

Bibliometric Analysis of Social Carrying Capacity in Tourist Destinations

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Article Info

Article history:

Received Jul, 2026

Revised Jul, 2026

Accepted Jul, 2026

Keywords:

Social Carrying Capacity

Sustainable Tourism

Tourist Destination

Overtourism

Tourism Management

Bibliometric Analysis

ABSTRACT

The rapid growth of tourism activities has increased concerns regarding the social impacts experienced by local communities, making social carrying capacity an essential concept in achieving sustainable destination management. This study aims to examine the intellectual structure, research evolution, influential publications, and emerging trends in the field of social carrying capacity in tourist destinations through a bibliometric analysis approach. Data were collected from the Scopus database using relevant keywords related to social carrying capacity, tourism, and tourist destinations. The retrieved publications were analyzed using VOSviewer to identify keyword co-occurrence patterns, citation networks, author collaboration, institutional collaboration, country collaboration, and research density patterns. The findings reveal that research on social carrying capacity has developed from an initial emphasis on tourism capacity measurement and destination management toward broader discussions on sustainable tourism, overtourism, resident perceptions, and community well-being. The keyword analysis highlights carrying capacity, social carrying capacity, sustainable tourism, tourist destination, and sustainable development as the central themes shaping this research domain. Citation analysis indicates that foundational studies on tourism carrying capacity and social impacts have significantly influenced subsequent research development. Furthermore, collaboration analysis demonstrates increasing international cooperation, with European countries, particularly Spain, the United Kingdom, and Portugal, playing prominent roles in advancing knowledge within this field. This study contributes to the tourism literature by mapping the evolution of social carrying capacity research and identifying future research directions related to destination resilience, community participation, tourism governance, and sustainable tourism strategies.

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1. INTRODUCTION

In recent years, tourism has become one of the fastest-growing areas in the world economy, playing an important role in providing employment opportunities, foreign exchange earning, and regional development. With increased international and domestic travel, previously unexplored and untapped destinations have witnessed a huge number of tourist arrivals, bringing about the balance between economic gains and negative effects on the environment, culture, and society [1], [2]. In the light of such rapid growth in the tourism sector, sustainability of tourism destinations has been the focus of many scholars, policymakers, and professionals. Sustainable tourism not only involves sustainable use of the physical environment but also implies the social sustainability of host societies and the quality of life of the community that must not be jeopardized by tourism activities [3]. Social carrying capacity is one of the critical aspects of sustainable tourism which has attracted considerable attention since it deals directly with the level of tourism beyond which negative social impacts start occurring [4], [5].

Carrying capacity was originally developed in the field of ecology as a measure of the maximum number of individuals an ecosystem could accommodate without being degraded [6]. The development of carrying capacity within tourism studies included interdisciplinary approaches including physical, economic, and socio-cultural components [7]. Social carrying capacity refers to the stage at which tourism activities exceed what local communities can tolerate before they start feeling the impact of those activities in their everyday lives, social and cultural practices, and values [8]. Scholars in this field note that crossing the social carrying capacity may result in residents' frustration, loss of their sense of community identity, conflicts with tourists, and overall dissatisfaction which affects locals' support for tourism development [9]. It is therefore vital to examine the evolution of this notion, its research themes, and trends.

Despite the abundance of research devoted to carrying capacity in the last twenty

years, there is no doubt that the existing literature features different definitions, measuring instruments and methods of analysis. While some researchers underline the importance of community perception surveys in estimating social carrying capacity [10], [11], others encourage the use of advanced computing models and stakeholder involvement frameworks [12]. Besides, there is great variability in terms of geography of analyzed locations ranging from urban heritage locations to coastal resorts and natural reserves, yet there is no comparison between the findings obtained in different locations. All the mentioned aspects show that the field of carrying capacity research is rather fragmented, which is why the literature review is needed.

One of the strong approaches to mapping knowledge structures, detecting significant contributors, and understanding the dynamics of development of research themes is a bibliometric analysis [9]. In contrast to the conventional narrative review, bibliometric analysis uses numerical methods, such as co-citation analysis, keyword co-occurrence, and author collaboration networks, to trace the patterns of scientific output [13], [14]. This approach is especially helpful when research is carried out within a number of disciplines and there is no clear line between the themes being studied, which is true in the case of social carrying capacity of tourism.

