Open data of tourist inventories and host communities: a proposal of field structure for its opening

Datos abiertos de inventarios turísticos y comunidades anfitrionas: una propuesta de estructura de campos para su apertura

Dados abertos sobre inventários turísticos e comunidades anfitriãs: uma proposta de estrutura de campo para sua abertura

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Abstract

Introduction: This article is the product of the master's research project "Proposal for an open data architecture referring to tourist inventories and characteristics of host communities in Colombia" carried out in 2023 at the Universidad Distrital Francisco José de Caldas in Bogota.

Problem: There is a lack of open data in tourism related to tourist inventories and the characteristics of host communities. These data are essential to support informed decision-making that takes into account the needs and constraints of tourist attractions and related host communities—an essential aspect for the development of smart tourism destinations.

Objective: The objective of this research is to contribute to the definition of the data fields that should comprise open datasets to facilitate the analysis of tourist inventories and the characterization of host communities.

Methodology: The methodology is based on a literature review. The search was done using the Scopus database and Google Scholar.

Results: A total of 60 data fields grouped into 12 categories were identified for tourist inventories, and 49 fields grouped into 3 categories were identified for host community characteristics.

Conclusion: The identified data fields address essential aspects required to understand the real conditions, needs, and constraints of host communities and tourist attractions.

Originality: This research defines a general structure of data fields that can serve as a foundation for the development of open data models related to tourism inventories and host community characteristics.

Limitations: The identification of data fields was conducted in a general manner, without focusing on specific types of tourist attractions or particular aspects of individual host communities.

Keywords: Open data, tourist inventory, host community, tourism planning, smart tourism destinations.

Resumen

Introducción: Este artículo es producto del proyecto de investigación de maestría "Propuesta para una arquitectura de datos abiertos referente a inventarios turísticos y características de las comunidades anfitrionas en Colombia", realizado en 2023 en la Universidad Distrital Francisco José de Caldas en Bogotá.

Problema: Existe una escasez de datos abiertos en turismo relacionados con los inventarios turísticos y las características de las comunidades anfitrionas. Estos datos son esenciales para respaldar la toma de decisiones informada que considere las necesidades y limitaciones de los atractivos turísticos y las comunidades anfitrionas relacionadas, un aspecto esencial para el desarrollo de destinos turísticos inteligentes.

Objetivo: El objetivo de esta investigación es contribuir a la definición de los campos de datos que deben conformar los conjuntos de datos abiertos para facilitar el análisis de inventarios turísticos y la caracterización de las comunidades anfitrionas.

Metodología: La metodología se basa en una revisión bibliográfica. La búsqueda se realizó utilizando la base de datos Scopus y Google Académico.

Resultados: Se identificaron un total de 60 campos de datos agrupados en 12 categorías para inventarios turísticos y 49 campos agrupados en 3 categorías para las características de las comunidades anfitrionas. Conclusión: Los campos de datos identificados abordan aspectos esenciales para comprender las condiciones, necesidades y limitaciones reales de las comunidades anfitrionas y las atracciones turísticas.

Originalidad: Esta investigación define una estructura general de campos de datos que puede servir de base para el desarrollo de modelos de datos abiertos relacionados con los inventarios turísticos y las características de las comunidades anfitrionas.

Limitaciones: La identificación de los campos de datos se realizó de forma general, sin centrarse en tipos específicos de atracciones turísticas ni en aspectos particulares de cada comunidad anfitriona.

Palabras clave: Datos abiertos, inventario turístico, comunidad anfitriona, planificación turística, destinos turísticos inteligentes.

Resumo

Introdução: Este artigo é produto do projeto de pesquisa de mestrado "Proposta para uma arquitetura de dados abertos referente a inventários turísticos e características das comunidades anfitriãs na Colômbia", realizado em 2023 na Universidade Distrital Francisco José de Caldas, em Bogotá.

Problema: Há uma carência de dados abertos no turismo relacionados a inventários turísticos e às características das comunidades anfitriãs. Esses dados são essenciais para subsidiar a tomada de decisões informadas que levem em consideração as necessidades e restrições das atrações turísticas e das comunidades anfitriãs relacionadas — um aspecto essencial para o desenvolvimento de destinos turísticos inteligentes.

Objetivo: O objetivo desta pesquisa é contribuir para a definição dos campos de dados que devem compor conjuntos de dados abertos para facilitar a análise de inventários turísticos e a caracterização das comunidades anfitriãs.

