini geliştirmek için pratik bir rehber sunmaktadır, böylece destinasyon imajının daha kapsamlı bir anlayışını kolaylaştırmaktadır.

Anahtar kelimeler: Destination İmajı, Norveç, Çevrimiçi Yorumlar, Turist Deneyimi

Introduction

Tourism has contributed significantly to national and regional growth for many years by providing new employment opportunities increasing consumption, and international trade volume (Ozduran et al., 2023). The image of the destination is important in marketing, brand differentiation, and tourism destination selection (Avraham & Ketter, 2017; Arefieva et al., 2021). Destination image refers to an individual's collective understanding, convictions, thoughts, and perceptions about a particular destination" (Crompton, 1979). It's frequently thought of as a multi-dimensional term that includes both cognitive (knowledge and ideas) and affective (feelings and emotions) perceptions (Yilmaz & Yilmaz, 2020).

As tourists increasingly look for unique experiences (Park & Santos, 2017), destinations are encouraged to enhance their competitiveness and establish their distinctiveness in the market.

Having a grasp of travel behaviors and tourist preferences can facilitate the creation of new products (Benur & Bramwell, 2015), the development of fresh attractions, and the improvement of market niches (Lew & McKercher, 2006). One frequently examined element in tourist marketing is the concept of destination image. This is owing to the widespread idea that a favorable impression increases the chance of people visiting a location and positively impacts their visit experience and satisfaction (Su et al., 2019). In addition, the analysis of user-generated content (UGC) in the tourist environment is still in its infancy, thanks to the emergence of social media (Arasli et al., 2020b; Arefieva et al., 2021). Because of the characteristics of traditional methods (e.g., questionnaires and in-depth interviews), previous research could not thoroughly examine tourist perception and preferences (Arefieva et al., 2021). Furthermore, because it is difficult for a mechanism to analyze unsolicited data, the challenges in assessing visual contents have been noted (Bhatt & Pickering, 2022; Bharadwaj et al., 2020). On the other side, scholars have moved further than the bulk and quality of UGC to extract insights from social media comments (Saydam et al., 2022). By using machine learning methodologies (Tseng et al., 2015; Arasli et al., 2020b), patterns in digital footprints can be discovered by marketers (Arasli et al., 2021). Nonetheless, tourism academics still need to embrace the benefits of big data analytics (Arefieva et al., 2021). Recent research has just recently begun to discover the advantages of employing UGC in the tourist and hospitality arena. For example, research by Liu et al. (2020) focused on Macau's destination image examining UGC on travel websites. Another study by Nowacki and Niezgoda (2020), based on an examination of TripAdvisor reviews, attempted to find distinctive attributes in the image of four Baltic cities.

Because tourists' decision to come is heavily influenced by destination image, it is critical to have a deep understanding of destination choice to develop effective tourism strategies (Zhang et al., 2018). The fact that scholars published several studies on Norwegian tourism to understand the tourism demand by examining elements, such, "income," "prices," "exchange rates", and "advertising" (Falk et al., 2020); adequate academic effort has yet to be established to reveal a destination image of a country from the eyes of the travelers (Andersen et al., 2018) especially using UGC.

Considering this background, this study aims to reveal the destination image of Norway from the travelers' perspective. To do this, we have sought UGCs from TripAdvisor and analyzed the comments using Leximancer, which is amongst the most popular software used for machine learning analysis in social sciences (Tseng et al., 2015). Therefore, in line with the past studies' highlights, the primary purpose of this study is to explore the destination image of Norway stated by international tourists in the most popular travel platform and inter-relationships among those concepts. This research also exhibits the macro picture regarding the international tourist experiences in Norway based on the big data obtained by TripAdvisor.com.

This research makes at least two contributions to the extant tourism literature. First, by identifying the dominant themes regarding the perceived destination image of Norway, the current study contributes to the contemporary destination image literature. Second, our paper contributes to the DI literature by analyzing the dominant themes related to both tourist contentment and discontentment concerning Norway's DI, providing valuable insights for Norwegian destination marketing organizations. To this end, our research questions are as

follows; (1) What are the dominant themes in tourists' perceptions of Norway's destination image and, (2) How do the identified dominant themes, associated with both tourist contentment and discontentment?

