



# Macro-integrated Dynamics and the Logic of Sustainable Development of Rural Tourism: a Systematic Bibliometric Analysis (2000-2023)

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**Abstract.** In order to understand the macro trend and sustainable development of rural tourism, we conducted quantitative analysis and visualization of literature in the WoS database from 2000 to 2023 using Vosviewer and Citespace software. By mapping high-frequency keyword relationships networks, outbreak words, and literature co-citation mapping, our findings revealed several important insights: 1) The field of rural tourism has seen the emergence of renowned scholars. 2) The research hotspots in rural tourism include behavioral characteristics, rural tourism management, sustainable development, etc. 3) Over time, there has been a migration of research hotspots in rural tourism. 4) The research on the basic concepts of rural tourism has established the knowledge base of the field and facilitated the initiation and development of rural tourism.

**Keywords:** rural tourism, sustainable development, bibliometrics, visual analysis

## 1 Introduction

Rural tourism has garnered increasing attention globally, as it not only brings economic income and employment opportunities to rural areas but also contributes to the preservation and development of rural society and culture, ultimately improving the quality of life for farmers. The development of rural tourism includes environmental damage, resource wastage, and cultural conflicts, among others.

Firstly, it is essential to explore the concept of sustainable development in relation to rural tourism.

Secondly, employing bibliometric methods allows for a comprehensive evaluation and analysis of the current research landscape in rural tourism. By identifying gaps and deficiencies in existing research, we can provide valuable references and insights for further studies.

The findings of this research not only have academic value by providing references and insights for researchers, but they also offer practical suggestions and decision support for practitioners and policymakers.

## 2 Research Method and Materials

### 2.1 Research Methods

By utilizing modern computer technology, the results of bibliometric analysis can be visually presented as knowledge maps, thereby enhancing clarity and ease of understanding [1]. Scholars specializing in bibliometrics have emphasized that the visualization of co-citation analysis plays a vital role in interpreting data, rendering results more comprehensive and uncovering intrinsic connections among information [2]. Unlike the traditional manual coding approach that relies on content analysis, bibliometric analysis possesses distinct characteristics. It is particularly well-suited for handling large-scale datasets, overcoming limitations faced by manual techniques due to expanding bibliographic data [3], especially in the context of the growing trend of "big data" [4]. Furthermore, bibliometric analysis is characterized by its objectivity and reliability, primarily relying on quantitative techniques, whereas research protocols for content analysis often depend on predefined conceptual categories [3].

In this study, we primarily utilize two bibliometric tools, namely CiteSpace and VOS viewer, for constructing and visualizing knowledge graphs. CiteSpace, metaphorically referred to as "citation space". By utilizing these features, we can observe the evolution of research focus and hotspots within the field [5]. On the other hand, VOSviewer facilitates the visualization of research literature by generating various bibliometric maps that provide an overview of publication structures. Specifically, the application of bibliometric knowledge mapping allows for the identification of specific research areas, summarization of the field's topology, themes, topics, and terminology, as well as understanding the relationships between them. Currently, VOSviewer, a widely used visualization method based on the similarity of literature elements, adopts a unified approach to mapping and clustering. It employs a normalized term co-occurrence metric matrix and similarity metrics to compute the strength of correlation between terms [6]. This enables the organization of closely related terms into clusters, which are then differentiated by unique colors.

### 2.2 Research Materials

In order to obtain reliable and authoritative information, this study selected leading tourism journals as the sampling frame. Specifically, articles relevant to the bibliometric analysis were collected from high impact factor hospitality and tourism journals ranked by the Social Sciences Citation Index (SSCI) in 2014. A total of nine hospitality and tourism journals with significant impact factors were chosen for inclusion. Among these, five journals focused primarily on tourism research, while the remaining four emphasized hospitality-related research.