Metodologia: A metodologia baseia-se em uma revisão bibliográfica. A busca foi realizada utilizando a base de dados Scopus e o Google Acadêmico.

Resultados: Foram identificados 60 campos de dados agrupados em 12 categorias para inventários turísticos, e 49 campos agrupados em 3 categorias para características da comunidade anfitriã.

Conclusão: Os campos de dados identificados abordam aspectos essenciais para a compreensão das reais condições, necessidades e restrições das comunidades anfitriãs e atrações turísticas.

Originalidade: Esta pesquisa define uma estrutura geral de campos de dados que pode servir de base para o desenvolvimento de modelos de dados abertos relacionados a inventários turísticos e características da comunidade anfitriã.

Limitações: A identificação dos campos de dados foi conduzida de forma geral, sem foco em tipos específicos de atrações turísticas ou aspectos particulares de cada comunidade anfitriã.

Palavras-chave: Dados abertos, inventário turístico, comunidade anfitriã, planejamento turístico, destinos turísticos inteligentes.

1. INTRODUCTION

Open data refers to data generated or compiled by public entities and made accessible to everyone, allowing it to be used freely [1]. Currently, its availability has increased significantly, and there is growing pressure on all types of public organizations to publish data from various domains [2].

This global movement seeks to enable any stakeholder to use the provided data to generate information, knowledge, and/or services [3]. Thanks to the availability of information that was previously unknown or had limited access, entities now have

more opportunities to propose and test new products within their R&D&I departments. At the same time, costs or losses can be reduced when a product proves unviable [4].

Additionally, the use of open data aims to promote government transparency, encourage citizen participation, and strengthen interoperability among entities [3]. In this context, the public gains greater awareness of the activities carried out by the public sector [5], which contributes to increased empowerment and more active participation in the development and improvement of public policies [6].

In the tourism sector—which accounted for 3% of global GDP in 2023 [7], open data plays a key role in the development of smart tourism destinations [8]. These destinations are built on a technological framework that enables data use to enhance decision-making in tourism planning [9], [10], with the goal of promoting sustainable tourism development across three dimensions: economic, environmental, and socio-cultural [10]. Therefore, one of the objectives of open data in this sector should be to facilitate the identification of opportunities, needs, and requirements of a destination across all these dimensions, leading to comprehensive proposals that consider the characteristics of both visitors and residents [8], [11].

Despite this, a clear trend persists toward the generation and use of data to enhance the quality of the tourist experience, with a predominant focus on the economic aspect. This reflects traditional approaches to tourism planning [12], [13]. Based on various open datasets provided by leading countries in the tourism sector, there is a notable prevalence of data related to facilities, infrastructure, and services, along with statistical information such as tourist flow, expenditure, average length of stay, GDP contribution, and job creation. These datasets also exhibit high variability in formats and structures, which negatively impacts their reusability [2], [14].

In this context, there is a noticeable lack of open data concerning tourist inventories and the characteristics of host communities. Such information is essential for identifying the needs and requirements of these communities, enabling the development of proposals that aim to improve quality of life, protect tangible and intangible cultural heritage, and simultaneously foster tourism development [15]–[18].

As a result, this work focuses on identifying the key fields that should be included in open datasets concerning tourist inventories and the characteristics of host communities. It offers a basic standard designed to support the creation of easily reusable datasets, covering the necessary aspects for analyzing and understanding the real conditions of a tourist attraction or host community.

1.1 Tourist inventories

The tourist inventory enables a detailed record of all physical and cultural features of attractions within a region [19]. This information is essential for understanding the current state of these attractions, identifying their shortcomings and needs, and determining the types of tourism that can be developed [20]. In this way, it becomes a fundamental tool for tourism planning [20], [21], supporting the creation of appropriate tourism products and policies that promote the conservation of attractions [16], [22]–[25].

Its implementation dates back to 1978, when the Organization of American States (OAS) and the Center for Tourism Research and Training (CICATUR) proposed the first methodology establishing criteria for the creation and prioritization of tourist inventories [22], based on the proposals developed by the World Tourism Organization [20], [26]. This proposal has been widely adopted and adapted by various countries according to the specific characteristics of their tourism development processes [22].