Literature Review

Destination Image

In the 1970s, the concept of destination image was initially defined as 'the compilation of an individual's beliefs, ideas, and impressions regarding a destination' (Crompton, 1979, p.18). Over time, this definition has evolved due to academic discussions and the contributions of scholars in tourism marketing and management. For instance, Echtner and Ritchie (1991) emphasized the significance of both functional (tangible) and psychological (intangible) aspects of a destination, defining destination image as not only encompassing perceptions of specific destination features but also forming an overall impression of the destination (p. 43).

Subsequently, Baloglu and McCleary (1999) described it as 'an individual's mental representation of knowledge (beliefs), emotions, and overall impressions about an object or destination' (p. 870). More recently, Yilmaz and Yilmaz (2020), in their comprehensive review of destination image, proposed a separate examination of pre-trip and post-trip aspects. They categorized pre-trip destination-based antecedents into information sources, brand and identity, and travel constraints, while pre-trip personal antecedents included factors like profile, motivation, perceived risk, cultural values, product beliefs, empathy, familiarity, and place identity.

On the other hand, post-trip destination-based antecedents encompassed quality, source credibility, event images, and the destination's atmosphere. Recent research has also explored the impact of tourists' destination image on their satisfaction with the destination, revealing a positive and significant relationship between destination image and overall satisfaction with various attributes (e.g., Chen & Myagmarsuren, 2010; Chi & Qu, 2008). Furthermore, it is important to note that tourists' choice of destination and their proclivity to revisit are also impacted by their perception of the DI (Zhang et al., 2018).

Online reviews as image-formation agent

Online reviews serve as powerful agents in shaping the image of products, services, and destinations in the digital age. These user-generated assessments, often candid and genuine, provide potential customers or travelers with firsthand insights into what to expect. They contribute significantly to the formation of an entity's image, influencing perceptions, attitudes, and decisions. Positive reviews can bolster trust and credibility, painting a favorable picture of the subject matter, whether it's a hotel, restaurant, or tourist destination. Conversely, negative reviews can raise concerns and potentially tarnish the image. The collective impact of these reviews is profound, as they amplify word-of-mouth recommendations and help individuals make informed choices in a world where online presence and reputation hold immense value (Saydam et al., 2022). Using social media and websites to boost the market for tourism items has shown to be the most incredible opportunity (Khorsand et al., 2020). Saydam et al. (2022) reported that destructive as well as favorable reviews have a significant impact on travelers'

perspectives. Similar to the research findings, over 80% of prospective travelers peruse six to twelve online reviews before reaching a decision, with particular attention given to the most recent assessments (Khorsand et al., 2020).

Tourists' online reviews, mostly travel blogs and online travel reviews, stand out in tourism and hospitality. Since tourist internet reviews are examined and analyzed by other travelers via electronic word-of-mouth communication (eWoM), it "establishes a new and spontaneous natural image-formation agent in Gartner's model" (Marine-Roig, 2019). Visual elements such as videos, photographs, and descriptions can be found in online reviews (Marine-Roig & Huertas, 2020). Extensive amounts of visual data are commonly examined for their content through textual aspects such as titles and paratextual elements like the date of the photo and geographic coordinates, as outlined in Marine-Roig and Huertas (2020). The primary origins of this content, generated by travelers, are travel-related websites (e.g., TripAdvisor), lodging platforms (e.g., Airbnb), and online travel agencies (e.g., Booking.com), as well as online platforms of destination marketing and management organizations (e.g., Instagram/Facebook), as highlighted by Martin-Fuentes et al. (2018) and Marine-Roig and Huertas (2020). The impact of each type of online review source on the construction of destination image and brand competitiveness varies depending on the stages of the journey (Marine-Roig & Ferrer-Rosell).

Method

Data collection

This research study focuses on online reviews on TripAdvisor, the most popular web-based platform in the hospitality sector and is used by millions of users (Khorsand et al., 2020). The scope of the current research is the attractions in Norway. To select the interests, the authors explored travel websites that published posts about Norway, for instance, TripAdvisor's "*Things to Do in Norway*". After processing the dataset, the researcher discovered the data regarding the attractions in Norway on those websites and identified 10,250 usable reviews. We gave a guide (Python code) for collecting/scraping big data that is freely available online. All reviews scraped from "*Things to Do in Norway*" had an" Excellent (=5)" and Very Good (=4)" ranking on TripAdvisor, while those scraped from the five bottom-ranked reviews had scores of "Terrible (=1)" and "Poor (=2)". Only those in English were considered when choosing thoughts to scrape, and short reviews were excluded. The longer reviews were favored (Saydam & Altun, 2023; Arasli et al., 2021).