Despite the fact that many bibliometric analyses have been carried out for different fields within tourism research—such as sustainable tourism, destination marketing, and visitor experience management—a lack of bibliometric study in the area of social carrying capacity can be observed. In light of growing academic attention devoted to sustainable tourism and importance of social carrying capacity in destination management, it seems reasonable to apply the method of bibliometric mapping in order to analyze the current status of research in this field. This will allow the identification of the key concepts and methods used in the field, evolution of

research themes and directions for future research.

Although the notion of social carrying capacity has been considered indispensable to sustainable tourism development and research for years now, the body of literature available on the topic can be described as fragmentary from both theoretical and empirical perspective, as well as failing to provide an overview of the field in question. Although there is a great deal of empirical studies focusing on various aspects of social impact assessment in particular destinations, there is no bibliometric mapping available on the subject that would identify trends, important players in the field, thematic areas of discussion, and gaps in knowledge. The principal objective of this study is to conduct a comprehensive bibliometric analysis of social carrying capacity research in tourism destinations.

2. METHODS

This paper utilized a bibliometric approach for researching the scientific literature on social carrying capacity in tourist destinations. Bibliometrics makes it possible to conduct a quantitative assessment of the results of research activities, such as the publication trend, prominent scholars, journals, themes and evolution of topics. This bibliometric research involved peer-reviewed papers listed in the Scopus database. Scopus is known as a comprehensive index of high-quality journal sources that covers multiple scientific fields, including tourism, environmental management, and social sciences. The search terms included keywords like “social carrying capacity,” “tourism impacts,” “residents’ attitudes,” and “sustainable tourism,” and were combined

using Boolean operators for ensuring relevance. The years of publication ranged from 2000 to 2026; the language was set to be English.

Data export was done after data extraction from Scopus. Bibliographic data such as title, abstract, author(s), keyword(s), citation(s), and affiliation(s) were exported in CSV file format. Removal of duplicates and irrelevant data was done in order to enhance data accuracy. Data set ready for analysis was imported into VOSviewer (Version 1.6.21) for the creation of bibliometric network analysis. VOSviewer helped to establish co-authorship networks, keyword co-occurrence, citation linkages, and journal co-citation. It is through this process that thematic clustering as well as the connection between research topic, author, and institution became evident.

This study involved bibliometric analysis using both descriptive statistics and network approach. Descriptive statistics gave information on publication trends per year, most productive authors, main journals and top contributing countries. On the other hand, network analyses were performed in VOSviewer to uncover the network of collaboration among authors, organizations and keywords that define the themes of research. To develop the network, authors having published at least three papers and keywords mentioned in at least five papers were taken into consideration. Results generated from the analyses were used to point out the development of social carrying capacity research, emerging hot topics and literature gaps.

3. RESULTS AND DISCUSSION

3.1 Network Visualization

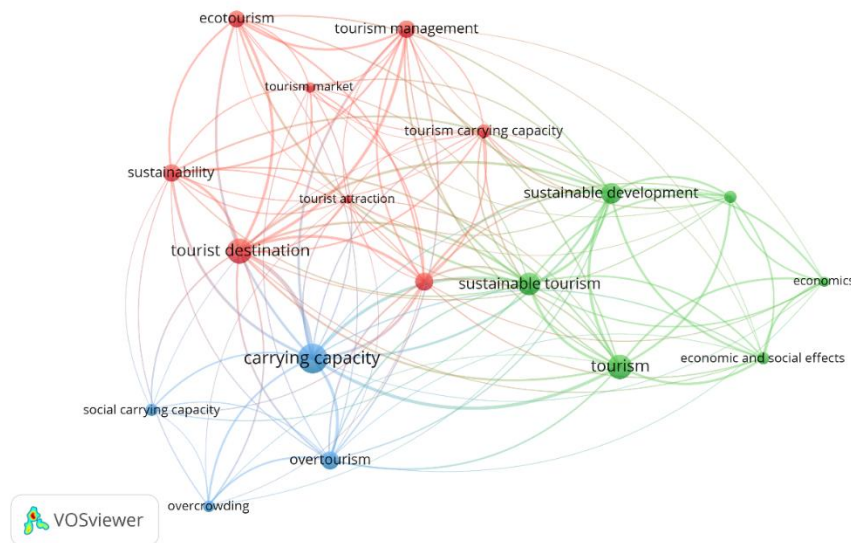


Figure 1. Network Visualization

Source: Data Analysis Result, 2026

As shown in Figure 1 below, the keyword co-occurrence network of studies about social carrying capacity of tourist destinations is illustrated. The network shows how the concepts are connected and related to one another in the major themes of research within the field. The size of each node is the frequency of the occurrence of keywords, and the connecting lines show the relationships between the keywords. There are a number of interconnected clusters, implying that social carrying capacity of tourist destinations is linked with sustainable tourism development and other topics.