Given its impact and use by multiple stakeholders involved in tourism (including tourists, communities, governments, and businesses), tourist inventories must be clear, open, and dynamic, allowing for regular updates as attractions evolve [19], [21]. However, analysis of several case studies reveals that this condition is currently difficult to meet. The collected data are often not shared in appropriate formats or through technological platforms that facilitate easy use and updating. Additionally, there is a lack of centralized access, which would ensure that all stakeholders can consult the same set of information.

As a result, decision-making frequently fails to reflect the actual state of attractions. It becomes difficult to account for the full range of attractions within a region, leading to a focus on only the most popular or well-documented ones [27].

In this context, the opening of such data would present an opportunity to address these deficiencies and promote the development of tourism-related technological applications [14], [28], [29], key components of a smart tourism destination.

1.2 Host communities

Several authors emphasize the importance of host communities in the sustainable development of tourism [30]–[35]. Depending on their level of acceptance, residents can significantly impact tourist satisfaction [36], support sustainability programs, contribute to heritage protection [37] and strengthen the tourism sector [32].

For this reason, during the planning process, it is essential to have data that allows for understanding the characteristics of communities and assessing their current

situation [38]. Such insights help anticipate community attitudes [39], ensure that residents benefit from tourism, promote the conservation of attractions, and prevent harm to cultural values [40], [41].

This approach enables the development of policies and strategies aligned with the expectations and needs of host communities, while also contributing to the promotion of sustainable tourism development [41]. Furthermore, it facilitates collaborative efforts, allowing for the inclusion of local knowledge and community ownership of tourist areas. For example, [40] found that communities in the study area adopted environmental protection practices through traditional natural resource management systems, cultural and religious values, and penalties for offenders.

Just like tourist inventories, data on host communities should be regularly consulted and updated, given the dynamic nature of their needs and the impacts that tourism can have on them. Moreover, in line with the goals of open data, making this information accessible can help promote community participation and empowerment in decision-making processes.

1.3 Open tourism data in different countries

When reviewing datasets provided by some of the world's most-visited countries [42] as well as others that may not appear in global tourism rankings but demonstrate high potential for sectoral growth—such as several Latin American countries [43], [44], a clear trend emerges: most open data focuses on infrastructure, facilities, tourist attractions, and available services. In addition, these platforms often publish statistics related to tourist demand and economic indicators. Based on the review, four predominant categories of open tourism data can be identified (Table 1 details which of these categories were found on each reviewed open data platform):

- Statistics: Includes data such as average length of stay, tourist demand, accommodation occupancy rates, employment indicators, tourist expenditure, and arrival forecasts. 89.3% of the reviewed platforms offer this type of data.
- Places: Covers restaurants, accommodations, bars, travel agencies, tourist offices, tourism authorities, ATMs, currency exchange offices, etc. It also includes cultural and natural spaces such as museums, theaters, parks, archaeological sites, and other venues designed for tourism. 78.5% of the reviewed platforms provide this data.

- Tourist products and events: Includes information on cultural, social, commercial, and sports events, as well as tourist routes and activities. 42.9% of the platforms include this data.
- Accessibility and mobility: Contains information about road networks, transportation systems, operating hours, and transport companies. Only 10.7% of the reviewed platforms offer data in this category.

While this data is valuable for enhancing the tourist experience and adapting services to tourist needs, it remains insufficient to fully characterize and understand the current situation of tourist destinations and their communities. This results in a biased approach to data use and runs counter to the goal of sustainability in smart tourism destinations.

Furthermore, it is important to note that most of these datasets are generated without adherence to any formal standard [2], [14], [45]. This leads to considerable variability in the formats, data structures, and metadata used [45], among other inconsistencies. These shortcomings significantly reduce the potential for reuse, as users must invest extra effort to adapt to each dataset's specific characteristics. This, in turn, limits the range and quantity of data available for reuse [46] and hinders the development of sustainable solutions that rely on such data [45].