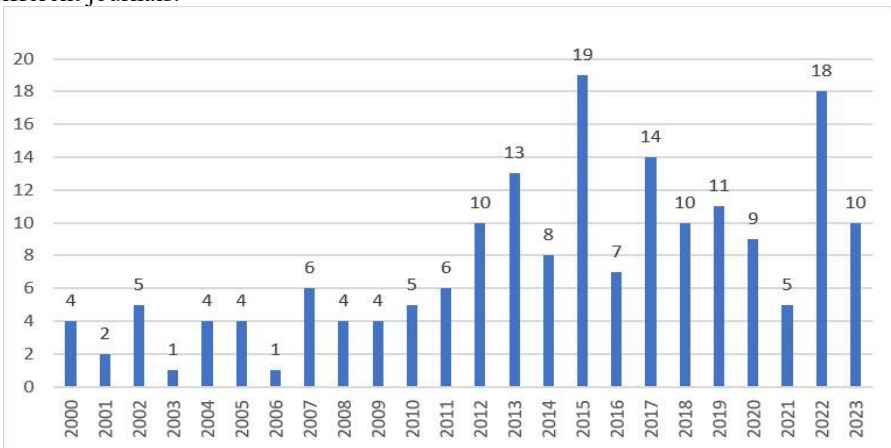
The five prominent tourism journals selected for this study were *Annals of Tourism Research* (ATR), *Journal of Sustainable Tourism* (JST), *Tourism Management* (TM), *Journal of Travel Research* (JTR), and *International Journal of Tourism Research* (IJTR). Similarly, the four distinguished hospitality journals included *International Journal of Hospitality Management* (IJHM), *Cornell Hospitality Quarterly* (CHQ), *International Journal of Contemporary Hospitality Management* (IJCHM), and *Journal of Hospitality and Tourism Research* (JHTR).

The search strategy employed in this study used the term TS = (rural tourism), and the literature search encompassed the time period from January 2000 to December 2023. The search concluded on December 31, 2023, limiting the type of literature to articles. This comprehensive approach yielded a total of 180 journal articles as the results of the search, as shown in Table 1.

**Table 1.** Summary of data source and selection

Category	Specific Standard Requirements
Research database	Web of Science core collection
Citation indexes	SSCI & SCI-Expanded
Searching period	January 2000 to December 2023
Language	"English"
Searching strategy	TS = ("rural tourism")
Document types	"Articles"
Sample size	180 (after screening)

The study comprised a dataset of 180 papers, authored by 388 individuals affiliated with 221 distinct institutions across 34 countries. These papers were sourced from 9 reputable journals and encompassed a total of 12,604 citations originating from 6,964 different journals.



**Fig. 1.** The distribution of publications spanned the period from 2000 to 2023

According to Figure 1, the temporal distribution of papers pertaining to rural tourism research is depicted. Notably, a substantial surge in publications has been observed

since 2011. Of particular interest, the years 2015 and 2022 witnessed the highest volume of publications, with 19 and 18 papers respectively. These findings signify a growing scholarly focus on rural tourism and the emergence of new research areas within this field.

### 3 Performance Analysis

#### 3.1 Bibliometric Analysis of the Author

Price (1963), a renowned academic, posits that typically, a select group of highly productive authors accounts for half of the total number of publications in a given subject area. Consequently, it becomes evident that a minority of scholars significantly influence the advancement of the field of study.

$$\sum_{m+1}^I n(x) = \sqrt{N} \tag{1}$$

As per Price's Law, we can utilize the formula  $I=n_{\max}$  (derived statistically from VOSviewer, where  $n_{\max} = 6$  publications) to ascertain the minimum number of publications required for core authors in the field, denoted as "m".By performing the calculation, we obtain  $m = 0.749 \times \sqrt{n_{\max}} \approx 1.83$ . Consequently, we can conclude that the realm of rural tourism research has established a relatively stable cohort of authors collaborating in their work. The results are presented in Table 2.

**Table 2.** Most important authors in the rural tourism research field

Rank	Author	Documents	Citations	Average Citation/Publication
1	Park, D.	6	647	107.83
2	Frias jamilena, D.	6	195	32.5
3	Polo pena, A.	6	195	32.5
4	Hernandez-maestro, R.	5	254	50.8
5	Rodriguez molina, M.	5	163	32.6
6	Wu, M.	5	35	7

Among the authors with remarkable productivity, Park, Frias Jamilena, and Polo Peña stand out as the three most published individuals, collectively contributing six papers from 2000 to December 2023.