The Leximancer program was employed as a content analysis tool on the massive data collected from TripAdvisor. Leximancer has a high level of reliability since it avoids bias and allows researchers to interpret textual information. The analysis is carried out automatically, and the visual results are presented as concept maps that resemble clustered bubbles (Arici et al., 2022; Olorunsola et al., 2022). The research harnessed the possibilities of Leximancer software to discover the significant concepts in traveler's reviews (Arasli et al., 2020a; Degirmencioğlu et al., 2023; Saydam et al., 2022; Sulu et al., 2021; Tseng et al., 2015).
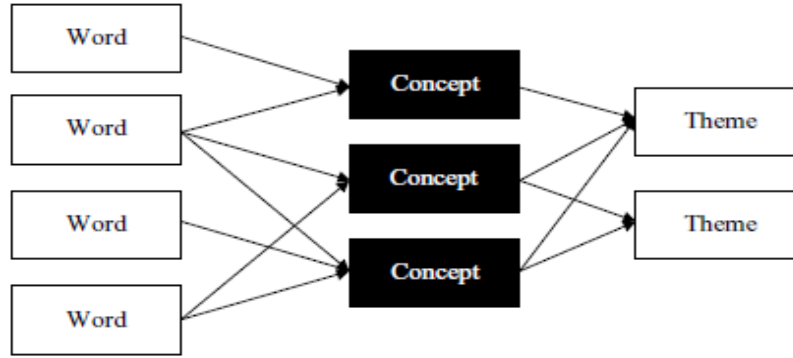
Figure 1. Basic model of semantic configuration extraction in Leximancer.

Some phases were monitored to originate the "concept map." (Figure 1). The process involved several key steps. First, we collected and preprocessed our text data, removing any irrelevant characters and symbols. Next, we imported the cleaned data into Leximancer, configuring project settings like language and stop words. To effectively analyze our data, we created a customized dictionary that included terms relevant to our research. Leximancer's automated analysis was then executed, revealing patterns, themes, and relationships within the text. We visualized the results using concept maps, word clouds, and concept tables provided by the software. We iteratively refined our analysis by adjusting settings and the dictionary (Ozturen et al., 2021; Saydam et al., 2022). After interpreting the findings and validating them against our research goals, we exported the results for reporting and further analysis. Leximancer proved to be a powerful tool for extracting meaningful insights from our text data, facilitating a comprehensive understanding of the textual content (Olorunsola et al., 2023). The thematic significance is indicated by distinct colors (Figure 2), with themes ranging from the most prominent (depicted in warm colors like red, orange, and purple) to the less connected or 'coolest' themes, which are represented in purple (Arasli et al., 2021).

