

User-generated content (UGC) in tourist attractions and destinations: systematic literature review and perspectives for management

Marcelo Chemin* Universidade Federal do Paraná (Brasil)

Carlos Pereira da Silva** CICS.NOVA, New University of Lisbon (Portugal)

Sidney Vincent de Paul Vikou***

Universidade Federal do Paraná (Brasil)

Abstract: User-generated content (UGC) is one of the tourism industry's most strategic Big Data sources. This systematic review aims to understand what has been proposed in the scientific literature regarding utilising UGC in managing tourist attractions and destinations. Following a PRISMA protocol, 158 scientific articles (Web of Science, Scopus, EBSCO Host) were reviewed, providing practical implications for the field's management through the analysis of UGC data. We discovered a growing body of scientific production spread across various fields of knowledge and geographical coverage, conducted in different scenarios and contexts of attractions and destinations. This shows the versatility of the application where we have identified eight central themes, including experience, image, space, perception, satisfaction, narrative, brand, and demand. UGC holds significant potential as a supplementary source in problem identification. Application perspectives encompass five areas of attraction and destination management: visitors, resources, product/ marketing, site, and crises.

Keywords: Big data; Destination management organization (DMO); Tourism Management; PRISMA; Social media.

Contenido generado por el usuario (CGU) en atractivos y destinos turísticos: revisión sistemática de la literatura y perspectivas para la gestión

Resumen: Contenido generado por el usuario (CGU) es una de las fuentes de datos big data consideradas más estratégicas para el turismo. Esa revisión sistemática objetiva conocer lo propuesto en la literatura científica sobre el aprovechamiento de CGU en la gestión de atractivos y destinos turísticos. Bajo un protocolo PRIS-MA fueron revisados 158 artículos (Web of Science, Scopus, EBSCO Host) que ofrecieron implicaciones prácticas para la gestión del área a partir del análisis de datos CGU. Descubrimos una producción científica en crecimiento, difusa en términos de las áreas de conocimiento y cobertura geográfica, realizada en distintos escenarios y contextos de atractivos y destinos, lo que demuestra aplicación versátil. Identificamos ocho temas: experiencia, imagen, espacio, percepción, satisfacción, narrativa, marca, demanda. El CGU tiene gran potencial como fuente complementar en la identificación de problemas. Perspectivas de aplicación abarcan cinco áreas de la gestión de atractivos y destinos: visitantes, recursos, producto/marketing, sitio, crisis.

Palabras clave: Big data; Organizaciones de gestión de destinos (OGD); Gestión del Turismo; PRISMA; Medios sociales.



^{*} Universidade Federal do Paraná (Brasil); https://orcid.org/0000-0002-8200-9839; E-mail: marcelochemin@ufpr.br

^{**} CICS.NOVA, New University of Lisbon (Portugal); https://orcid.org/0000-0003-1613-4321; E-mail: cpsilva@fcsh.unl.pt Universidade Federal do Paraná (Brasil); https://orcid.org/0000-0002-4672-8561; E-mail: viksidney@gmail.com

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1. Introduction

Big data represents a growing field of publications in tourism (Li et al. 2018; Lyu et al. 2022). As a social and technological phenomenon, it has been driven, first and foremost, by the advancement of Information and Communication Technologies (ICTs), which have transformed the internet into a social environment. Secondly, it stems from the widespread consumption of social media (tools, apps, platforms), accompanied by the creation of distinctive languages, symbols, and cultural practices, as exemplified by the "sharing" action. Thirdly, the popularity of smartphones has enabled unprecedented levels of virtual interaction among individuals.

The vast volume of data, generated at high speed and through various modalities (Hartmann et al. 2022; Mariani et al. 2018), simultaneously portrays both the social sphere operating on the internet (Cosentino & Alikasifoglu, 2019) and a high level of cultural acceptance (Naab & Sehl, 2017). There are three categories of big data sources: user-generated content (UGC), devices, and operations. UGC, which is the focus of this study, corresponds to the data set stemming from users' voluntary interactions on social media platforms. (Mirzaalian & Halpenny, 2019).

Device and operation data involve sensitive ethical and legal issues, consisting of passive traces that impact privacy (Li et al. 2018; Lyu et al. 2022; Mariani et al. 2018). In contrast, UGC is voluntary; its creation on social media follows a logic of personal contribution, with posts often falling outside the realm of one's profession (Naab & Sehl, 2017). It is also independent of an editor's role, and low entry barriers facilitate its production.(Zhuravskaya et al. 2020).

The voluntary nature of UGC does not diminish its social and scientific complexity. It serves as a valuable source of information, offering low-cost and non-intrusive insights (Lu & Stepchenkova, 2015; Baka, 2016), allowing for an understanding of tourists' opinions, ideas, preferences, and behaviours (Mariani et al. 2018). It also represents a powerful tool with the potential to spread false and inaccurate information, propagate misinformation, trigger institutional destabilisation, fuel social conflicts, and contribute to processes of democratic erosion. (Cosentino & Alikasifoglu, 2019; Hänska-Ahy & Shapour, 2013; Zhuravskaya et al. 2020).

The tourism and hospitality sector is regarded as one of the most promising domains for UGC on the internet (Schuckert et al. 2015; Baka, 2016). The sharing of narratives and images related to vacations, leisure activities, emotions, and experiences of consuming services receives widespread social approval on various media platforms. This content is often perceived as trustworthy, expressing freedom, success, and authenticity. (Ukpabi & Karjaluoto, 2018; Le et al. 2019; Hartmann et al. 2022).