#### 3.2 Bibliometric Analysis of the Journal

Statistical analysis of journals in the field of rural tourism demonstrates that publications in this domain have primarily been concentrated in journals specializing in tourism and hospitality, with only a limited presence in general interest publications. An examination of the citations garnered by these journals, as depicted in Table 3, reveals that International Journal of Hospitality Management, an eminent journal in tourism management, exhibits the highest average number of citations at approximately 111. A

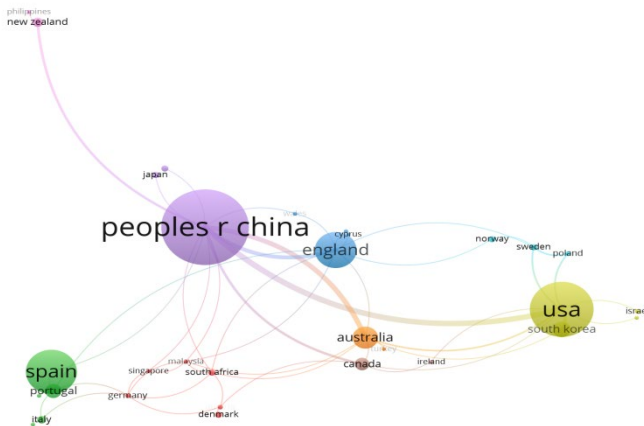
more profound scrutiny of the literature encompassed by this journal illustrates a predominant inclusion of empirical research papers focusing on the utilization of tourism technology for data collection and the methodologies employed for technical analysis.

**Table 3.** Top 9 journals in the rural tourism research field

Rank	Source	Publications	Citations	Average Citation/Publication	Citation
1	<i>TM</i>	55	5823	105.87	
2	<i>JST</i>	54	1770	32.78	
3	<i>ATR</i>	23	1981	86.13	
4	<i>IJTR</i>	16	526	32.88	
5	<i>JTR</i>	14	299	21.36	
6	<i>JHTR</i>	8	125	15.63	
7	<i>IJHM</i>	7	780	111.43	
8	<i>IJCHM</i>	2	35	17.5	
9	<i>CHQ</i>	1	39	39	

### 3.3 Bibliometric Analysis of the Country

Utilizing the VOSviewer software, countries with multiple publications were visually represented. Figure 2 reveals a highly uneven distribution of issuing countries in the field, characterized by a prominent concentration effect. A majority of the research papers stem from a select few countries, underscoring their significant contributions in this area.



**Fig. 2.** Co-occurrence of countries

According to Table 4, the findings reveal that Chinese scholars have made the most significant contributions, with a total of 50 research papers, representing 28% of the overall publications in this domain. Following China, the United States emerged as the second leading contributor, publishing a total of 35 papers that garnered 1,509 citations.



**Table 5.** High-frequency keywords in rural tourism research

Rank	Keywords	Fre- quency	Total Link Strength	Rank	Keywords	Fre- quency	Total Link Strength
1	rural tourism	101	289	9	impact	15	51
2	tourism	23	75	10	china	14	42
3	community	22	73	11	diversifica- tion	13	43
4	perceptions	21	82	12	segmenta- tion	12	49
5	management	21	73	13	attitudes	12	44
6	model	18	80	14	ecotourism	12	42
7	motivation	17	70	15	performance	12	37
8	satisfaction	15	74	16	sustainabil- ity	12	34

When combining the results presented in Figure 3 and Table 5, it becomes evident that, In addition to core keywords such as Rural tourism and Tourism, there are several high-frequency keywords related to behavioral characteristics, such as PERCEPTIONS, MOTIVATION, SATISFACTION, and ATTITUDES. These keywords highlight the focus of academic research on the behavioral characteristics of rural tourism, particularly concerning residents' perceptions and attitudes, as well as motivations and preferences related to tourism. Additionally, studies have explored topics such as service quality perception and satisfaction. Mason et al.'s study revealed that residents' perceptions of the impacts of rural tourism varied across different dimensions. Positive impacts included improvements in infrastructure, job creation, and economic development, while negative impacts encompassed issues like traffic congestion, environmental pollution, and increased noise [7]. Furthermore, scholars have established a significant relationship between rural tourists' revisit intentions and factors such as destination image, travel motivation, and their intention to return to the destination [8].

