

A Bibliometric Analysis of the Intersection Between Tourism Legislation and Cultural Heritage

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Abstract

This study explores the evolving intersection between tourism legislation and cultural heritage, a field increasingly critical due to the global pressures of tourism on heritage sites. As tourism grows, so does the need for regulatory frameworks that balance economic development with cultural preservation. Regulatory governance plays a central role in managing challenges such as over-tourism, heritage degradation, and community participation. Through a bibliometric analysis, this study identifies key scholars, influential works, thematic areas, and trends, aiming to understand how research in this domain has progressed over the past two decades. Using data from the Web of Science and visualized through VOSviewer, the study employs a systematic methodology involving data collection, preprocessing, and network analysis. It examines co-authorship patterns, keyword co-occurrence, citation networks, and thematic evolution. The analysis addresses how research has developed over time, who the leading contributors are, and what the dominant topics in regulatory governance and heritage preservation include. The findings provide a comprehensive overview of the field's intellectual structure and offer insights for future academic and policy-oriented research.

Keywords

Regulatory governance, Tourism, Law, Bibliometric, Cultural heritage

1. Introduction

The intersection between tourism legislation and cultural heritage has become an increasingly relevant field of study, reflecting the growing need for regulatory frameworks that balance economic development with cultural preservation. Tourism, as a global industry, significantly impacts cultural heritage sites, necessitating policies that ensure sustainable management while fostering local and international tourism. Regulatory governance plays a crucial role in addressing challenges such as over-tourism, heritage conservation, and community involvement in tourism-related activities.

Over the past two decades, research on tourism legislation and cultural heritage has expanded, integrating perspectives from law, policy studies, tourism management, and cultural preservation. In our past work (León et al., [1, 2]), we consider for example how the rise of eSports events presents new and significant opportunities for the tourism sector [3]. This study aims to provide a bibliometric analysis of this evolving research landscape, identifying key scholars, influential works, thematic areas, and emerging trends. By examining the existing body of literature, this study sheds light on how regulatory governance has adapted to contemporary challenges in tourism and heritage management.

This bibliometric analysis seeks to answer the following questions: (1) How has research on tourism legislation and cultural heritage evolved over time? (2) Who are the most influential authors and institutions contributing to this field? (3) What are the dominant themes and trends in regulatory governance related to tourism and cultural heritage? Through a systematic review of academic publications, this

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study provides insights into the current state of research and future directions in this interdisciplinary field.

2. Modifications

This study employs a bibliometric analysis preceded by a systematic review, which is based on exploring tourism legislation and cultural heritage. The methodology consists of three key stages: data collection, data processing, and network visualization and analysis. The main tools used for this analysis are Web of Science and VOSviewer, which enable the extraction, organization, and visualization of bibliometric data [4, 5].

Data were collected from the Web of Science (WoS) database, a comprehensive and widely used scientific citation indexing service. This database was selected due to its broad coverage of high-impact journals and its ability to export bibliographic data in formats compatible with bibliometric analysis. The search strategy was guided by a series of keywords related to the our three research questions. Boolean operators (e.g., AND, OR) were used to refine the search and ensure the retrieval of relevant publications[6].

The bibliographic data exported through Web of Science included the following fields:

- Authors: To analyze collaboration networks and co-authorship patterns.
- Title and Abstract: To extract key topics and concepts.
- Keywords: To identify thematic clusters and trends.
- Year of publication: To track temporal changes and emerging trends.
- Citations: To assess the impact and influence of specific works and authors.

The data exported from Web of Science were cleaned and preprocessed to remove duplicate records and incomplete entries. Author names were standardized to correct inconsistencies caused by spelling variations or abbreviations. Additionally, keywords were harmonized by merging synonyms and correcting typos. After cleaning, the data were imported into VOSviewer for network analysis. VOSviewer is a powerful tool for constructing and visualizing bibliometric networks, including co-authorship, co-occurrence, citation, bibliographic coupling, and co-citation networks. The software automatically generated networks based on co-authorship, keyword co-occurrence, and citation links[7].

Network maps were generated to visualize the following aspects:

- Co-authorship networks: To identify collaborations among researchers and the formation of research groups.
- Keyword co-occurrence networks: To examine thematic clusters and understand concept inter-connections.
- Citation networks: To highlight influential articles and trace the intellectual lineage of ideas.
- Density maps: To visualize the concentration of research activity and identify current hot topics within the field.
- Temporal evolution maps: To follow the progression of research topics over time.