According to the literature review publications consulted, research on this topic has shown continuous growth in various directions. Reviews focusing on UGC and communication have been identified (Naab & Sehl, 2017), as well as those centred around tourism and hospitality (Lu & Stepchenkova, 2015; Ukpabi & Karjaluoto, 2018), often confined to specific types of UGC data, such as reviews (Schuckert et al. 2015) or photography (Li et al. 2023). Additionally, reviews focusing on social media analysis within the tourism and hospitality context have been identified (Mirzaalian & Halpenny, 2019), alongside broader scope reviews where tourism and hospitality UGC are presented in the context of big data. (Li et al. 2018; Lyu et al. 2022; Mariani et al. 2018).

A brief overview of some of these reviews provides insights into the context they uncovered. For instance, Lu and Stepchenkova (2015) examined how UGC data were utilised in empirical tourism and hospitality research. They organised the main topics, methods, and software used. Among the 122 analysed studies, 63 worked with data from tourism companies, 58 from destinations, and one from attractions. Prominent themes included service quality, destination image and reputation, electronic word-of-mouth, experience and behaviours, and mobility patterns. Li et al. (2018) collected 144 publications concerning the application of big data in tourism research, describing research strategies based on each of the three categories of data sources. UGC data stood out as a source in 47% of the studies. Ukpabi & Karjaluoto (2018) examined 54 studies from 2005 to 2016 on the use of UGC for travel planning. The adoption of user-generated content for travel planning is determined by three crucial factors: the source, user, and content. The analysis of 146 by Lyu et al. (2022) found that 72% of big data studies in tourism and hospitality use user-generated content, primarily focusing on lodging, food, and transportation companies.

The existing production is characterized by research focused on the systematization of User-Generated Content as a source of strategic information for tourism and hospitality businesses (Schuckert et al., 2015; Lu & Stepchenkova, 2015; Baka, 2016; Mariani et al., 2018). However, we still lack a systematic understanding of the use of UGC in tourist attractions and destinations. In line with Li et al. (2018) and

Lyu et al. (2022), new reviews on the subject are needed to strengthen the utility of UGC, explore its applications in other directions, and enhance theoretical foundations.

In this context, the literature can be expanded if a review systematizes applications in tourist attractions and destinations, highlighting the specific challenges and management issues in these tourist environments. Furthermore, a review that maps thematic domains facilitates the decision-making process for future studies on the adoption of concepts and theories, which, in turn, promotes theoretical advancement. Therefore, this study was designed to address these gaps in the literature.

The research question is: What has been proposed in the scientific literature regarding using UGC to manage tourist attractions and destinations? The aim is to explore the scientific literature on the utilization of UGC in the management of tourist attractions and destinations. We conducted a systematic literature review based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol to accomplish this. The preference for PRISMA over other protocols stems from its recognized comprehensiveness, widespread use across various disciplines globally, and its potential to enhance review consistency. It serves as one of the most exhaustive checklists for evaluating current and future trends across any field. In this sense, in addition to characterizing the scientific production, we present research landscapes, thematic domains, and contributions to management.

The study's contribution lies in three directions: firstly, in expanding the frontier of knowledge about UGC as a strategic source in tourist attractions and destinations. Secondly, in theoretical terms, future research can benefit from the systematization of thematic domains. Thirdly, managers can use the summarization of tourist attractions and destination management in their routines. It serves as a resource to reinforce that their decisions also consider the evidence originating from social media.

2. Methodology

This review follows a systematic quantitative approach (Le et al. 2019; Vada et al. 2020) and is based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol (Page et al. 2021). The PRISMA protocol enjoys widespread acceptance, although it is relatively recent within the context of tourism research (Mirzaalian & Halpenny, 2019. Le et al. 2019; Li et al. 2023; Pahlevan Sharif et al. 2019; Yang et al. 2017).

As the initial step, the research team developed a protocol encompassing the research question, objectives, rationale, criteria, and procedures. Concerning the criteria, the researchers determined that a specific time frame would not limit relevant literature documents due to the topic's relatively new nature. Moreover, the studies must be scientific articles published in peer-reviewed journals and available in English, Spanish, or Portuguese. The articles were expected to explore UGC data from tourist attractions or destinations and provide practical management implications. These implications serve as inputs for planning actions or shaping public policies in the context of tourism. The following were reasons for exclusion: (i) conceptual, theoretical, and review articles; (ii) lack of relevance or emphasis on tourism; (iii) study design not related to the theme or outside the intended focus on tourism management; (iv) articles focused on companies or facilities related to lodging, food, transportation, travel agencies, tourism services, events, products, and services of different nature; (v) lacking indication of a specific attraction or destination as a geographical scope; and finally, articles that (vi) do not provide insights for the management of the studied theme.

The chosen data sources included Scopus, Web of Science, and EBSCO Host. These three databases, particularly Scopus and Web of Science, are commonly used in tourism reviews due to their extensive coverage and robustness within the scientific domain (Li et al. 2018; Lyu et al. 2022; Mariani et al. 2018; Mirzaalian & Halpenny, 2019). The search string developed involved an exploratory phase on Google Scholar to identify relevant terms and a progressive sequence of trials across the three databases. This iterative process aimed to determine the most effective equation for retrieving relevant documents. The final composition was applied as Title-Abstract-Keywords on August 22, 2022: ("User-Generated Content" OR "travel review*" OR "online review*") AND ("tourism destination" OR "visitor attraction" OR "tourist attraction" OR attraction OR city OR heritage OR historic* OR monument OR industrial OR garden OR aquarium OR fort* OR church OR chapel OR cathedral OR temple OR square OR street OR park OR beach OR forest OR mountain OR cave OR island OR river OR lake OR waterfall). It is worth noting that only one author was involved in the data extraction process.