Results

Findings

The study involved an analysis of reviews concerning local attractions and places of interest in the cities under investigation, specifically within the 'Things to do' category. Nine primary themes emerged from this analysis, along with their respective connectivity rates (in parentheses): 'Norway' (100%), 'places' (76%), 'train' (71%), 'hiking' (63%), 'rental' (61%), 'expensive' (58%), 'hotel' (41%), 'northern lights' (32%), and 'restaurants' (10%), listed in descending order of importance. These themes collectively characterized the experiences of foreign visitors during their trips to Norway. Figure 2 illustrates the connectivity rate percentages, as calculated by Leximancer software, which provide insights into the relative significance of each theme
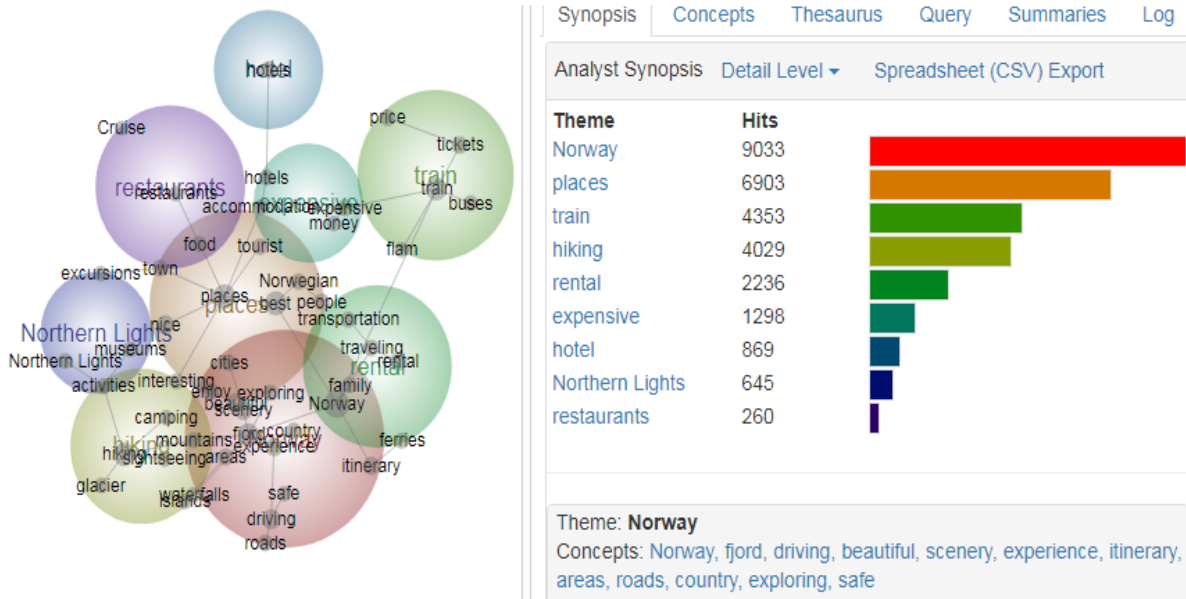
Figure 2. Theme map of travelers images of Norway

Overall experience in traveling within Norway

The nine dominant "themes" were chosen as the most critical factors influencing tourists' perceptions of Norway. Figure 2 depicts "themes" and their associated "concepts." The "concepts" are represented by "smaller gray nodes" in the Leximancer program, which are grouped by different rainbow-colored themes. The greater the meaning a "theme" expresses, the more "concepts" it contains. Figure 2 may appear to reflect most of the essential requirements for travel in a foreign place, such as housing and tourist activities such as *hiking*, *camping* as well as *excursions*, *food*, *restaurants*, vehicles such as trains and *buses*, *rentals*, local people (*Norwegians*), and activities such as traveling to see northern lights. Based on our findings, the following concepts are used together by travelers; *Norway*, *places*, *train*, *hiking*, *rental*, *expensive,* and *hotel*. By contrast, *northern lights* and *restaurants* had few associated ideas. Norway may be considered a whole rather than a collection of fragmented destination images, expressing its identity as a separate topic.

Cross-cultural image perception – Norway and Norwegian

Norway appeared as a most frequently mentioned theme, and Figure 3 shows which dominant words of travelers expressions linked with the theme of Norway. These comprised the images of *Norway*, *family*, natural sites such as *fjords*, *scenery, and affective image component of peoples' emotional responses,* which is *beautiful*.

This theme provided clues on how travelers felt about various elements of their Norway trip. The following review shared by one traveler from an online platform was typical of these types of opinions: One traveler stated, "*Norway is a great place for history, culture, and kids! Totally worth visiting, whether you are a family or not*". Another traveler mentioned, "*Norway is famous for beautiful fjords. I agree, unforgettable narrow and not narrow fjords created by glaciers. I bought a fjord tour with fishing. great!*"

Figure 3. Concept map of theme Norway.*Places as a second important theme*

Regarding the image of Norway, the second most notable theme was "*place,*" frequently mentioned by tourists. Most place themes were associated with the concepts of people, *best*, *tourists*, *food,* and *town*. The theme of "place" was predominantly closely associated with the concept of "*best.*" The close relationship between "place" and "best" can be seen in Figure 2. In addition, the *place* was a manner for travelers in Norway to reflect their opinions and perceptions of the destination or attractions they visited in Norway. A few instances stated by travelers regarding place were:

"*The Oslo Fiord is one of the best places to enjoy outdoor life in Oslo. You can go sailing, paddling, hop on a ferry trip to the islands, take a ferry to the museums, go to the beaches, all in all enjoy the nature and the scenery*". One traveler added, "*the best and least expensive way to tour the islands is to buy a ferry ticket rather than pay for a tour boat. You will see all you want, and it is a good place to take pictures of the Oslo Harbor*".