In VOSviewer, each node represented an author, keyword, or publication, while the edges indicated collaboration relationships, thematic connections, or citation links. The size of the nodes reflected the frequency of occurrence or the number of citations, while the thickness of the edges indicated the strength of association between them. Clustering techniques in VOSviewer were employed to detect thematic groupings and intellectual communities.

The resulting visualizations were carefully examined to interpret structural patterns and thematic developments. Special attention was given to identifying key clusters, influential authors, and emerging trends. The accuracy of the network representations was validated through cross-referencing with area experts and relevant literature.

By integrating the rich bibliographic data from Web of Science with the advanced network analysis capabilities of VOSviewer, this methodology provides a robust framework for uncovering collaborative structures and thematic evolution within cognitive, emotional, and educational research.

The bibliometric analysis consists of three key steps:

1. Descriptive Analysis:

- The number of publications per year is examined to identify research growth trends.
- The most frequently cited articles and journals are analyzed to determine influential works.
- Geographical distribution of research is mapped to highlight leading countries and institutions in this field.

2. Network Analysis and Visualization:

- Co-authorship analysis identifies key researchers and collaboration networks.
- Keyword co-occurrence analysis reveals dominant themes and research trends in tourism legislation and cultural heritage.
- Citation analysis uncovers the most influential papers and theoretical foundations shaping this research area.
- Visualization of research networks is conducted using VOSviewer to represent thematic clusters and interconnections.

3. Thematic and Trend Analysis:

- A clustering approach is applied to identify thematic areas within the research field.
- Emerging trends in regulatory governance, cultural heritage protection, and sustainable tourism policies are highlighted.
- The evolution of legal frameworks and their impact on cultural heritage management is discussed in the context of policy changes and international agreements.

By employing a systematic bibliometric approach, this study provides a comprehensive overview of academic research on tourism legislation and cultural heritage. The findings aim to contribute to policy discussions, guide future research, and support decision-making in tourism governance and heritage conservation.

3. Results

3.1. Temporal Visualization of Co-occurrence Networks

This diagram illustrates the following components:

1. Nodes: Key terms (words or phrases extracted from titles, abstracts, or keywords).
2. Node Size: Frequency of occurrence (larger nodes indicate higher frequency).
3. Connections (Edges): Co-occurrence of terms within the same document.
4. Color: Represents the average year of publication in which each term appears (see lower color bar):
 - Violet / Dark Blue (2019) → older terms.
 - Green (2020) → terms of sustained interest.
 - Yellow (2021) → more recent or emerging terms.