The protocol did not establish filtering within the field of tourism journals. Based on the retrieved articles, the decision was made to focus on tourist attractions and destinations.

The review process was conducted following the PRISMA Flowchart (Figure 1).



Figure 1: PRISMA Flowchart of the systematic literature review

The documents retrieved in the Identification phase (n=2094) were imported into Rayyan (Ouzzani et al. 2016), an online tool for systematic literature reviews. Rayyan identifies duplicates (n=701) and facilitates collaboration among the team during the blind review. During the Screening phase, inclusion and exclusion criteria were applied based on the assessment of titles, abstracts, and keywords of 1,393 articles by two authors independently. The researchers involved in this phase had a prior meeting to align the application of the criteria. However, after completing the process, some disagreements arose, necessitating a final deliberation meeting.

The 218 articles accepted in the Screening phase were exported to StArt - State of the Art through Systematic Review Version 3.0.4 Beta (UFSCar/LaPES), a computational tool designed to assist in systematic reviews, particularly in data management and analysis.

Subsequently, the articles were read entirely, and 60 were excluded for not aligning with the research scope. For instance, some studies collected UGC data in combination with another strategy (e.g., survey, interview); however, when presenting practical contributions, it was impossible to differentiate those specifically

derived from UGC data. In other articles, even though they were within the scope of tourist destinations, they emphasised collecting UGC data from service companies. These cases led to further exclusions.

In the 158 articles identified as eligible, data were extracted concerning production characteristics (journal, year, authors, title, abstract, keywords), collected data (sources, types, time series), study areas (attractions, destinations, location, typology, profile), themes, and contributions (implications for the studied area). In addition to StArt, we utilised Mendeley's reference management software and conducted data handling and analysis in Microsoft Excel. Thematic analysis was selected as the methodology for analyzing topics and organizing them into themes and contributions. This approach entails identifying recurring patterns of meaning or topics throughout the data, facilitating a thorough examination of the underlying themes inherent in the research material.(Schuckert et al. 2015; Leask, 2016; Lyu et al. 2022; Yang et al. 2017).

3. Results

3.1. Characteristics of the Studies

The study presents an analysis of 158 articles over a nine-year period, illustrating a discernible growth trend in scientific production (Figure 2).

The distribution of publications by year, showcases a surge in output, and the top 10 most frequent journals, including Sustainability, Tourism Management, and Current Issues in Tourism, collectively contribute to 37% of the articles (Table 1). This indicates a diverse range of journals within tourism, as well as those focused on environmental issues, management, planning, marketing, technology, informatics, and geography. The multidisciplinary nature of the field is underscored by the broad spectrum of scientific output.



Figure 2: Distribution of the Number of Publications by Year

Table 1: The Top Ten Most Frequent Journals and Number of Publications per Year

Journal	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total	%
Most frequent		2	3	4	4	12	8	16	10	59	37
Sustainability				2	1	3	3	3	2	14	24
Tourism Management		1	1	1	1	3		1	2	10	17
Current Issues in Tourism							1	4	2	7	12
Journal of Destination Marketing & Management		1	1					4		6	10
Annals of Tourism Research					2		1	1		4	7
Asia Pacific Journal of Tourism Research			1	1		1			1	4	7
Journal of Outdoor Recreation and Tourism						1	1	1	1	4	7
Journal of Hospitality and Tourism Management							2	1	1	4	7
PASOS. Revista de Turismo y Patrimonio Cultural						2			1	3	5
Journal of Place Management and Development						2		1		3	5
Others	1		2	9	11	11	14	20	31	99	63
Overall total	1	2	5	13	15	23	22	36	41	158	100

Furthermore, the study delves into the production profile through the analysis of keyword frequency (Table 2), revealing 547 different keywords. Noteworthy connections emerge between conceptual variations of UGC, themes in tourism, data sources, and methodological aspects.

Most Used Keywords	n°
User-generated content	55
Online reviews	28
Tripadvisor	19
Social media	18
Destination Image	18
Text mining	17
Sentiment analysis	16
Big data	11
Latent Dirichlet allocation	10
Content analysis	6
Tourism	6
Instagram	6
China	6
Online travel reviews	6
Travel blogs	5
Tourist experience	5
Destination management	5
Total	237

Table 2: Keywords Found in the Articles (Occurrences above 4)

The research delineates two predominant strategies for sourcing UGC data. Of the sample, 79% (n=125) exclusively utilized a single source, while 21% (n=33) amalgamated two or more sources, exemplified by studies like Marine-Roig & Anton Clavé (2015) and Li et al. (2017), which combined over ten sources. TripAdvisor emerged as the most popular data source in both strategies due to its digital ubiquity and extensive coverage, collecting textual and image data from various businesses, services, attractions, and destinations (Table 3).

Position	Data Source	Nº (articles)
1	TripAdvisor	86
2	Ctrip	18
3	Flickr	16
4	Instagram	14
5	Twitter	12
6	Google Maps	9
7	Qunar	9
8	Mafengwo	8
9	Weibo	7

Table 3: Data Sources (with more than five occurrences)

The geographical dimensions of the research were explored by analyzing the location and profiles of tourist attractions and destinations. The findings showcased a diverse geographical coverage and a typological variety in attraction and destination profiles, with studies ranging from individual units to complexes. Despite coverage from over 70 countries, a concentration was observed in European (n=107) and Asian (n=72) countries, particularly Spain, Italy, China, and Thailand. The research demonstrated a preference for renowned tourism websites associated with countries prominently featured in tourism rankings, indicating a tendency to choose traditional and reputable platforms (Table 4).