Table 1. Types of open tourism data identified in open data platforms from different countries

N.	Country	URL of the open data platform	Predominant categories
1	France	https://info.datatourisme.fr/fonctionnement/les-donnees/	PL-TPS
2	Mexico	https://datos.gob.mx	PL-TPS-STA
3	Spain	https://datos.gob.es	PL-STA
4	Italy	https://www.dati.gov.it	PL-TPS-STA
5	United States	https://data.gov	PL-TPS-STA
6	Greece	https://data.gov.gr	STA
7	Austria	https://www.data.gv.at	PL-TPS-STA-ACC
8	Germany	https://www.govdata.de	PL-STA
9	United Arab Emirates	https://bayanat.ae	PL-TPS-STA
10	Croatia	https://data.gov.hr	PL-STA
11	Portugal	https://dados.gov.pt	PL
12	United Kingdom	https://www.data.gov.uk	PL- STA
13	Netherlands	https://data.overheid.nl	STA

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N.	Country	URL of the open data platform	Predominant categories
14	Dominican Republic	https://www.datos.gob.do	STA
15	Switzerland	https://opendata.swiss	PL-TPS-STA
16	Czech Republic	https://data.gov.cz	PL-STA
17	Belgium	https://data.gov.be	PL-TPS-STA
18	Canada	https://open.canada.ca	PL-TPS
19	Puerto Rico	https://datos.pr.gov	STA
20	New Zealand	https://www.data.govt.nz	PL-TPS-STA
21	Argentina	https://www.datos.gob.ar	PL-STA
22	Brazil	https://dados.gov.br	PL-TPS-STA
23	Chile	https://datos.gob.cl	PL- STA-ACC
24	Peru	https://www.datosabiertos.gob.pe	PL-TPS-STA
25	Colombia	https://www.datos.gov.co	PL-STA
26	Ecuador	https://www.datosabiertos.gob.ec	STA
27	Paraguay	https://www.datos.gov.py	STA
28	Uruguay	https://www.gub.uy/datos-abiertos	PL- STA-ACC

PL: Places; TPS: Tourist products and events; STA: Statistics; ACC: Accessibility and mobility.

Source: Own elaboration

2. METHODOLOGY

The methodology was based on a systematic review of articles and research papers from the last 5 years:

- For tourist inventories, the search for papers was conducted through the Scopus database, using the query: *inventories AND (attraction OR resources) AND tourism*; which yielded 129 results. Additionally, Google Scholar was used to review thesis papers related to the topic.
- For characteristics of host communities, the search for papers was conducted through the Scopus database, using the search query: *((local OR host) AND communities) AND characteristics AND tourism*; yielding 433 results.

For both topics, initial screening excluded papers not published in English or Spanish and those not fully accessible. Subsequently, titles and abstracts were reviewed to identify papers aligned with the study's objectives. Finally, a comprehensive

full-text review was conducted for the filtered papers. This process resulted in the selection of 25 relevant papers on tourist inventories and 27 on host community characteristics.

3. RESULTS

This section presents the fields identified for generating open datasets related to tourist inventories and host communities. First, the categories grouping these fields are described. Then, the specific fields within each category are detailed.

3.1 Tourist Inventories

From the reviewed papers, data commonly used to compose tourist inventories were grouped into 12 categories:

a. General Data: Basic and official information about the attraction.
b. Classification: Categorization of the attraction according to its natural or cultural characteristics.
c. Conservation Status: The degree of conservation of the attraction and existing threats to the attraction.
d. Location: The geographic location of the attraction.
e. Climatic Characteristics: Typical climatic conditions at the destination.
f. Access to the Attraction: Available means of access and travel details to reach the site.
g. Entrance Characteristics: Conditions governing entry or visitation to the attraction.
h. Demand Characteristics: Tourist numbers, visitation patterns, and demand peaks..
i. Contact/Information Data: Details of the individuals or entities managing and supervising the attraction.
j. Activities: Available or permitted activities at the attraction.
k. Physical Facilities: Infrastructure and supporting facilities facilitating tourism.
l. Services: Availability of basic and complementary services at the site.

Considering the desired level of data detail, a total of 60 fields were established. Table 2 presents the identified fields organized by category.