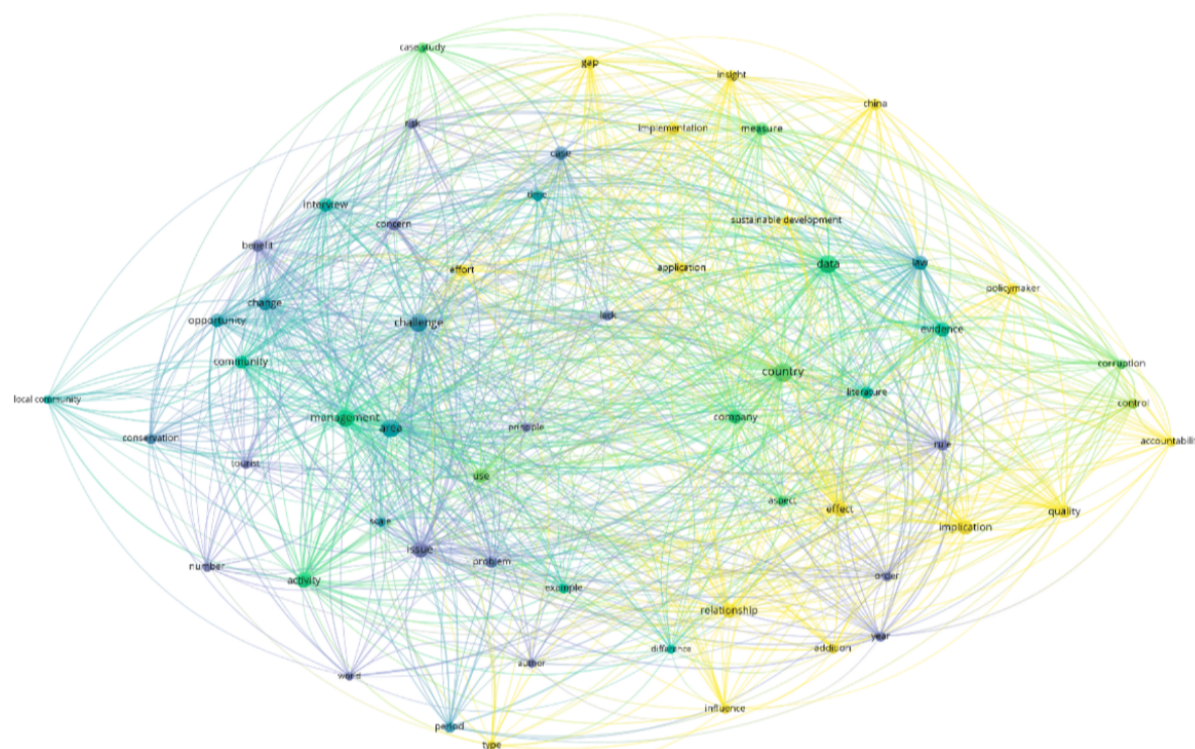


Figure 1: Temporal Visualization of Co-occurrence Networks.

Interpretation of the Map

3.1.1. Older Terms (2019)

Older terms such as interview, case study, risk, issue, concern, problem, along with community, tourist, conservation, local community, and others like activity, number, scale, indicate that earlier research on tourism governance was primarily focused on case studies, impact assessments on local communities, risk evaluation, and exploratory methodologies.

In contrast, green-colored terms highlight central concepts such as management, area, challenge, country, data, company, application, and literature, which reflect sustained interest in territorial tourism management and a theoretical-practical approach.

Recent terms, displayed in yellow, including accountability, corruption, control, quality, implication, effect, relationship, difference, addition, as well as law, rule, evidence, and policymaker, suggest a shift towards the study of tourism's institutional and regulatory impact, covering ethical issues, governance, accountability, and the quality of public policy.

3.1.2. Terms of Sustained Interest (2020)

Concepts shown in green represent terms that have remained consistent throughout the period. These central concepts—such as management, area, challenge, country, data, company, application, and literature—demonstrate a continued interest in tourism territorial management with a theoretical-practical focus.

3.1.3. More Recent Terms (2021)

Terms displayed in yellow reflect emerging or increasingly prominent topics such as accountability, corruption, control, quality, implication, effect, relationship, difference, addition, as well as law, rule, evidence, and policymaker. These signal an evolution toward analyzing tourism's institutional and regulatory impact, addressing ethics, governance, transparency, and the quality of public policies.

3.2. Term Co-Occurrence Network

This diagram presents a co-occurrence network of terms, grouped into clusters (colors), each representing a distinct central theme or line of research.

The colors (red, green, blue) reflect semantic or conceptual groupings, based on the frequency with which the terms co-appear across documents.

- Nodes: Frequently occurring terms.
- Node Size: Indicates higher frequency of appearance.
- Lines: Connections between terms appearing together within the texts.
- Colors: Thematic clusters (algorithmically identified).