Position

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Switzerland

Portugal

Canada

(e than four occurrences).
Country Name	Frequency as a country in the study area (n°)	Examples
China	40	Ski resorts in the host city of the 2022 Winter Olympics, Great Wall of China, Hong Kong, Pingtan Islands, Macau, Sanqingshan Mountain, Ocean Park, Hong Kong Disneyland, Wangjianglou Park, Dapeng Peninsula, Yunnan Province, Jiuzhaigou Valley.
Spain	23	Alicante, Valencia, Barcelona, Basilica of the Sagrada Familia, Historic Centers (Córdoba, Ávila, Segovia), Santiago de Compostela, Granada, Cabrera Island, Cíes Islands.
Italy	15	Rome, Venice, Milan, Florence, Opera del Duomo Museum, Naples, Florence, Parma, Ferrara, St. Mark's Square, Ducal Palace, Historic squares, and railway stations (Turin, Milan, Venice, Bologna, Florence, Pisa, Siena, Vatican City - Rome, Naples, Catania), Archaeological site of Pompeii.
USA	15	San Marcos Castle, Disneyland (California), Empire State Building, Mount Baker-Snoqualmie National Forest, Lake Superior (Minnesota), Strataca Museum: Kansas Underground Salt.
Australia	8	Melbourne, Queensland, Australian Convict Sites, Gold Coast, Kosciuszko and Uluru-Kata Tjuta National Parks.
France	8	Paris, Verdun Battlefield, "City of Wine" Museum, Louvre and d'Orsay Museums.
England	6	Big Ben, British Museum, Churchill War Rooms, Houses of Parliament, Hyde Park, National Gallery, St James's Park, Tower of London, National Gallery Museum.
Greece	6	The historic centre of Athens, Coastal village of Kavos, Plaka neighbourhood (Athens), Island of Crete.
Thailand	5	Patong OTOP Shopping Paradise, Sunday Walking Street Market, Naka Market, Central Phuket, Banzaan Fresh Market, Khaosan and Yaowarat Nightlife and Entertainment Streets

NFI forest sites (Zurich Dolder, Zurich Uetliberg, Aarau,

Ebmatingen, Neuchâtel, Locarno, Arosa, Scuol, S-chanf, Ovronnaz), villages/municipalites Boltigen, Lenk, St. Stephan,

Toronto, Jasper National Park, Athabasca Glacier, Ontario

Lisbon, Coimbra, Arrábida Park, Algarve.

Place, Whistler Blackcomb Ski Resort.

Table 4: Countries and Their Respective Attractions/Destinations (countries with more than four occurrences).

The research delineates two primary strategies for establishing study areas in UGC research. In 45% of the articles, a single attraction or destination is chosen, while the remaining 55% opt for sets, varying from tens to thousands, demonstrating the expansive scale achievable in CGC studies. Notable examples include Yang et al.'s (2019) analysis of 4,185 attractions in China and Kirilenko et al.'s (2019) database of 10,664 attractions in Florida.

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The study explores diverse typologies of attractions, with national or state parks being the most investigated (Table 5). Museums and theme parks also emerge as common study areas, reflecting a comprehensive analysis of tourist attractions. Destinations are examined on various scales, including national, regional, island, and municipal levels. UNESCO World Heritage Sites (WHS) are frequently

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chosen as study areas due to their tourism relevance, positive effects on visitation, and the wealth of available data.

Position	Study area	Nº (Studies)			
Attractions					
1	National/State Park	19			
2	Museum	15			
3	Theme Park	10			
4	Urban Park	5			
5	Historical/Cultural Site	4			
6	Ski Resort	3			
7	Beach	3			
8	Square	3			
9	Historic Center	3			
10	Monument/Military Architecture	3			
11	Archaeological Site	3			
12	Forest	3			
13	Monument/Civil Architecture	3			
14	Local Market	3			

The synthesis reveals a rich variety of attractions and destinations in the analyzed articles, underscoring the diversity in typologies, profiles, and spatial configurations (Figure 3).

Figure	3:	Research	Scenarios
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3.2. Topics and Contributions

The process of analysing the papers identified eight core themes for classifying the articles (Table 6).