The red-colored cluster is the main theme concerning the issues of tourist destination, tourism management, and tourism carrying capacity. Keywords like tourist destination, tourism management, tourism carrying capacity, tourist attractions, and ecotourism point out that earlier studies were concentrated on analyzing the way of managing the growth of tourism in a destination while balancing environment and society. The close relationship between the concepts of tourist destination and carrying capacity shows that scientists pay attention to analyzing the limitations of tourism development in order to avoid its negative impacts.

The blue cluster focuses on the dimension of social carrying capacity and overtourism problems. The keywords such as social carrying capacity, carrying capacity, overtourism, and overcrowding highlight the growing attention of academia in relation to the social impacts of tourism development. This cluster is associated with such concepts as tolerance of residents, the number of visitors, acceptance of communities, and the capacity of societies to receive more and more tourists without deteriorating their quality of life. The close link between social carrying capacity and overtourism proves that the studies are moving towards using the social capacity as a tool of controlling tourism.

The green cluster comprises literature studies related to sustainable tourism and sustainable development views. Such key words as sustainable tourism, sustainable development, tourism, economics, and economic and social impacts prove that social carrying capacity is becoming an important part of discussions about sustainability. Scientists not only seek to limit the growth of tourism but also want to create a balance between economic benefits, ecology, and society. The link between sustainable tourism and economic and social impacts shows that the development of tourism should be taken into account from two sides.

The visual analysis shows the development of studies of the social carrying capacity in relation to tourism constraints and destination management towards more complex and holistic sustainability perspective. The very strong linkage between carrying capacity, social carrying capacity, overtourism and sustainable tourism implies that current studies recognize the importance of managing the social aspects together with

economic and environmental factors for the destination sustainability. Possible future studies can concentrate on the linkage between social carrying capacity and new concepts like destination resilience, smart tourism governance, community engagement, and adaptive tourism management.

3.2 Overlay Visualization

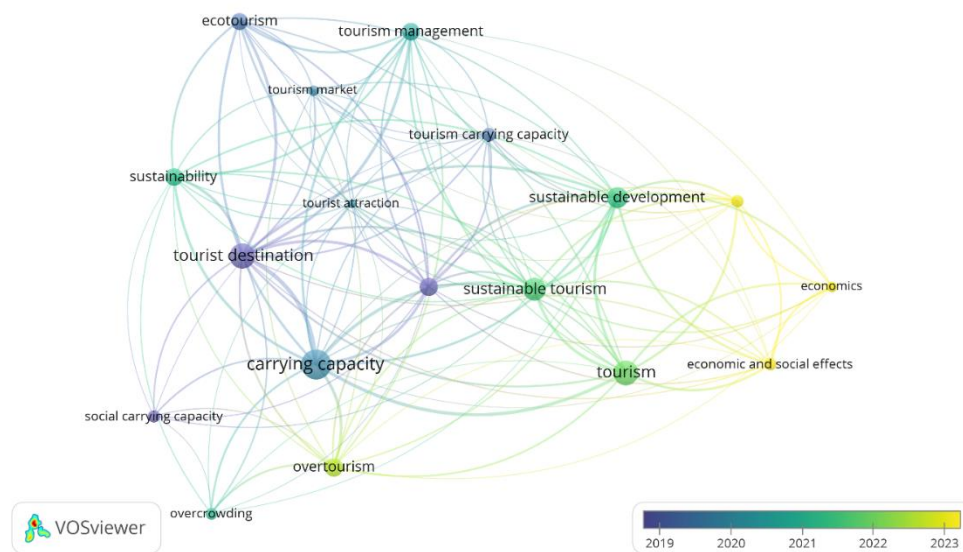


Figure 2. Overlay Visualization

Source: Data Analysis Result, 2026

Figure 2 illustrates the temporal evolution of keyword development in research on social carrying capacity in tourist destinations from 2019 to 2023. The color gradient indicates the average publication year of keywords, where darker blue represents earlier research themes and yellow represents more recent research directions. The visualization shows that early studies were primarily concentrated on fundamental concepts such as tourist destination, carrying capacity, ecotourism, and tourism management, indicating that initial research focused on understanding the limits of tourism growth and destination management strategies.