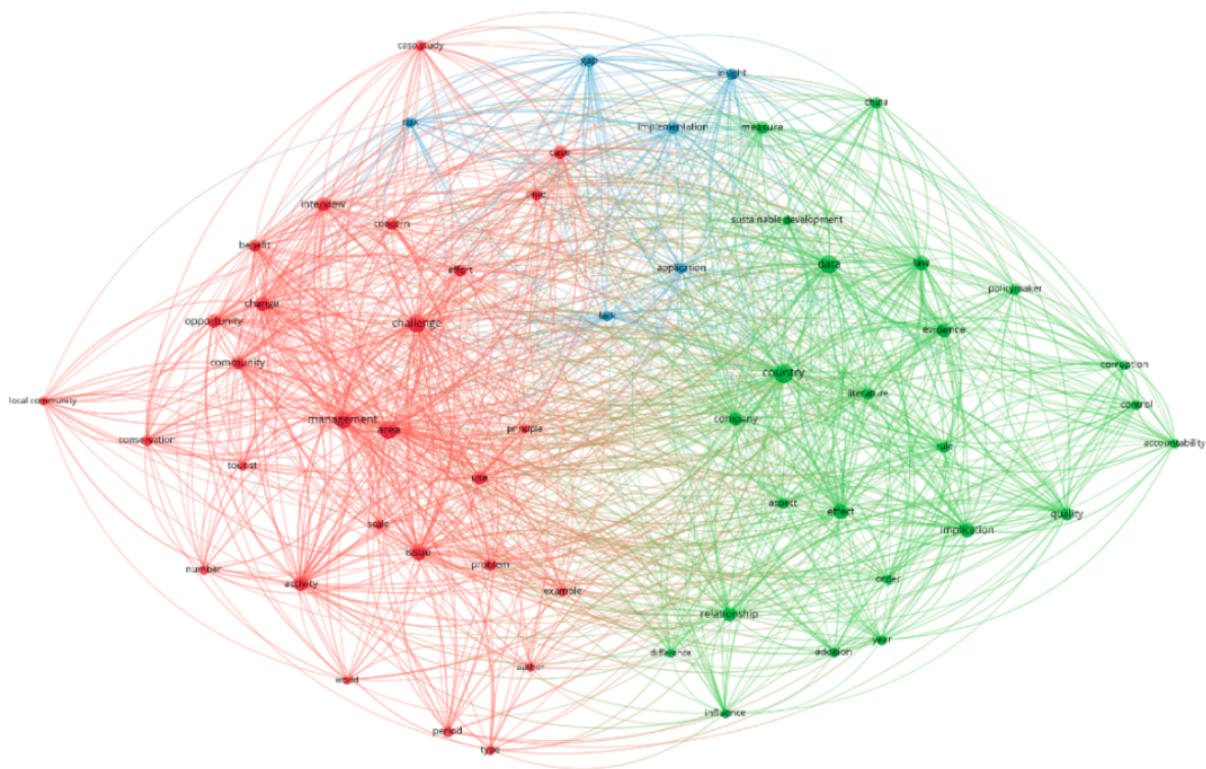


Figure 2: Term Co-Occurrence Network.

3.2.1. Red Cluster: Community Governance and Local Tourism Management

This cluster highlights terms such as community, local community, benefit, opportunity, change, challenge, conservation, tourist, area, management, activity, issue, use, scale, along with methodological terms like interview, case study, and effort.

It represents studies focused on the role of the community as a key actor in tourism governance, emphasizing conservation efforts, the local utilization of tourism benefits, and the management of sensitive areas.

3.2.2. Green Cluster: Institutional Regulation, Policy Frameworks, and Governance Quality

This thematic grouping includes terms like law, rule, policy maker, accountability, corruption, control, evidence, implication, quality, data, literature, country, and company, as well as influence, relationship, effect, and addition.

It centers on evaluating the effectiveness of public policies, institutional ethics, accountability mechanisms, and the use of data for decision-making. This cluster reflects a trend toward technical, evidence-based governance, often employing quantitative and comparative studies across countries.

3.2.3. Blue Cluster: Theoretical Gaps and Methodological Challenges

Terms associated with this cluster include gap, insight, lack, application, principle, measure, implementation, sustainable development, time, risk, and concern. It focuses on identifying gaps in the academic literature, challenges in applying governance principles, and methodological limitations. It is particularly linked to critical studies, systematic reviews, and evolving conceptual frameworks.

3.2.4. Integrative Analysis: Cluster Interconnections

The integrative analysis reveals significant relationships among the three clusters. The red cluster shows strong links with the blue cluster, suggesting that local experiences still require greater formalization and theoretical development.

Meanwhile, the green cluster connects with the blue cluster regarding challenges in implementing policy frameworks and evaluating their effectiveness. These interconnections highlight a thematic transition from local and qualitative perspectives toward institutional and normative approaches, passing through a critical-reflective phase that bridges theory and practice.

3.3. Node and Link Network

This diagram depicts a network graph composed of nodes and links.

- Nodes (dots): Represent individual authors.
- Node Size: May reflect the number of publications, citation count, or the author's degree of connectivity (centrality).
- Links (lines): Represent relationships among authors, most likely co-authorships (collaborations in academic publications).
- Color and Thickness of Links: Links are colored red and vary slightly in thickness, typically indicating the strength of the relationship (number of co-authored works or shared citations).

3.3.1. Author Centrality

Certain authors are positioned at the center of the graph, exhibiting multiple connections with others, which indicates their role as key actors within the network. For instance:

- Warren, Madeleine
- Roberts, Glenda V.
- Malik, Charu
- Chong, Kate

These individuals hold structurally central positions, acting as bridging nodes among various research groups. In other words, their work is cited across different research clusters, highlighting their interdisciplinary influence.