Central theme	References	No. Of Articles	Percentage
Experience		37	23%
	Alexander et al. (2018), Bigne et al. (2020), Chiu & Cho (2021), Chiu & Leng (2017), J. M. Luo et al. (2020), Kim et al. (2019), Kolar (2017), Pereira et al. (2022), Phucharoen et al. (2022), Sangkaew & Zhu (2022), Shang et al. (2022), Simeon et al. (2017), Skotis & Livas (2022), Taecharungroj et al. (2021), Taecharungroj & Mathayomchan (2019), Woyo & Amadhila (2018), Yu et al. (2021), Zanibellato et al. (2018), Abrahams et al. (2022), Alabau-Montoya & Ruiz-Molina (2020), Antonio et al. (2020), Cuomo et al. (2021), Gursoy et al. (2022), Kirova (2021), Nowacki & Kowalczyk-Anioł (2022), Osmond & Chen (2016), Paraskevaidis & Weidenfeld (2019), Ronck & Price (2019), T. Zhang, Li, Milman, et al. (2022), Baniya et al. (2021), Bornarel et al. (2021), La et al. (2022), Lee et al. (2022), Mirzaalian & Halpenny (2021), Liu et al. (2022), Tokarchuk et al. (2022), Y. Yang et al. (2021)		
Image		37	23%
	Alrawadieh et al. (2018), Alrawadieh et al. (2018), Bui et al. (2022), Cerdeira & Fernandes (2020), Corpas & Castillo (2019), Garay Tamajón & Morales Pérez (2022), W. Huang et al. (2021), Iglesias-Sánchez et al. (2020), Jiang et al. (2021), Lei et al. (2022), Lozano-Monterrubio & Huertas (2020), Y. Luo et al. (2021), Lei et al. (2022), Lozano-Monterrubio & Huertas (2020), Y. Luo et al. (2021), M. T. Liu et al. (2020), Marine-Roig & Anton Clavé (2015), Marine-Roig & Anton Clavé (2016), McCreary et al. (2020), R. Wang et al. (2019), Ren & Hong (2017), Skinner et al. (2022), Song et al. (2021), Tseng et al. (2017), Fayzullaev et al. (2021), Iordanova & Stainton (2019), Marine-Roig & Ferrer-Rosell (2018), Meng et al. (2021), Paül i Agustí (2018), Paül i Agustí (2019b), Feng et al. (2017), Hu et al. (2014), Paül i Agustí (2019a), Sued (2018), Clarke & Hassanien (2020), Peng et al. (2022), Cui & Zhang (2021), L. Wang et al. (2022), Celata et al. (2020), Y. Guo et al. (2016)		
Space		30	19%
	Bassols Gardella et al. (2021), Fisher et al. (2018), Tao Liu et al. (2021), Martin-Fuentes et al. (2020), Miah et al. (2017), P. Liu et al. (2018), Pantano et al. (2017), Paül i Agustí (2021), Väisänen et al. (2021), Van der Zee & Bertocchi (2018), Vu et al. (2018), F.M. Wartmann et al. (2021), Ghosh & Chatterjee (2022), Hlengwa (2021), Jang & Park (2020), Su et al. (2021), Alieva et al. (2022), Fisher et al. (2019), Hartmann et al. (2022b), Oteros- Rozas et al. (2018), Kádár & Gede (2021), Kirilenko et al. (2019), Spyrou et al. (2017), Sun et al. (2020), Heikinheimo et al. (2017), Y. Huang et al. (2022), Sidor et al. (2020), Y. Yang et al. (2019), Flurina M. Wartmann & Mackaness (2020), Martí et al. (2021)		
Perception		13	8%
	Catahan & Woodruffe-Burton (2019), K. Kim et al. (2019), K. Zhang et al. (2020), Tang et al. (2022), X. Li et al. (2022), Aggarwal & Gour (2020), Bigne et al. (2021), Stellacci & Moro (2022), Koufodontis & Gaki (2022), Pickering et al. (2020), Huai & Van de Voorde (2022), Kleshcheva (2021), Agostino et al. (2021)		
Satisfaction		13	8%
	Cherapanukorn & Sugunnasil (2022), Egresi & Prakash (2019), H. Guo et al. (2022), Kirilenko et al. (2021), Prakash et al. (2019), W. Kim et al. (2021), Zeng (2017), T. Zhang, Li, & Hua (2022), Egresi (2017), Farhadloo et al. (2016), Nilashi et al. (2022), Shao et al. (2019), Albayrak et al. (2021)		
Narrative		12	8%
	Bigi et al. (2022), Borrego & Comalat Navarra (2020), Teles da Mota & Pickering (2021), Kydros & Vrana (2021), Lau et al. (2022), Ma & Jiang (2020), Plank (2016), Toral et al. (2018), Viñán-Ludeña & de Campos (2022), Basaraba (2021), Wise et al. (2019), N. Li et al. (2017)		
Brand	Munawir et al. (2019), Nowacki (2019), Pasquinelli et al. (2022), Seyyedamiri et al. (2022), Uchinaka et al. (2019), Ranfagni et al. (2022), Taecharungroj	9	6%
	(2019), Wilk et al. (2021), Shin et al. (2017)		101
Demand	Fronzetti Colladon et al. (2019), Li et al. (2020), Hu et al. (2022), Hernández et al. (2018), Qi et al. (2018), S. Wang et al. (2022), Xu et al. (2022)	7	4%
	Overall Total	158	100%

Table 6: Systematisation by Theme

3.2.1. Experience

The papers focus on characterising the experience, assessing the utilisation of visitation concerning a specific theme, feature, or website, or understanding associated feelings and emotions. Characterisation encompasses articles aiming to comprehend the visitor's experience from a particular or holistic perspective. (Phucharoen et al. 2022).

A common aspect is identifying attributes or topics, which can later be classified according to their popularity or relevance. Shang et al. (2022) identified attributes considered essential in ski resorts, and Luo et al. (2020) determined the main topics of the experience at Disneyland.

Some articles examined the positive and negative aspects of the experience (Taecharungroj & Mathayomchan, 2019; Woyo & Amadhila, 2018), while others investigated underlying determinants of what is considered positive or negative (Taecharungroj et al. 2021), or focus on highlights, novelties, surprises, or reasons for the visit (Kolar, 2017). In this regard, Alexander et al. (2018) identified themes and areas of greater visitor attention in London museums. Memorable experiences can also be captured (Bigne et al. 2020; Yu et al. 2021), and difficulties, complaints, and critical points can be explored, as shown by Phucharoen et al. (2022) when examining experiences in shops and markets in Phuket (Thailand), identifying complaints about vendor harassment.

Similarly, Abrahams et al. (2022) examined utilising the Last Chance Tourism concept in glaciers. Zhang et al. (2022) analysed the adoption and application of technological resources during visits to Chinese parks. Kirova (2021) explored the role of technology in the interactive formation of value and sources of co-creation and co-destruction at the 'La Cité du Vin' wine museum in Bordeaux, France, to identify risks to the experience stemming from excessive reliance on technological resources at the expense of sensory and human aspects. Another approach is to focus on the utilisation of communication and interpretive resources, as seen in the study on the geological and mining heritage of the "City of Salt" in Strataca, Kansas (USA), by Ronck and Price (2019), or the relationship between the setting and the experience according to Osmond and Chen's (2016) study, recreational use varies based on site and personal characteristics of the users.