Table 2. Tourist inventory fields

Category	Field	Description	Data type
General data	Name	Official name by which the attraction is known.	Text
	Date	For events, the date of celebration.	Date
	Protected area	If applicable, the protected area designation granted to the attraction by competent entities.	Text
	Recognition	If applicable, the recognitions granted to the attraction by competent entities.	Text
	Tourism typology	Type of tourism that can be developed based on its natural/cultural characteristics and level of development.	Text
Classification	Category	First level of classification of the attraction according to the classification of each government or adopted methodology.	Text
	Type	If applicable, second level of classification of the attraction according to the classification of each government or adopted methodology.	Text
	Subtype	If applicable, third level of classification of the attraction according to the classification of each government or adopted methodology.	Text
	Code	Assigned code for the attraction according to the classification of each government or adopted methodology.	Alphanumeric
	Hierarchy	Assessment score resulting from the evaluation of different aspects that account for the importance of the attraction according to the methodology adopted by each government.	Text
Conservation status	Conservation	Conservation status of the attraction.	Text
	Natural threats	Natural causes that lead to the deterioration of attractions.	Text
	Anthropogenic threats	Anthropogenic causes that lead to the deterioration of attractions.	Text
Location	Location	Political-administrative location of the attraction.	Text
	Address	If applicable, location nomenclature assigned to the attraction.	Alphanumeric
	Postal code	Assigned postal code.	Numeric
	Latitude	Latitude where the attraction is located.	Numeric
	Longitude	Longitude where the attraction is located.	Numeric
	Altitude	Altitude at which the attraction is located.	Numeric
Climatic characteristics	Climate	Characteristic climate where the attraction is located.	Text
	Temperature	Average temperature where the attraction is located.	Numeric
	Precipitation	Average monthly rainfall where the attraction is located.	Numeric

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Category	Field	Description	Data type
Access to the attraction	Nearby urban areas	Indicate the nearest urban centers to the attraction.	Text
	Route	Route name from the nearest urban centers to the attraction.	Text
	Land transportation	If applicable, land transportation options available to access the attraction.	Text
	Water transportation	If applicable, water transportation options available to access the attraction.	Text
	Air transportation	If applicable, air transportation options available to access the attraction.	Text
	Type of road	If the means of transportation is terrestrial, indicate the corresponding type of road.	Text
	Travel duration	Establish the average travel duration following a specific route.	Numeric
	Distance	The total distance traveled on a specific route.	Numeric
	Signage condition	The state of signage facilitating the arrival of tourists to the attraction on a specific route.	Text
Admission characteristics	Opening hours	If applicable, opening or operating hours of the attraction.	Text
	Closing time	If applicable, closing or end of operation time of the attraction.	Text
	Days of operation	Days of operation for the attraction.	Text
	Type of ingress	If applicable, indicate whether the entrance to the attraction is free, requires payment or requires prior permission.	Text
	Fee	If applicable, entrance fees or tariff scales managed at the attraction.	Numeric
	Payment method	If applicable, accepted payment methods for admission to the attraction.	Text
	Recommended season	Recommended time to visit the attraction.	Text
	Conditions for disabled individuals	Indicate if the attraction has the corresponding adaptations to facilitate access for disabled individuals.	Text
Demand characteristics	Number of visitors	Average annual number of visitors.	Numeric
	Temporal pattern	Moments when peaks in visitor attendance usually occur.	Text
	Number of local visitors	Annual number of local visitors received by the tourist attraction.	Numeric
	Number of regional visitors	Annual number of regional visitors received by the tourist attraction.	Numeric
	Number of national visitors	Annual number of national visitors received by the tourist attraction.	Numeric
	Number of foreign visitors	Annual number of foreign visitors received by the tourist attraction.	Numeric

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Category	Field	Description	Data type
Personal contact information	Administrator's name	Name of the person(s) in charge or owner(s) of the tourist attraction.	Text
	Administrator's e-mail	The email address of the person(s) in charge or the owner(s) of the tourist attraction.	Text
	Administrator's contact number	The phone number of the person(s) in charge or owner(s) of the tourist attraction.	Numeric
	Official URL	Official website or social media page that provides additional information or promotes the attraction.	Text
Activities	Activities	Activities that can be practiced at the attraction.	Text
	Activity category	The category of activities that can be practiced at the attraction, according to the classification of each government or adopted methodology.	Text
Physical infrastructure	Establishment name	Official name of the establishment.	Text
	Establishment Category	Classification of the establishment according to the classification of each government or adopted methodology.	Text
	Address	Location/address of the establishment.	Alphanumeric
	Establishment e-mail	Establishment e-mail.	Text
	Establishment contact number	The phone number of the establishment.	Numeric
	Establishment URL	Official establishment URL.	Text
Services	Basic services	List of basic services available at the attraction.	Text
	Communication services	List of communication services available at the attraction.	Text
	Status of signage at the attraction	Indicate the status of signage providing information and/or guidance to tourists during their visit. This includes signage indicating a code of conduct.	Text