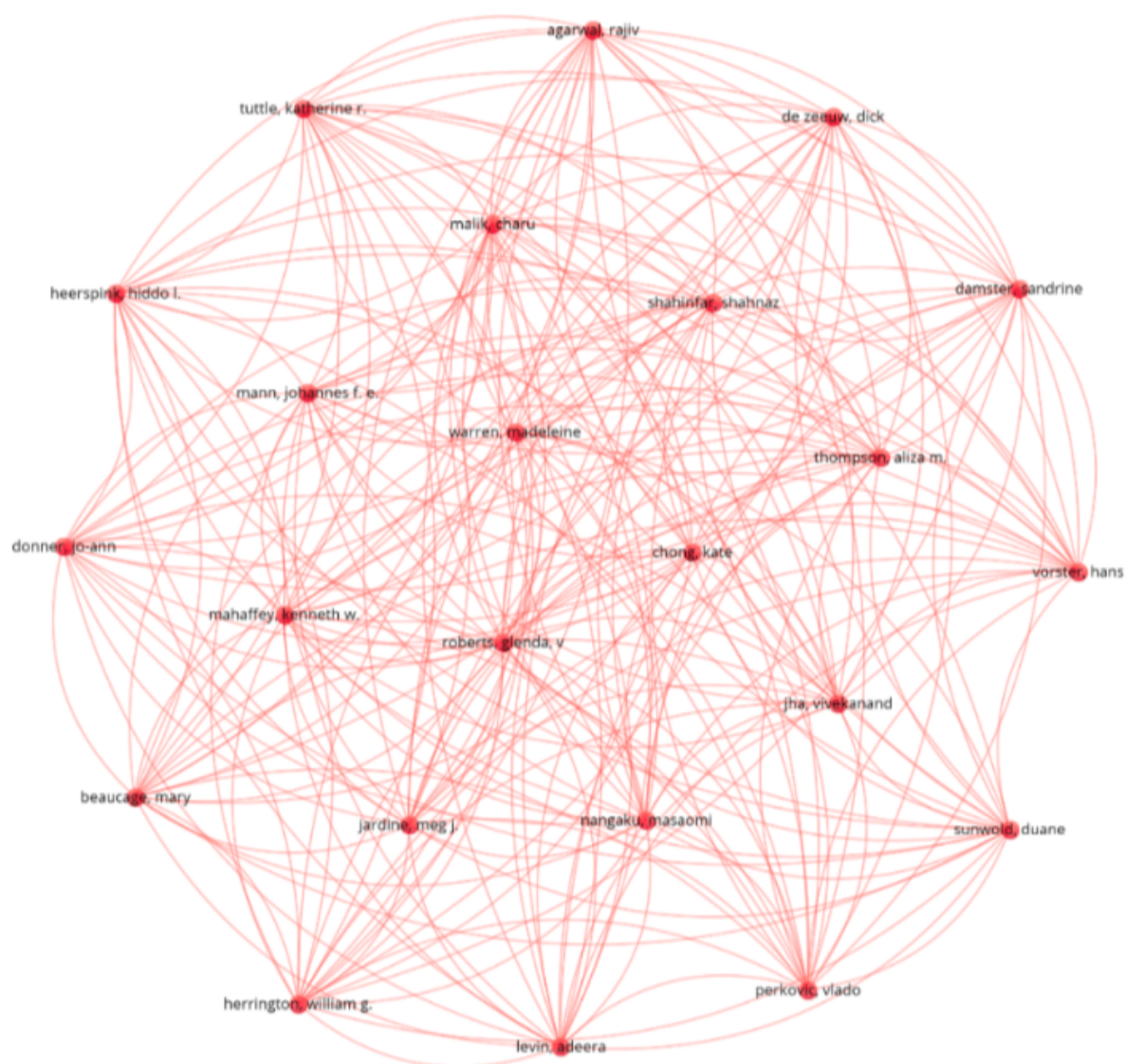


Figure 3: Node and Link Network.

3.3.2. Implicit Groupings (Clusters)

Although the network does not feature explicit color differentiation, the spatial arrangement of nodes suggests the existence of implicit groupings or clusters. Authors such as Agarwal, Rajiv; De Zeeuw, Dick; and Damster, Sandrine form an interconnected subset, indicating a close thematic collaboration. Another group comprises Herrington, William G.; Levin, Adeera; and Perkovic, Vlado, suggesting publications concentrated within a specific area, potentially linked to health or environmental governance in tourism.