In rural tourism management, scholars have shown a keen interest in high-frequency keywords such as segmentation, management, model, and impact. Farsani et al. suggest that geoparks, have the potential to generate new jobs, increase residents' income, and foster the development of related industries [9]. Regarding the micro-environmental impacts, most studies in this field focus on the effects of rural tourism on local social life and other related aspects. Mbaiwa, for instance, underlining the necessity of implementing practical development strategies and safeguards to ensure economic spillovers from rural tourism to the local area, thus promoting inclusive development [10]. Furthermore, scholars have also paid attention to specific tourism development models. For instance, cultural heritage tourism in the Acadia region of Canada has emerged as a prominent feature of rural tourism [11].

Scholars like Blancas have introduced sustainability indicators into sustainable tourism objectives [12]. Saxena and Libery argue that integrated rural tourism should encompass embeddedness, non-embeddedness, endogeneity, and empowerment to ensure sustainable development [13]. Additionally, in a study focusing on rural Northern Ireland, Panzer-Krause found that different types of tourists, such as casual and group tourists, have varying impacts on the sustainability of rural tourism hotspots [14].

Briedenhann and Wiken identified attraction building, route planning, regional cooperation, community involvement, and public sector support as key factors [15].

### 4.2 Analysis of Burst Keyword

Figure 4 displays the top 10 burst words in terms of burst intensity, demonstrating the transformation of rural tourism hotspots in the past 20 years.

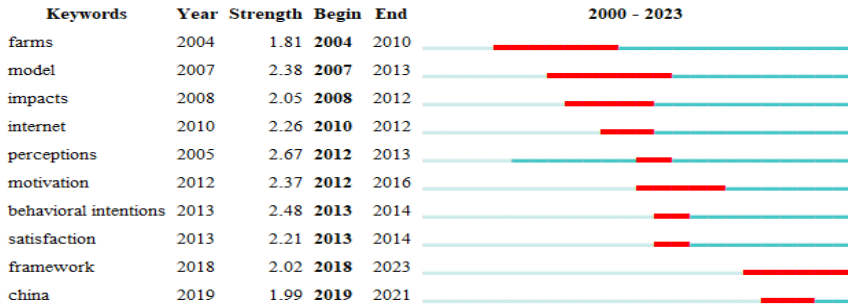


Fig. 4. Co-occurrence of countries

As depicted in Figure 4, the research hotspots during the early 21st century were relatively limited. The focus initially revolved around farms, highlighting rural tourism and agritourism as forms of diversification within the tourism industry (Author, Date). In the years 2007-2008, attention shifted towards models and impacts. Scholars began addressing management issues related to rural tourism, emphasizing the construction of development models and transitioning from qualitative macroscopic research to more in-depth and scientific micro quantitative research.

Between 2010 and 2012, the Internet emerged as a key topic in rural tourism research. Peña et al. (2011) highlighted the significance of information and communication technologies (ICT) deployment and multi-market orientation (MO) in enhancing the competitiveness of rural tourism.

The period from 2012 to 2016 witnessed the emergence of more nuanced keywords. Research started examining perceptions, motivation, behavioral intentions, satisfaction, and focused on residents' and tourists' psychological and behavioral characteristics, reflecting their importance in international rural tourism studies. This particular aspect of research continued to expand and deepen across various research areas.

Lastly, during 2019-2020, China (PRC) gained prominence as a crucial research hotspot. This indicates that with the rapid growth in China, research cases and outcomes have garnered international attention and occupied significant positions within the global academic community.



### 4.3 Co-citation Analysis

We utilized the VOSviewer software to filter out journals with at least 30 papers cited for further co-citation analysis. Eventually, we identified 37 different journals, as shown in Figure 5.