Train as a theme

Transportation in tourism is mostly accepted as just part of the tourism structure, which is in charge of carrying the tourists to the destinations, a means of getting around the place and leaving it once the duration of the trip is over (Sorupia, 2005). Inter-city journeys typically rely on trains, buses, and stations, while buses are the primary mode of transportation for getting around within the destination itself (Tseng et al., 2015). In this current research, training appeared as a significant theme. Typical comments from this group include the following:
"*The scenic train ride from Myrdal to Flam is great with some amazing waterfalls and views. The train ride from Oslo to Myrdal is nice and relaxing*". Another comment shared, "*The timetable isn't great, and the trains are often off schedule. However, it's clean, so that's good. The prices, however, are WAY too*

steep. Yikes!!". One tourist stated, *"Apparently, not everything works well in Norway. Waited over 30 mins for trains that didn't arrive, timetable useless and no information. Be aware that the train intervals are not always that frequent (even when they do show up!)".*

Hiking as an essential theme

Nature-based tourism has become a developing sub-sector of the tourism sector internationally (Maria Raya et al., 2018). Predominantly, growing consideration has been paid to physical events in a natural setting for individuals` health and quality of life (e.g., Lee et al., 2018; Kastenholz & Rodrigues, 2007). Based on the aforementioned informations, hiking has aroused sector specialists' and investigators` interests (Bichler & Peters, 2020). Hiking tourism is "…a holiday regarding open-air activity that includes *shorter or longer walks in natural and cultural sceneries, and often in countryside places*" (Nordbo et al., 2014, p. 383). The "Norwegian National Tourism Board" initiated a hiking campaign in 2002 to raise awareness of Norway as a hiking destination among the world's major markets and invited municipal and regional locations to join in (Nordbø et al., 2014). In the current study, hiking was one of the strongest (Figure 2). In addition, another important concept is *hiking*, which is closely associated with several concepts, such as *sightseeing, mountains, camping,* and *glacier.* An example review written about hiking is demonstrated below;

A tourist shared online: *"The hike was amazing, despite the cold weather hitting about 2-3 degrees at the top of the mountain. Being a solo traveler, I felt safe hiking this terrain with ice with Michael. It is a must-go when visiting Stavanger!".*

"Expensive," "hotel," "northern lights," and *"restaurant"* themes as a destination image

The themes mentioned above can be considered within the scope of the most essential destination image shared by tourists. The theme of *expensive was one of the most mentioned themes among reviews.* Tourists treated Norway as an appealing tourist destination, but it was also viewed as a rather costly location in their reviews. One study reads, *"Stavanger is so shockingly expensive it is almost a crime. The prices of food and bike hire, boat rides, and so on is mind-boggling - it's a wonder they get any visitors to Stavanger. But this hotel does its best to stay below the going rate, and the staff are amiable and courteous".*

One reviewer added, *"This is a beautiful hotel, very centrally located. The history of the building is fascinating - I would recommend you read the book in the room about it. Overall the rooms were very nice, the bathroom was large, and everything was very modern. For such an expensive hotel though, there were a few little oddities... for example the entrance downstairs from the lobby to the Vestland restaurant was very dirty and worn. Overall though, I would recommend it. Be sure to check out the various delicious restaurant options, including Vestland".*

Furthermore, "rental houses," "hotels," "hostels", and "restaurants" are essential for travelers, and their frequent comments in TripAdvisor evaluations underscore their value to places. A distinctive content regarding the *hotel* theme is as follows: *"The hotel is situated in the center with a beautiful view of the fjord with ships. Very helpful staff. Delicious breakfast buffet. I recommend dinner in the hotel restaurant".* Another tourist added, *"Despite the niggles we did have a delightful stay and the*

location in Tromso is perfect. Restaurant food was expensive but delicious on the one night we tried it. And, of course we did manage to see the Northern Lights 3 nights in a row".