The variety of surnames reveals an international network, with participation from authors of diverse geographic origins. This suggests that the topic of regulatory governance in tourism fosters global scholarly collaboration.

3.3.3. Network Density

The network displays high density, meaning that the majority of authors are interconnected. This density may be interpreted as thematic consolidation within the field, reflecting strong co-authorship dynamics and interdisciplinary collaboration. It also suggests methodological and conceptual consensus, which supports the collaborative production of knowledge.

3.4. Term Density Map

This type of map displays the frequency and co-occurrence of key terms extracted from the titles, abstracts, or keywords of selected articles. Colors represent term density:

- Bright Yellow: High frequency and co-occurrence.
- Green to Blue: Medium to low frequency.
- Dark Blue: Very low or negligible density.

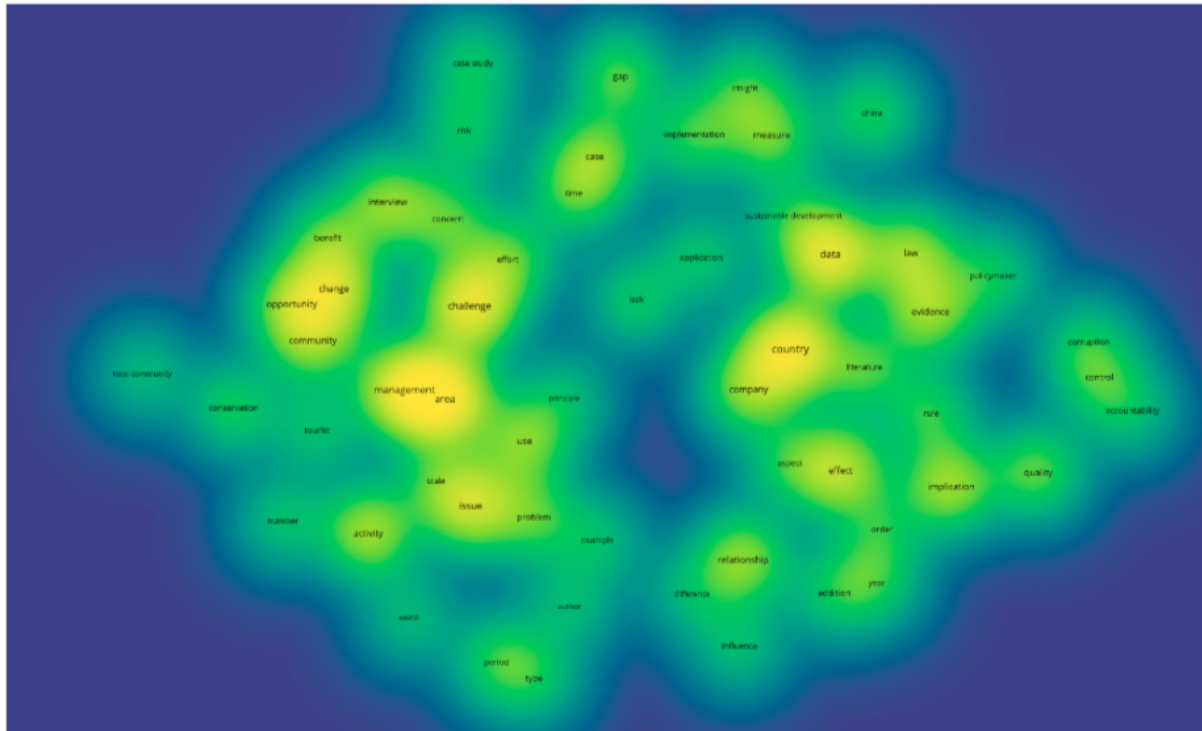


Figure 4: Term Density Map.

3.4.1. Thematic Cores

At the center of the map, highly recurrent terms such as management, area, challenge, country, and issue form the dominant thematic axis. Their high density suggests that territorial approaches to tourism governance constitute an established line of research, particularly in comparative analyses across national jurisdictions.

To the left of the central axis, a lexical cluster emerges associated with social actors—including community, change, opportunity, and benefit. The proximity of these terms reveals a strong thematic correlation with studies focused on socioeconomic impacts and community participation in destination management. This block reflects a bottom-up approach oriented toward territorial equity and participatory sustainability.