Source: own elaboration according to [15], [16], [50]–[59], [17], [60]–[64], [18], [19], [24], [25], [47]–[49]

3.2 Host communities

Based on the consulted papers, it is possible to group the characterization of a community into three categories:

a. Sociodemographic Data: Information that allows for the social and demographic characterization of a community.
b. Cultural Data: Following the framework of the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (UNESCO, 2003), this category is subdivided into three subcategories:

- *Cultural Elements:* Traditions, customs, and native languages of a community.
- *Cultural Knowledge:* The extent of residents' knowledge regarding the cultural traditions of their community.
- *Cultural Participation:* The degree to which residents practice or participate in the community's cultural traditions.

c. Perception Data*:* Tourism impacts host communities across multiple dimensions—including sociocultural, economic, political, and environmental. Hence, it is important to understand the community's perceptions of each of these aspects.

Considering the desired level of detail and data disaggregation, a total of 49 fields were established. Table 3 presents the identified fields grouped by category.

Table 3. Host community characteristics fields.

Category	Field	Description	Data type
Sociodemographic	Occupation	Employment or occupation of the resident.	Text
	Tourism Relationship	Indicate if the resident's occupation is related to the tourism industry (directly or indirectly).	Boolean
	Socioeconomic Stratum	Socioeconomic stratum of the resident.	Numeric
	Educational Level	Maximum level of education attained by the resident.	Text
	Gender	Resident's gender.	Text
	Age	Resident's age.	Numeric
	Marital status	Resident's marital status.	Text
	Proximity to the Attraction	Indicate if the resident's place of residence is within the tourist zone.	Boolean
	Length of Residence	Length of residence of the resident at the attraction.	Numeric
Cultural elements	Languages	Languages or dialects of a community.	Text
	Religion	Traditional religion from a community.	Text
	Arts	Traditional artistic expressions such as music, dance, and performing arts developed in a community.	Text
	Cosmogony	Brief description of the cosmogony of a community.	Text
	Handicrafts	Traditional handicrafts made by a community.	Text
	Medicine	Brief description of the traditional medicine of the community.	Text
	Gastronomy	Brief description of the typical dishes of the community.	Text

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Category	Field	Description	Data type
Cultural elements	Literature	Principal traditional literary works of a community.	Text
	Celebrations	Principal traditional celebrations of a community.	Text
	Attire	Brief description of the traditional attire of a community.	Text
	Sports games	Principal traditional sports games of a community.	Text
	Social structure	Brief description of the traditional social structure of a community.	Text
Cultural Knowledge	Including languages	Indicate if the resident knows the languages or dialects specific to the community.	Boolean
	Including religion	Indicate if the resident is familiar with the religious beliefs of the community.	Boolean
	Including arts	Indicate if the resident is familiar with the various artistic expressions of the community such as music, dance, and performing arts.	Boolean
	Including cosmogony	Indicate if the resident possesses traditional knowledge about the universe and nature.	Boolean
	Including handicrafts	Indicate if the resident is familiar with the different traditional handicrafts produced by the community.	Boolean
	Including medicine	Indicate if the resident possesses traditional knowledge about medicine developed by the community.	Boolean
	Including gastronomy	Indicate if the resident is familiar with the typical dishes of the community.	Boolean
	Including literature	Indicate if the resident is familiar with the literary works that are part of the community.	Boolean
	Including celebration	Indicate if the resident is familiar with the different festive events of the community.	Boolean
	Including attire	Indicate if the resident is familiar with the traditional attire of the community.	Boolean
	Including sport games	Indicate if the resident is familiar with the traditional games and sports of the community.	Boolean
	Including social structure	Indicate if the resident is familiar with the social structure specific to the community.	Boolean
Cultural participation	Language Practice	Indicate if the resident masters the languages or dialects of the community.	Boolean
	Religion practice	Indicate if the resident adheres to the religious beliefs of the community.	Boolean
	Arts practice	Indicate if the resident practices any artistic expression of the community.	Boolean
	Cosmogony practice	Indicate if the resident participates or instructs in the transmission of community knowledge about the universe and nature, either within the family or the community.	Boolean
	Handicrafts practice	Indicate if the resident crafts traditional handicrafts, either for economic purposes or as a hobby.	Boolean