Papers that explore the theme of experience and characterising or working from the perspective of visitor utilisation can also delve into feelings and emotions. For example, Bornarel et al. (2021) analysed the experience at a sensitive site, the Verdun (France) battlefield from World War I, consisting of different memorials, forts, and trenches. Interest can also lie in understanding affective sensitivities in statements of loyalty (Mirzaalian & Halpenny, 2021), monitoring quality before or after an event (Yang et al. 2021), verifying reflections of flow intensity and estimating carrying capacity based on emotional aspects (Tokarchuk et al. 2022), or comprehending strong emotional determinants, as seen in the study by Baniya et al. (2021) at Angkor Wat (Cambodia), identifying sunrise and sunset as singular emotional moments.

3.2.2. Image

Studies on images aim to understand how attractions and destinations are portrayed on social media. Typically, the initial goal is to identify the image's themes and components (cognitive, affective, and conative). Clarke and Hassanien (2020) assessed these components in the image of Toronto, Canada. Peng et al. (2022) examined the cognitive and affective aspects in ski resorts during the 2022 Winter Olympic Games. These themes or components can be classified (primary/secondary, central/peripheral, among others).

The majority of studies in this group focus on analyzing destination or attraction images. They involve attribute extraction (Wang et al. 2019), identifying strengths and weaknesses (Luo et al. 2021), dominant themes (McCreary et al. 2020), and formation and identity (Skinner et al. 2022). Another aspect includes analyzing destination images based on sources, channels, and more. For example, Alrawadieh et al. (2018) examined Istanbul through the lens of Western bloggers, while Iglesias-Sánchez et al. (2020) investigated the role of Instagram in promoting and co-creating the image of the Algarve (Portugal) and the Costa del Sol (Spain).

Studies have also examined the effects of specific political moments or events on destination images, such as the protests for Catalonia's independence in 2017 (Lozano-Monterrubio & Huertas, 2020), as well as long-term monitoring, as observed in Liu et al.'s (2020) article on Macau. Other approaches include analyzing images across multiple destinations and assessing perspectives on regional integration and cooperation (Song et al. 2021).

Another approach involves studying image representation. Sued (2018) investigated aesthetic and thematic patterns in the visual representation of tourist cities to catalog themes, temporal preferences, and chromatics. Analyzing representation can help identify conflicts in communication forms and patterns among different actors, as demonstrated in Feng et al.'s (2017) study at the Great Wall of China. It can also examine how a destination is represented by various actors in terms of urban and rural space projection, as shown by Paül I Agustí (2019a). Additionally, researchers can explore the representation of a destination's image in another country of interest, as discussed by Hu et al. (2014) in their analysis of Switzerland on a Chinese platform.

Similarly, studies have focused on reputation (Celata et al. 2020; Guo et al. 2016) and compared images from different sources. These studies compare official, market, and tourist images to identify overlaps, differences, convergences, disparities, and discrepancies (Fayzullaev et al. 2021; Iordanova & Stainton, 2019; Marine-Roig & Ferrer-Rosell, 2018; Paül i Agustí, 2018, 2019b).

3.2.3. Space

These articles investigate tourists' movement and spatial behavior in destinations and attractions. They cover investigations into spatial behavior based on gender and spatial consumption preferences (Paül I Agustí, 2021), spatial behavior in large-area attractions like national parks (Väisänen et al. 2021), and spatial behavior related to recreation in forests (F.M. Wartmann et al. 2021). Specific routes are also explored, such as the study by Martin-Fuentes et al. (2020), which examines the impact of cinema on inducing visits to filming locations in Barcelona, Spain. Another focus is researching spatial distribution based on the digital popularity of destinations and observing tourists' movement (Liu et al. 2021).

Some articles investigate the media's role in stimulating touristification and place-making processes (Ghosh & Chatterjee, 2022; Hlengwa, 2021; Jang & Park, 2020; Su et al. 2021). Landscape studies are another theme within the Space group, involving mapping visual preferences (Fisher et al. 2019), describing distinctive landscape features, identifying motives and attributes (Alieva et al. 2022), and analyzing enjoyment. For example, Oteros-Rozas et al. (2018) investigated the enjoyment of landscape resources and services in European sites to understand recreation in these spaces.

Another focus is identifying points of interest, involving projection analysis and classification by popularity (Heikinheimo et al. 2017; Sidor et al. 2020; Yang et al. 2019), as well as delineating functional areas based on UGC (Martí et al. 2021). Some articles examine spatial networks and reveal clusters and relationships between destinations and attractions, particularly in detecting areas of interest and interactions (Kádár & Gede, 2021; Kirilenko et al. 2019; Spyrou et al. 2017; Sun et al. 2020). Additionally, there are more generic studies that seek spatial characteristics within a destination or attraction (Y. Huang et al. 2022) or aim to understand specific themes, such as Wartmann and Mackaness (2020), who analyzed the spatiality of sensations of tranquility.

3.2.4. Perception

Drawing from concepts and terms introduced in previous groups (e.g., emotions), studies categorized under the overarching theme of perception distinguish themselves by highlighting subjects' viewpoints and opinions. Results often correlate with visitor profile characteristics. Tang et al. (2022) analyzed Oze National Park (Japan) perception, considering demographic features. Huai and Van de Voorde (2022) examined environmental feature perception in urban parks across distinct cultures. Zhang et al. (2020) investigated differences in tourist profiles (e.g., Europe, North America, and Asia) regarding perceptions of natural scenes, architecture, food, plants, culture, and entertainment, including mountains.