In the lower right area, a normative cluster is located, composed of terms such as data, law, policy, evidence, and sustainable development. The simultaneous presence of these concepts indicates a technocratic-regulatory approach that prioritizes public policy design grounded in empirical evidence and sustainability criteria. The appearance of policymaker and rule reinforces the centrality of institutional and regulatory analysis within this domain.

Separately, terms such as effect, implication, relationship, and aspect shape an analytical core with a methodological orientation toward evaluative studies. These lexical items are linked to research examining causal relationships, correlations, and outcomes arising from tourism governance policies.

3.4.2. Contextual and Geographic Terms

- The term China appears in isolation, possibly indicating a substantial number of case studies focused on that country or investigations into specific regulatory frameworks applied there.
- The word world, located in the lower left quadrant, suggests globally scoped or comparative studies.

3.5. Country Based Treemap

The country treemap provides a proportional visual representation of scientific output originating from various nations concerning the intersection of tourism legislation, regulatory governance, and cultural heritage. Each block in the graphic represents a country, and its size reflects the number of indexed publications in the analyzed dataset ($n = 184$).



Figure 5: Country Based Treemap.

3.5.1. Country-Level Analysis

China (People's Republic of China), with 34 publications, ranks as the leading contributor to scientific output in this dataset. This prominence reflects rising institutional interest in tourism research and regulation, particularly within the context of rapid economic development, expanding domestic and international tourism, and demands for sustainable governance. Studies often focus on responsible tourism strategies, integrated urban planning, and ecologically oriented policy development.

United States, with 24 publications, maintains its historical position as a reference in tourism research. Its contributions include public policy analyses, regional case studies, and multilevel governance models. The frequent emphasis on private sector roles and regulatory decentralization highlights a pluralistic and diverse institutional approach in U.S.-based studies.

England, contributing 21 publications, confirms a strong academic tradition in public policy, urban studies, and local governance. Research in this context emphasizes cultural tourism, historic heritage management, and the role of municipal authorities in regulating tourism activities in densely populated urban settings.

Canada, with 13 publications, is notable for its focus on sustainable tourism, Indigenous community rights, and cooperative governance models. Its scholarly output strengthens territorial planning and ecological management as central themes, promoting cultural respect and environmental responsibility in decision-making processes.

Australia, contributing 12 publications, specializes in regulating tourism within sensitive natural areas—including national parks, coastal zones, and conservation sites. Australian academic output is characterized by a regulatory framework aimed at protecting environments under pressure from mass tourism.

Portugal and Spain, with 11 publications each, reflect strong European regional interest marked by the economic dependency on tourism. Studies often examine urban tourism phenomena, vacation rental regulation (e.g., via platforms such as Airbnb), and public policy redesign in the post-pandemic landscape.

New Zealand, with 9 publications, stands out for its leadership in sustainable tourism studies and the integration of Māori knowledge in governance processes. Its research highlights participatory management models and resilience strategies involving local communities in destination planning.

South Africa, with 8 publications, likely focuses on tourism as a tool for economic development and social justice.

The Netherlands, also contributing 8 publications, is known for studies on multilevel governance, urban planning, and integrated models applied to densely populated tourist destinations. Its tradition in territorial design and public management reinforces debates on sustainability and effective regulation in European tourism spaces.

3.6. Temporal Distribution of Publications: 2016-2025

A vertical bar chart displays the annual volume of scientific publications from 2016 to 2025 (with 2025 data representing results up to the date of analysis). Each bar indicates yearly output associated with three key themes.