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Category	Field	Description	Data type
Cultural participation	Medicine practice	Indicate if the resident resorts to traditional medicine to treat or detect health problems.	Boolean
	Gastronomy practice	Indicate if the resident prepares and/or consumes typical dishes of the community sometimes.	Boolean
	Literature practice	Indicate if the resident has read the literary works that are part of the community.	Boolean
	Celebration practice	Indicate if the resident participates in the celebration of festive events of the community.	Boolean
	Attire practice	Indicate if the resident ever wears traditional attire of the community.	Boolean
	Sport games practice	Indicate if the resident practices traditional sports or games of the community.	Boolean
Perception	Sociocultural perception	A resident's perception of tourism regarding the positive and negative sociocultural impacts it has on the host community.	Text
	Economic perception	A resident's perception of tourism regarding the positive and negative economic impacts it has on the host community.	Text
	Environmental perception	A resident's perception of tourism based on the positive and negative impacts it has on the environment.	Text
	Political perception	A resident's perception of tourism based on the political and regulatory involvement in the development of tourism at the tourist attraction.	Text
	General perception	A resident's overall perception of the development of tourism at the tourist attraction.	Text

Sources: own elaboration acording to [30], [31], [33]–[35], [65]–[86]

4. DISCUSSION AND CONCLUSIONS

The identified fields encompass aspects that enable a comprehensive understanding of host communities and tourist attractions across the three pillars of sustainable tourism: sociocultural, environmental, and economic dimensions. The creation of datasets based on these fields involves compiling extensive data, which, combined with the critical need to keep this information up-to-date [87], [88] justifies making such datasets publicly accessible. Public availability promotes transparency and accessibility for all stakeholders involved in tourism planning, facilitating informed decision-making, and fostering collaboration and accountability within the tourism sector.

For tourist inventories, the fields were organized into 12 categories, each providing valuable information across different areas. Analysis of natural and cultural characteristics, conservation status, and threats enables the formulation of appropriate

protection policies. Additionally, data related to access methods, entry conditions and restrictions, infrastructure, facilities, services, and activities provide essential insights relevant to tourists. Moreover, information on demand patterns allows for the evaluation of the attraction's capacity requirements to ensure a high-quality visitor experience.

Regarding the characterization of host communities, fields were grouped into three main categories: sociodemographic, cultural, and perception data. The sociodemographic category facilitates the description of community composition and provides a general overview of economic and social conditions. The cultural category, further subdivided into cultural elements, cultural knowledge, and cultural participation, helps to understand the distinctive characteristics of a community and the degree to which residents identify with and engage in their cultural heritage. Specifically, cultural elements cover traditions, customs, and native languages; cultural knowledge assesses residents' familiarity with their community's traditions; and cultural participation evaluates their active involvement in cultural practices.

The perception category captures residents' views of tourism's impacts across sociocultural, economic, environmental, and political dimensions. This inclusion is based on two key considerations. First, existing research links these perception dimensions with sociodemographic and cultural factors [33], [67], [68], [71], [89]. Second, a fundamental objective of open data is to enhance the participation and inclusion of local communities in tourism planning. By incorporating perception data, stakeholders can better understand residents' perspectives and develop comprehensive policies that address their needs, thereby strengthening sustainable tourism development.

Currently, many of the identified fields remain underutilized in tourism planning—even in high-impact destinations—resulting in missed opportunities to improve the relationship between travelers, the environment, attractions, and communities. Access to such data can also enhance the development of technological applications like context-aware recommendation systems [90], which tailor travel suggestions while actively or passively protecting tourist sites and supporting community well-being. Furthermore, leveraging Big Data allows for raising tourist awareness by providing apps that inform visitors about the unique cultural characteristics of communities—such as religion, language, beliefs, and practices—thereby helping travelers assess the compatibility of their interests with local contexts [91].

Finally, data analysis facilitates the identification of behavioral patterns and anticipation of potential challenges that may not be evident through traditional tourism planning approaches alone.

This work's primary limitation lies in the generalized nature of field identification, which does not account for the specificities of certain types of tourist attractions or community contexts. Additionally, although the fields to be included are proposed, detailed guidelines for their completion are not provided.

Future research could focus on adapting the proposed fields to particular contexts and types of attractions. It is also recommended to develop data models that facilitate data processing, establish standards for field completion, and define storage structures. These steps are essential to enhance data interoperability, quality, and reuse.

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