Perception studies aim to delve into a deeper level of user expression in media. Perception is often linked to motivational aspects' manifestation (Kleshcheva, 2021) and quality and valence dimensions (positive/negative) (Aggarwal & Gour, 2020; Agostino et al. 2021). More intimate and aesthetic perspectives have been explored, as shown by Stellacci and Moro (2022), who seek to understand the connection with place and individuals' sensations in activities such as walking through Italian heritage cities. Pickering et al. (2020) analyzed preferences and value attribution to infrastructure and natural components of Kosciuszko National Park (Australia) across different climatic seasons. Tourists' media awareness was addressed by Koufodontis and Gaki (2022), discussing the UNESCO World Heritage Site's status in various cities.

3.2.5. Satisfaction

Articles focusing on satisfaction address users and media content from a commercial perspective. They highlight visitors as customers engaged in consumption routines, including the experience of shopping at attractions and destinations. Shao et al. (2019) examined satisfaction with shopping at the National Gallery (London), and Egress (2017) chose to evaluate the satisfaction of international tourists in Istanbul (Turkey) with their shopping experience at retail centres.

Research on satisfaction shows significant interest in seeking dimensions of satisfaction (Egresi & Prakash, 2019; W. Kim et al. 2021; Kirilenko et al. 2021), as well as understanding the gradation of value attribution in expressions and identifying corresponding causes. Prakash et al. (2019) analysed the reasons for dissatisfaction among wildlife visitors in national parks in Sri Lanka. Another focus has been the association between satisfaction and the competitive position of attractions, as seen in the research conducted by Albayrak et al. (2021) in theme parks located within the same destination (Hong Kong).

3.2.6. Narrative

We categorise articles as "Narrative" when they focus on how users communicate, their interests, and information strategies in media or discourse. One perspective is the analysis of narratives about destinations or attractions in the media. In this regard, Viñán-Ludeña and de Campos (2022) examined tourism-related content about Granada to understand what was being discussed regarding attractions and services in the destination. Kydros and Vrana (2021) analysed the Twitter user network to see what was being discussed about European museums.

The group also includes studies that investigate how tourists narrate their social understanding of a controversial attraction (Wise et al. 2019), the production, channels, consumption, and content of risk information about destinations and attractions (Plank, 2016), sources of narrated information as trustworthy (Lau et al. 2022), interest and interpretation in heritage sites (Basaraba, 2021).

3.2.7. Brand

A group of articles investigate user-generated brands in media. The main points observed are the components, performance, attributes, impact, or exploration of how tourist attractions and destinations are presented regarding brand projection. Uchinaka et al. (2019) analysed residents' intentions to produce tourist content on social networks, defining a scale for the function of local brand ambassadors. Seyyedamiri et al. (2022) addressed the central elements of the brand love generation. Nowacki (2019) identified characteristic elements of Polish cities. Wilk et al. (2021) examined online destination brand advocacy. Another area of interest can be brand identity (Ranfagni et al. 2022; Taecharungroj, 2019) or brand personality (Shin et al. 2017).

3.2.8 Demand

This group comprises articles focused on demand study, especially regarding profile description and segmentation. For instance, Qi et al. (2018) worked on constructing an empirical typology of international cultural tourists visiting Macau. Hernández et al. (2018) investigated tourist segmentation based on attraction reviews. Predictive studies were also found (Hu et al. 2022; Li et al. 2020) and studies on flows and networks aimed at understanding or monitoring demand (Wang et al. 2022; Xu et al. 2022).

4. Discussion: Perspectives for management

The use of social media has been receiving increasing attention in the literature due to its recognised contribution to management (Ivars-Baidal et al. 2019), strategies (Enrique Navarro Jurado, 2016), and governance (Perea-Medina et al. 2018; Mandić & Kennell, 2021). In light of this, we summarise perspectives on applying User-Generated Content in attractions and destinations. The systematisation derives from the analysis of the purposes, results, and practical implications of the articles. It organises the topics found in five areas of management (Figure 5), commonly applied to both attractions (Leask, 2016) and destinations (Crouch & Ritchie, 1999; Longjit & Pearce, 2013; Pearce, 2016).



Figure 4: Applications of User-Generated Content in Management

Visitor Management: Understanding visitors' experiences and preferences helps managers plan recreational activities that align with tourists' interests. Monitoring reviews allows for error identification and correction. For instance, if a beach known for tranquility and nature contact has an intense program scheduled, reallocating resources can prevent negative feedback and visitor dissatisfaction (Taecharungroj & Mathayomchan, 2019). Investigating challenges tourists face presents another opportunity for visitor management. For attractions focused on technology, media can help identify difficulties based on visitor profiles and equipment types (Kolar, 2017), guiding managers to implement orientation sessions, designate sensitive zones, identify complex devices, and prioritize supervisory alerts (Zanibellato et al. 2018).

Resource Management: Understanding how tourists use and perceive attractions and destinations provides valuable insights for communication strategies, infrastructure improvements, and facility enhancements. Analyzing narratives helps evaluate the effectiveness of guidance, education, and interactive resources, particularly for historical sites suffering from shallow tourism. Assessing the relationship between the scene and the experience informs decisions about facilities, equipment, interpretive resources, and offered activities. UGC can indicate obsolescence or declining reputation of resources (Nowacki & Kowalczyk-Anioł, 2022), prompting managers to introduce new activities, diversify offerings, invest in complementary resources, and remodel facilities. Further research can validate UGC findings and explore the need for sensory-stimulating atmospheres and experiences with greater cognitive impact (Alabau-Montoya & Ruiz-Molina, 2020).