Another critical theme appeared in this study was *northern lights.* The Northern Lights, or Aurora Borealis, have become a tourism phenomenon, massively marketed as a 'must see' internationally (Lund, 2016). The "Aurora borealis," or "Northern Lights," has been increasingly connected with tourism in the Arctic, which is a main persuader for visiting northern areas in the winter (Heimtun & Lovelock, 2017). In parallel with this information's, the theme of north *lights* was mentioned frequently in the reviews shared by tourists visiting Norway. One reviewer shared, "*We wanted to see the northern lights, and we succeeded on 3 consecutive nights. The cruise is very basic; I mean basic! Excursions are costly and can be cancelled at a moment's notice, which for some who had been looking forward to them for a while is disappointing*". Another tourist posted, "*Thanks for an amazing tour - our northern lights experience was fantastic all thanks to you!*". One review still reads, "*Thanks to Terje and Julia for everything. They were adorable!!! They helped me make my dream of seeing the northern lights come true! It was all perfect! Very, very nice tour! I'll never forget that amazing and happy night!*".

Evaluation of the Norway Experience by "Different Satisfaction Groups"

The study's first objective was to discover the themes among tourists visiting Norway who shared their online reviews on the TripAdvisor platform. The research's second objective was to determine whether the pieces discovered were linked to high and low satisfaction levels.

Table 1. Main "themes" and "concepts" by satisfaction levels

Satisfaction level	Theme	Concepts
Low (1 or 2 points)	expensive	money (%35), expensive (%30)
	train	buses (%39), tickets (%38), train (%35), price (36%)
	rental	rental (%29), travelling (%31), transportation (%31)
High (4 or 5 points)	Norway	experience (%81), country (%72), fjord (%68), Norway (%61), scenery (%61), beautiful (%60), safe (%58)
	places	places (%71), people (%70), best (%68) Norwegian (%63), town (%61), nice (%58)
	hiking	hiking (%68), sightseeing (%63), mountains (%57), camping (%51), glacier (%49), waterfalls (%49), islands (%43)
	hotel	hotels (%51)
	northern lights	northern lights (%61)
	restaurants	restaurants (%48), food (%46)

The analysis demonstrates that tourists visiting Norway who indicate their visit a 4 "Very good" or 5 "Excellent" share online reviews regarding the themes of Norway, places, hiking,

hotels, northern lights and restaurants. The most common concepts are related to experience (%81), country (%72), fjord (%68), Norway (%61), scenery (%61), beautiful (%60), safe (%58) places (%71), people (%70), best (%68), town (%61), nice (%58) hiking (%68), sightseeing (%63), mountains (%57), camping (%51), glacier (%49), waterfalls (%49), islands (%43) hotels (%51) northern lights (%61) restaurants (%48) and food (%46).

Travelers who leave negative reviews about Norway often shared narratives such as expensive train and rentals. The most common concepts shared by travelers are money (%35), expensive (%30), buses (%39), tickets (%38), train (%35), price (36%), rental (%29), traveling (%31), transportation (%31). Tourists often expressed dissatisfaction with the country's high cost of living and pricing excesses, rentals, and means of transportation in their remarks on Norway. One reviewer wrote, "*service is quick & good. The quality of the food is good. The prices might not be what you expect from a global chain of restaurants like this. Remember: You're in Norway*". Another dissatisfied tourist stated that "*the beauty of the scenery on this route is undisputable. However, to enjoy this long train ride, you must be able to SEE that scenery! This is made very difficult by a seemingly banal factor: the many tunnels. In mountain-cutting railways, tunnels are of course, inevitable, but such a frequency of them I've not seen anywhere else*". Another review still reads, "*Today I took the 8.25 train from Oslo to Bergen. That is, the train that arrived at 9.30 and then was missing one carriage, which sadly happened to be where I had been allocated a seat*".