In the medium period, concepts like sustainable tourism, carrying capacity in tourism, sustainability, and overtourism became key terms used, indicating an era

where there was an attempt to solve the impacts resulting from the uncontrolled growth of tourism. It is clear from the close relationship between carrying capacity, social carrying capacity, and overtourism that scholars have been investigating the impact of overcrowding on communities, community tolerance, and the sustainability of the destination.

The latest research trends, which include yellow-colored keywords, are related to sustainable development, economics, and economic and social consequences. It means that the latest scientific works have broadened the understanding of the concept of social carrying capacity by adding an economic aspect and comparing the benefits and social consequences of tourism. The development shows that the future research will be more comprehensive and will look at the concept of

social carrying capacity from the perspective of sustainable destination management. The future research can also focus on the links

between the community resilience, tourism policy, stakeholders' involvement, and adaptive management strategies.

Table 1. The Most Impactful Literatures

Citations	Authors and year	Title
392	[15]	Establishing the social tourism carrying capacity for the tourist resorts of the east coast of the Republic of Cyprus
162	[9]	Overcrowding, Overtourism and Local Level Disturbance: How Much Can Munich Handle?
147	[16]	Carrying capacity model applied in coastal destinations
125	[17]	Sustainable tourism infrastructure planning: A GIS-supported approach
119	[18]	The attitude of tourist destination residents towards the effects of overtourism-Kraków case study
118	[19]	Advancing community-based tourism approaches for the sustainable development of destinations
118	[20]	Tourism carrying capacity research: a perspective article
88	[7]	Tourism agglomeration and its impact on social welfare: An empirical approach to the Spanish case
84	[21]	The problems of tourist sustainability in cultural cities: Socio-political perceptions and interests management
60	[22]	The decline of tourist destinations: An evolutionary perspective on overtourism

Source: Scopus, 2026

Table 1 shows the most impactful literature in the field of social carrying capacity in tourist destinations in terms of citations. According to the results, the work conducted by [15] was mentioned the most times (392 citations), which proves that the research had a fundamental impact on the definition of the concept of social tourism carrying capacity, especially tolerance limits of tourist resorts and communities. Further researches on the issue enriched the perspective by analyzing such aspects as

tourism pressure, overtourism, and sustainability of tourist destinations. For instance, [9] focused on the effects of overcrowding and overtourism in local contexts, and [16] analyzed carrying capacity models of coastal destinations. Other highly cited papers, namely [20] and [18], also helped to expand the theory by discussing the tourism carrying capacity perspectives and attitudes of tourists towards overtourism. The most recent influential researches include, but are not limited to, [23] and [22].