Product and Marketing Management: The primary application of UGC is in managing social media networks and communication channels for attractions and destinations. Monitoring destination and attraction images can be effectively accomplished (Liu et al. 2020), allowing managers and operators to address issues promptly with organized feedback from UGC. UGC provides valuable information about image attributes, facilitating comparative studies between official advertising and media representations

(Fayzullaev et al. 2021; Paül i Agustí, 2018, 2019a) to identify discrepancies and adjust marketing strategies accordingly. Moreover, UGC aids in diversifying products and integrating sites into tourist maps with quality, organized operator participation, and safety. It also serves as a crucial source for sector-specific studies (Kydros & Vrana, 2021), enabling the identification of common points of interest for collaborative exchange and benchmarking among attractions and destinations with similar profiles.

Strategically exploring organic networks formed by residents (Uchinaka et al. 2019) offers another opportunity, as they serve as primary sources of electronic word-of-mouth (eWoM). Social media platforms like Facebook, where virtual groups bring together residents and tourists, can be particularly useful. Destination Marketing Organizations (DMOs), development councils, and operators can encourage and enhance content posted by residents by offering specific courses and training to enrich local history and nature content combined with tourist information.

Site Management: With UGC it's possible to investigate the spatial distribution and intensity of tourist usage, which is valuable for management plans and development strategies. UGC helps map temporal and spatial movement patterns (Van der Zee & Bertocchi, 2018), aiding in planning facilities, transportation, services, infrastructure, and staff allocation. Managers of various attractions can identify areas of high interest and attention (Sidor et al. 2020; Spyrou et al. 2017), allowing them to develop strategies to manage flows, reduce pressure points, and expand visitable areas. Thematic mapping of hotspots and sentiment zoning helps illustrate common interests and potential conflicts, facilitating stakeholder mobilization and integrated management (Martí et al. 2021). Emotion dictionaries and sentiment mapping from social media can further enhance territorial planning by incorporating human and sensory dimensions (Huang et al. 2021).

Crisis Management: The content found in media provides real-time and accumulated manifestations over time, making UGC a valuable tool for crisis monitoring and management. For instance, UGC can help observe the development of political crises in destinations or assess the prolonged effects of events like the recent COVID-19 pandemic (Lozano-Monterrubio & Huertas, 2020; Y. Yang et al. 2021). Managers can use UGC to gather indications from potential tourists regarding their travel plans and collaborate with Destination Marketing Organizations (DMOs) and operators to facilitate rescheduling. Additionally, UGC enables the inventory of critical nodes, categorizing them based on their nature and duration (Kirilenko et al. 2021), empowering managers to take proactive actions and expedite solutions.

In summary, we understand that CGU is a crucial source to be incorporated into attraction and destination information systems, particularly for identifying issues and conflicts experienced by tourists, organisations, governments, and communities. It is cost-effective and useful for decision-making and solution design. Another advantage is its applicability across different territorial scales, whether for individual units or clusters of attractions and destinations.

Given the limitations of CGU data highlighted in the literature (Teles da Mota et al. 2022; Teles da Mota & Pickering, 2021a), particularly in terms of representativeness, we recommend that management should consider using this application in a complementary manner, used for situational studies, scenario construction, and diagnostics. However, the analysis depends on specialised personnel to provide feedback, manage, and interpret the data, which may require training development, new position creation, and specific hiring within interested organisations. Another approach is to establish partnerships with universities.

5. Conclusions

The paper highlights the potential theoretical and practical impact of the review on the use of Consumer-Generated Content (CGC) in tourism. The results provide an advanced foundation for future research, addressing gaps in attraction and destination management, especially in the areas of management literature, territorial intelligence, smart destinations, and governance.

In theoretical terms, the results of this review provide an opportunity for a new step in understanding the utilisation of CGU in tourism, contributing to filling the gap in attraction and destination management. It is understood that with this article as a starting point, other investigations will have a more advanced foundation to explore methodological, conceptual, and theoretical issues, particularly about management literature, territorial intelligence, smart destinations, and governance. This can result in a more accurate integration with these areas of study.

In practical terms, the article effectively extracts a systematically organised set of results from academic research and presents them as practical applications for management. The content is accessible

to professionals and organisations. Furthermore, the potential use of CGU for understanding visitation dynamics in tourism territories, especially in regional and peripheral attractions and destinations or those lacking direct control, records, staff, and management, is highlighted. Destination Management Organisations (DMOs) can gain insights into visitation patterns in these areas by encouraging visitors to share their experiences on social media by installing signposts, pavement markers, or other resources that remind tourists to document aspects of their visit. Measures like these contribute to expanding the CGU dataset, resulting in benefits for management and the planning of future visitors' experiences.

This review is limited as we searched only three databases and retrieved a single document type in English, Portuguese, and Spanish. In this sense, we recognise that a future research agenda could lead to improvements and contributions in five directions. Firstly, expanding the review could involve including other documents beyond scientific articles, considering results in other languages, and incorporating additional databases. Another direction would involve conducting studies on the ethical and legal issues related to the use of CGU data in tourism management, considering different countries and cultures and evaluating the relevance of this application according to the perspectives of managers and professionals.

Another opportunity is conducting reviews on methodological options, emphasising the perspectives presented here, and highlighting their highly practical nature. Works in this direction could serve as the foundation for scientific communication dedicated to popularising this knowledge, focusing on its use by professionals and DMOs. Another avenue for new reviews could involve investigating concepts and theories relevant to structuring, interpreting, and evaluating the knowledge attainable from CGU data.

The conclusion underscores the importance of investigating methodological and theoretical options to structure, interpret, and evaluate knowledge derived from CGC data, emphasizing its practical impact. Ultimately, this can drive significant advancements in understanding and applying CGC, benefiting professionals and organizations in the management and planning of future visitor experiences.

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