Discussion and Conclusion

The goal of this study was to find distinctive traits in the images of Norway. This activity was completed by looking at reviews on the TripAdvisor website. Academically, this study fills a need in the literature caused by a need for destination image studies focusing on Norway. The study included assessments of local attractions and points of interest in the cities under investigation (Things to do category), which were retrieved using a Python script. "*Norway*" (%100), "*places*" (%76), "*train*" (%71), "*hiking*" (%63), "*rental*" (%61), "*expensive*" (%58), "*hotel*" (%41), "*northern lights*" (%32), and "*restaurants*" (%10) were the nine key themes, with their connectedness rates (in brackets) in order of relative significance.

The theme of *Norway* appeared as the most striking theme in the study. The theme of *Norway* is connected with a number of dominant concepts such as experience, *country*, *fjord*, *scenery*, *beautiful* and *safe*. Travelers choose places that best meet their requirements, provide the most advantages, and have the lowest prices and dangers (Seabra et al., 2013). If visitors feel unsafe or intimidated when visiting a specific location, they are more likely to have a negative experience and may be hesitant to return or recommend the place to others (George, 2003). As a result, places that are believed to be safer may be favored, while those that are perceived to be dangerous or unsafe may be rejected (Seabra et al., 2013).

A second important theme that emerged in this current research was *places.* Concepts that have been found related and repeatedly mentioned in tourist's reviews were *places*, *people*, *best*, *Norwegian*, *town,* and *nice*. These results are congruent with the work of Tseng et al. (2015) and Qi and Chen (2019), which have depicted the similar results among tourists regarding their destination image perception. The " train " theme was one of the most repeated themes among online reviews. Concepts used with trains were *buses*, *tickets*, *train,* and *price*. The Norwegian

passenger rail and interurban market is expected to expand from $561 million in 2011 to approximately $724 million by 2023. Growing investments in rail transportation infrastructure have permitted high-speed travel, lower prices, and the extension of the current network, all of which have contributed to the rise. The operable rail network in 2017 was 4134 kilometers long, with over half of it electrified. Furthermore, in the ten years preceding 2016, the volume of passenger rail transit increased by more than 37% (Statista, 2021). The administration has proposed a 2.9 billion-dollar budget for the next fiscal year. In addition, Transportation, according to Tseng et al. (2015), is one of the most important facilitators of travel. Trains, buses, and stations are mainly utilized for intercity transport, whereas buses are employed for city transit. Loi et al. (2017) studied the quality of tourist transportation. Their study showcased that the quality of tourist vehicles predicts intention to revisit through two mediators - destination satisfaction and image. Transport is often assumed to be an element that could influence destination image (Marine-Roig, 2019), destination satisfaction (Loi et al., 2017), as well as the intention to revisit (Stylos et al., 2016).

The study's findings revealed that *"hiking"* was one of the most dominant themes among travelers' reviews. The theme of "hiking"   is mostly mentioned concepts such as *sightseeing*, *mountains*, *camping*, glaciers, *waterfalls,* and *island*. Norway's diverse terrain has given it a well-deserved reputation as a major European hiking destination, with everything from well-marked routes and tourist attractions to wild and untamed legendary landscapes. More specifically, hiking activities have played an important role in forming Norway's national identity since its founding as a nation-state, and they have become an intrinsic aspect of Norwegian culture (Nordbø & Prebensen, 2015). Nonetheless, the Norwegian tourism sector has recognized the significance of international hikers as an emerging tourism market, especially in rural regions (Nordbø & Prebensen, 2015). A survey of mountain tourist behavior among European visitors to Norway found that most (89 percent, 73 percent, and 88 percent, respectively) hiked or walked throughout their stay (Akselsen et al., 2005). In the current study, *hiking* was mentioned mainly positively in travelers' narratives. The theme of *rental* proved to be a recurring one among the travelers in the research. Tourists hire a car or a property in the nation they visit for lodging. On the other hand, tourists frequently expressed dissatisfaction with rental automobiles or apartments. The primary cause for this was shown to be cost. Tourists reported the rental rates to be relatively high. The hotel was one of the most regularly used themes among tourists visiting Norway. As cogently discussed by Stylidis et al. (2017), tourists can hold a rather favorable image on several aspects, including hotel quality. These results are congruent with the study of Tseng et al. (2015), which has demonstrated similar findings where the hotel theme occurred noteworthy concepts shared by travelers.