3.3 Density Visualization

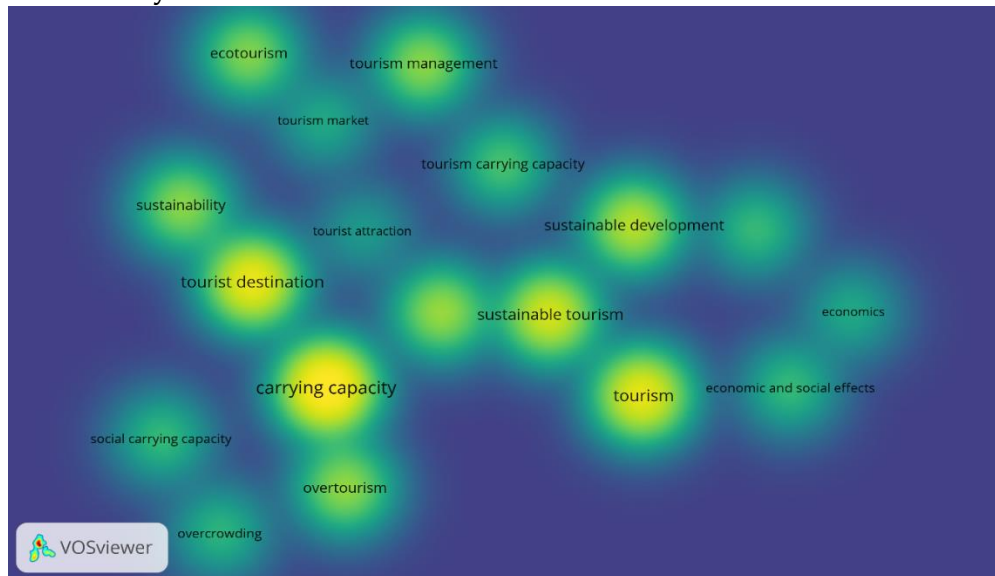


Figure 3. Density Visualization

Source: Data Analysis Result, 2026

Figure 3 illustrates the concentration and prominence of keywords within research on social carrying capacity in tourist destinations. The areas with higher density and brighter colors indicate keywords that appear more frequently and have stronger connections with other research themes. The most prominent areas are centered around “carrying capacity,” “tourism,” “sustainable tourism,” “tourist destination,” and “sustainable development,” indicating that these concepts represent the core knowledge structure of the field. The strong density around carrying capacity reflects its fundamental role as the main theoretical foundation for evaluating the limits of tourism growth and its impacts on destinations, while the connection with

tourist destination highlights the application of carrying capacity concepts in managing tourism development. In addition, the visual shows the growing connections between social carrying capacity research and wider questions of sustainability. The terms “overtourism,” “social carrying capacity,” “overcrowding,” and “economic and social impacts” show up as interrelated but less dense concepts, implying new debates about the social impacts of too much tourism. On the other hand, the terms “sustainable development,” “tourism management,” and “economics” reflect the fact that new research has moved beyond capacity calculation to governance of destinations, integrating economic, social, and environmental concerns.

3.4 Author Visualization

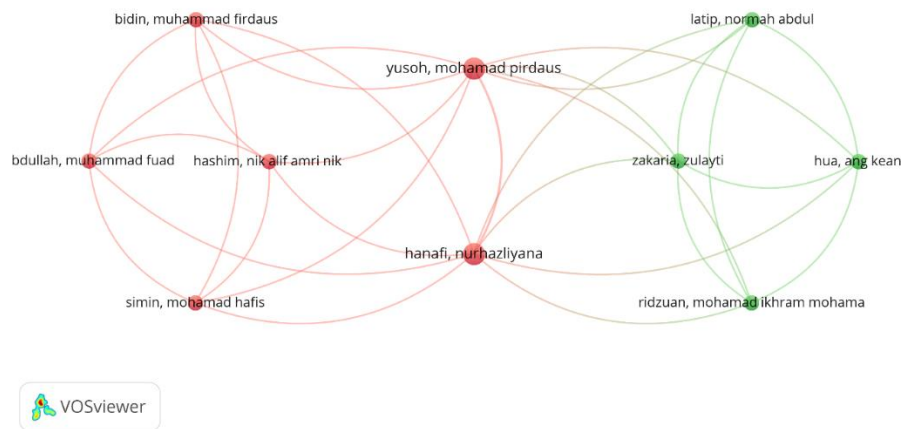


Figure 4. Author Visualization

Source: Data Analysis Result, 2026

The intellectual and collaboration ties of authors within the field are shown in Figure 4. The network is segmented into two primary communities denoted by the red and green communities respectively. The red community includes authors like Mohamad Firdaus Yusoh, Nurhazliyana Hanafi, Nik Alif Amri Nik Hashim, Muhammad Fuad Abdullah, and Mohamad Hafis Simin who have formed a densely interlinked collaboration community as evident from the multiple connections among them. These authors have thus collaborated on research

via academic collaborations forming a key collaboration community within the research field under study. The green cluster comprises researchers like Normah Abdul Latip, Zulyati Zakaria, Ang Kean Hua, and Ridzuan Mohamad Ikhmar Mohamad, forming yet another team of researchers that have good inter-cluster relations. The link between the red and green clusters through researchers like Mohamad Firdaus Yusoh, Nurhazliyana Hanafi, and Zulyati Zakaria implies some form of knowledge transfer between different teams of researchers.