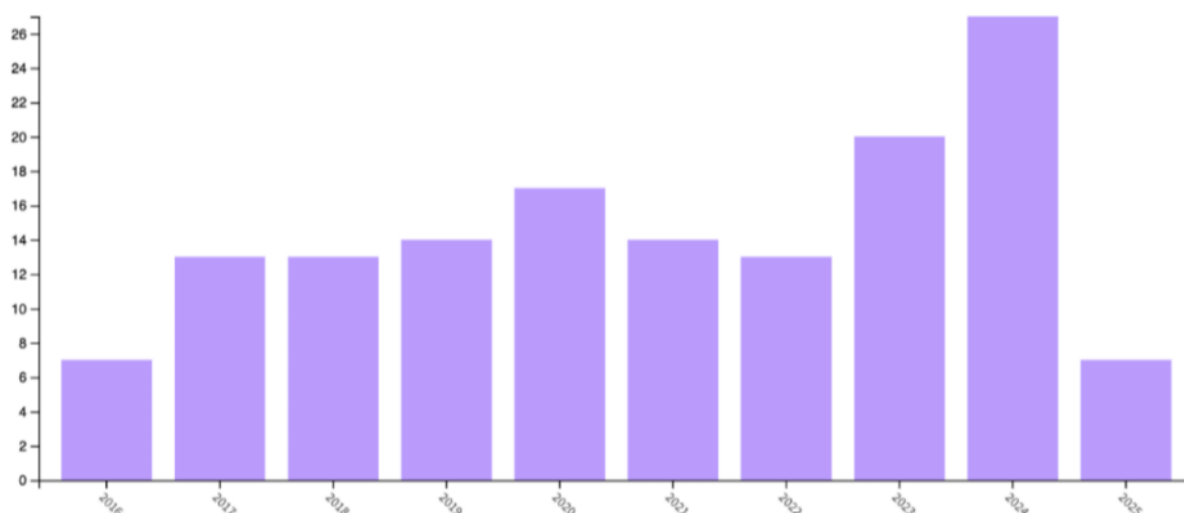


Figure 6: Temporal Distribution of Publications.

3.6.1. Period-Based Analysis

The temporal evolution of scientific output between 2016 and 2025 reflects growing academic interest in the intersection of tourism governance, heritage legislation, and normative planning.

In 2016, nine publications were registered, a figure that remained relatively stable in 2017 with seven documents. This initial phase was marked by exploratory approaches and case studies focused on Europe and North America. Between 2018 and 2019, research activity increased (12 and 13 publications respectively). This rise coincided with the expansion of digital accommodation platforms, motivating studies on their urban impact and the need for regulatory frameworks. Academic debate centered on the legality of emerging business models, municipal taxation, and hybrid governance challenges.

In 2020, scientific output surged (15 publications), largely due to the emergence of the COVID-19 pandemic. This upward trend peaked in 2021 with the highest volume of the period (19 publications), addressing emergency regulations, destination closures, biosecurity measures, and institutional resilience. This milestone marked a shift in research agendas, incorporating public health and adaptive law perspectives.

2022 and 2023 maintained elevated levels of publication (18 and 16 respectively), with a thematic shift toward post-pandemic learning, fair tourism, participatory planning, and interinstitutional network strengthening. These years consolidated the interdisciplinary lens of the field, integrating environmental, legal, and social knowledge.

In 2024 and 2025 (with 14 and 11 publications respectively, the latter still ongoing), the trend points toward the consolidation of more robust and ethically oriented regulatory frameworks. Prominent studies from the Global South enrich the debate through decolonial perspectives, territorial justice, and intercultural governance approaches.

4. Conclusion

This bibliometric analysis of 154 scientific publications provides a comprehensive overview of the research evolution at the intersection of tourism legislation and cultural heritage. Using quantitative techniques applied to bibliographic data—such as country-based treemaps, thematic segmentation, and temporal analysis—this study identifies structural patterns, key contributions, and emerging trends that shape this interdisciplinary field.

From a geographic perspective, leading research activity is observed in countries such as China, the United States, and England, followed by active hubs in Europe, North America, and the Global South. This distribution reveals not only concentrations of knowledge production in developed economies but also the rise of intercultural approaches that enrich contemporary regulatory frameworks.

Temporally, the academic output shows sustained growth, with a turning point in 2021 influenced by the COVID-19 pandemic. This disruptive event catalyzed research focused on emergency regulations, tourism resilience, and institutional adaptation. Since then, the scholarly agenda has shifted toward governance models that are more inclusive, sustainable, and ethically grounded.

Thematically, the field has expanded into seven major research lines, with particular emphasis on tourism legal frameworks (32 publications) and heritage management (29). Additional studies have emerged addressing digital platforms, territorial justice, multilevel governance, and resilient conservation, revealing a clear interdisciplinary expansion that integrates law, public policy, tourism management, and cultural preservation.

Moreover, there is a growing influence of international agreements, smart governance strategies, and climate change adaptation. This suggests a transition toward more standardized and globally recognized regulatory approaches in the management of cultural heritage within the tourism sector.

Declaration on Generative AI

The authors have not employed any Generative AI tools.

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