Theoretical implications

Our study provides valuable insights into how travelers perceive Norway's image through user-generated content (UGC). Leximancer's software independently identified the key themes in tourists' overall experiences, minimizing researcher intervention and emphasizing the prominence of specific themes. Furthermore, our research enriches the existing literature by identifying predominant themes associated with satisfaction and dissatisfaction ratings related to Norway's destination image. Indeed, a content analysis reveals that these two distinct tourist

segments offer distinct perspectives in their reviews of destination image, resulting in different themes being featured in the UGC shared online by each group. Negative UGC is associated with prices (expensiveness of product and services), transportations as well as rentals. At the same time, positive UGC are more likely to be associated with Norway experiences, places, hiking, hotel, some natural structures (e.g.: northern lights, mountains, glaciers, waterfalls), and restaurants. As earlier research was vague regarding which service features provide better "value for money" (Rajaguru, 2016), our study results contributed to the destination image literature by identifying striking and dominant themes linked with different satisfaction ratings on Norway's destination image. More particularly, while previous research has focused on destination image using quantitative methods, a few studies have highlighted online reviews' importance in determining actual image (Jalilvand & Heidari, 2017). Furthermore, the machine learning algorithms used in this research give a roadmap for destination marketing organizations (DMOs) to expose the destination image that appears on TripAdvisor to improve their marketing strategies in tandem with tourist opinions (Arefieva et al., 2021).

Managerial implications

The findings of this research offer destination marketing organizations (DMOs) a more profound understanding of how tourists interpret and communicate their perception of destination image through online reviews. Recognizing these online reviews as reflections of tourists' experiences can aid DMOs in identifying the key and crucial factors necessary to encourage positive post-purchase behaviors while reducing negative intentions. Consequently, tourists' online comments offer an economical way to produce positive post-purchase intentions.

To generate an elevated level of success and affirmative e-wom, DMO should offer both good core services (e.g., transportation) to its tourists and revisit prices of tickets and rentals, which are frequently mentioned in tourists' online comments. Hiking and Northern Lights (Fjords) are frequently mentioned in tourist comments in a positive tone. To attract tourists to Norway, hiking and fjords should be highlighted when marketing the country.

Lastly, the closer a destination's projected images are to tourists' perceived images, the more likely it is to match tourists' expectations and establish solid and cohesive brands (Marine-Roig, 2015). In this situation, the image projected by visitors on the internet UGC differs significantly from that projected by other data sources. In a world where UGCis becoming more important, this means that the image represented by UGC will become the picture that other users perceive. In this regard, destination managers should consider tourists' perspectives when deciding which groups to target with marketing policies, and they should seek the cooperation of other key stakeholders (e.g., tourism service providers) who project images to progress toward a more consistent image (Marine-Roig & Ferrer-Rosell, 2018).

Limitations and future research directions

This study has several limitations. First, our research focused on individual visitors to Norway. Future researchers could extend this research to other Nordic countries such as Denmark, Sweden or Finland. Second, the investigation was confined to a single platform (TripAdvisor) and a single online community, which is an evident drawback of this study. Different social media networks, such as Facebook or Instagram, would need to be examined to determine if the results of the

study are similar to those demonstrated here. Such an examination might also examine if the stakeholder profile differs considerably from that outlined above for TripAdvisor since this would indicate a distinct discourse. Third, our study contained "the title of the review," "the review content," and "the tourist score on a 5-point scale". Nevertheless, the dataset did not contain comprehensive demographic information about the TripAdvisor reviewers, making it impossible to incorporate tourists' characteristics into the dataset, primarily because a significant number of travelers did not disclose their gender and nationality. Therefore, further research should include tourists' nationality as well as gender to present a picture of whether tourists visiting Norway report similar findings. The categorization of positive/negative reviews and their associated destination image component may be examined further concerning the demographics and attitudes of reviewers and actual visitors (Nowacki & Niezgoda, 2020). The exploratory nature of this study has an additional disadvantage in that the data only represents a snapshot of TripAdvisor reviews. Last but not least, future research could explore machine learning techniques, such as natural language processing and sentiment analysis, to gain deeper insights into the emotional aspects of tourists' reviews and how sentiments correlate with their perception of Norway's DI. Given the increasing use of visual content in online reviews, consider incorporating deep learning techniques to analyze images and videos tourists share. This can provide a more holistic understanding of DI.

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