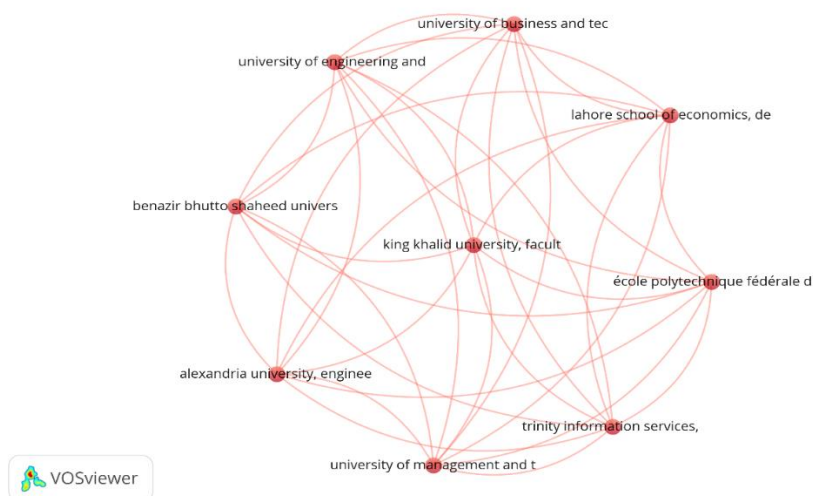


Figure 5. Institution Visualization

Source: Data Analysis Result, 2026

Figure 5 shows the interrelationships between the universities and research institutes involved in the social carrying capacity research in tourist destinations. This graph depicts an interconnected system, which is formed by linking institutions through research cooperation, rather than isolating them from each other. A number of institutions, such as University of Business and Technology, University of Engineering and Technology, King Khalid University, Benazir Bhutto Shaheed University, and Alexandria University are depicted as important nodes with numerous connections, which highlights the influential position of

these institutions in the process of generating and sharing research. In addition to this, the fact that institutions from different geographical locations like Pakistan, Saudi Arabia, France and others also feature in the network makes it clear that studies on tourism carrying capacity have received global interest. The strong connections between institutions like École Polytechnique Fédérale de Lausanne, Lahore School of Economics and University of Management and Technology make it evident that there is international knowledge sharing for tourism sustainability issues.

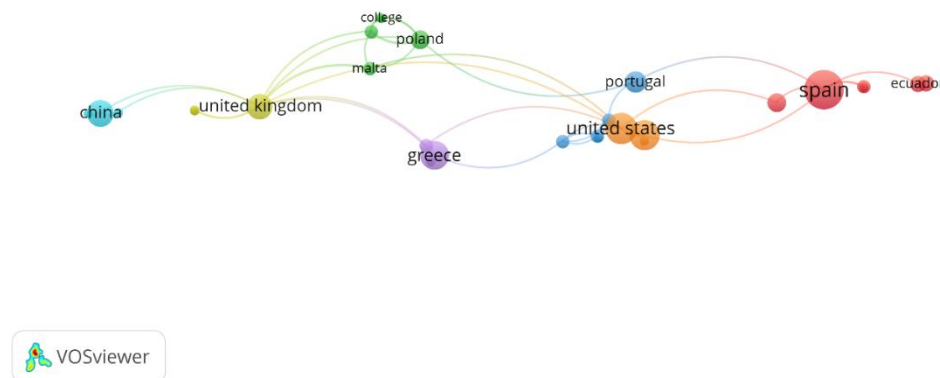


Figure 5. Author Visualization

Source: Data Analysis Result, 2026

Figure 5 shows the network of international cooperation in research in the sphere of social carrying capacity at tourist destinations. The network shows that research processes take place in several countries including Spain, the USA, the United Kingdom, Greece, Portugal, Poland, and China. Among these countries, Spain can be considered as one of the leading nodes in the network, which is an indication of the presence of the high level of research activity in this sphere, especially in terms of sustainability of tourism, destination management, and overtourism. In the

structure of collaboration, it is possible to note several research groups that are connected among themselves. The cooperation network that consists of the majority of European countries prevails. Such countries as Spain, Portugal, Greece, Poland, Malta, and the United Kingdom have good regional connections. This proves the fact that it is very important to pay attention to the European destinations in order to solve problems of tourism pressure and social sustainability.

4. CONCLUSION

The current bibliometric analysis gives a detailed insight into the development of knowledge, trends, and collaboration network structure in the topic of social carrying capacity in tourist destinations. The results clearly show that the research in the area has gradually moved from a starting point where studies were oriented towards analyzing the limits and capacity of the destination, to a more general topic concerning sustainable tourism, overtourism management, community well-being, and resilience. Keyword analysis confirms that carrying capacity, social carrying capacity,

sustainable tourism, tourist destinations, and sustainable development constitute the main keywords forming the research agenda. Key publications, which deal mainly with the topic of tourism pressure, residents' perceptions, and sustainability strategies, have formed a theoretical basis that helps to understand how to manage the development of tourism in destinations through balancing it with social tolerance. Besides, the collaboration analysis shows that the research development is based on international cooperation, where Europe becomes a significant contributor, including Spain, UK, and Portugal, among others.

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