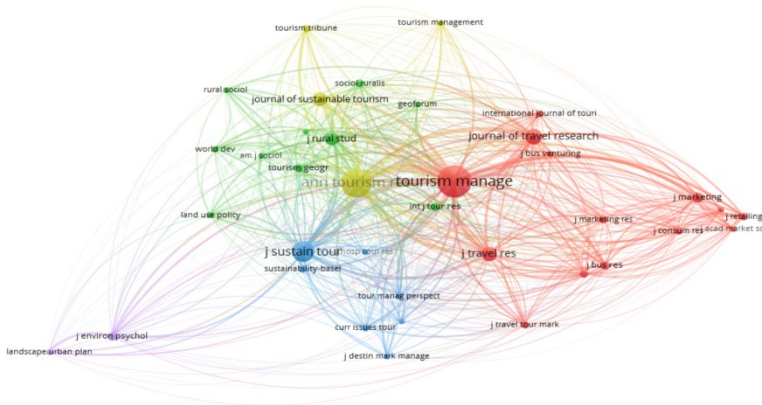


Fig. 5. Analysis of Co-Cited Journals

Based on Figure 5, it is evident that the co-cited journal network consists of five distinct color clusters, the red and yellow clusters primarily comprise journals focusing on the utilization of marketing techniques within the tourism domain. The green and purple clusters primarily encompass journals that explore tourism from a geographical perspective. These journals examine tourism through the lenses of physical geography, economics, and sociology, aiming to foster interdisciplinary exchanges and collaborations. Journals within the purple cluster particularly emphasize theoretical innovation, resulting in a wide range of research methods and application scopes being covered. The co-citation of the literature was further examined by analyzing the top six highly cited works in the field between 2000 and 2023 using VOSviewer, as shown in Table 6. By delving into these highly cited works, it becomes apparent that although they focus on various research regions, their common objective is to scrutinize the fundamental aspects of rural tourism development. Furthermore, it is noteworthy that numerous subsequent works have branched out and evolved from this foundational analysis.

Table 6. TOP 6 Highly Cited Paper in the Rural Tourism Research Field

Rank	Thesis Title	Year	Citations
1	What is rural tourism?	1994	23
2	A benefit segmentation of tourists in rural areas: a Scottish perspective	2005	20
3	Rural tourism and the challenge of tourism diversification: the case of Cyprus	2002	20
4	Segmentation by motivation in rural tourism: A Korean case study	2009	18

5	Rural tourism in southern Spain	2002	18
6	Rural tourism in southern Germany	1996	18

Next, we generated a co-citation network of the referenced literature using VOSviewer. We set the minimum co-citation count for rural tourism literature at 10, resulting in the analysis of 32 articles.

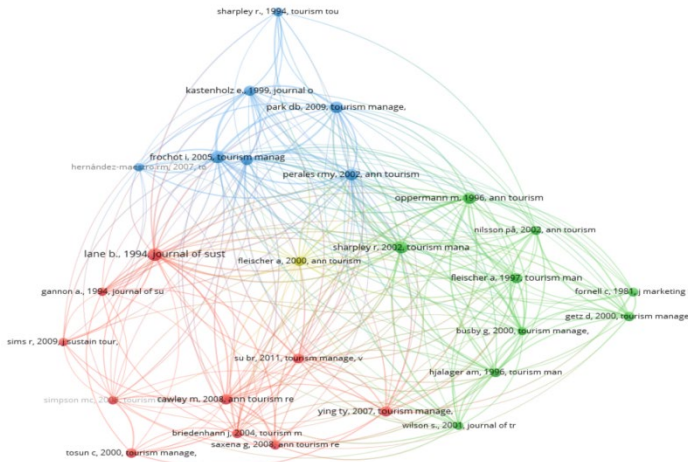


Fig. 6. Co-citation of cited references

The network graph of highly cited literature is depicted in Figure 6, with three distinct colors representing different types of publications. The red area predominantly includes review studies, while the blue area mainly consists of research papers. The green clusters predominantly include research literature centered around marketing management.

Furthermore, when examining the publication years of the highly co-cited literature, it was observed that the majority of these works were published between 1994 and 2009. Since 2009, only one published work has received more than 10 citations.

## 5 Conclusion and Future Research

### 5.1 Conclusion

With the process of urbanization and people's growing interest in the natural environment and cultural traditions, rural tourism has emerged as a distinct form of tourism and has gained significant attention.

1. Co-occurrence analysis of keywords revealed that hot topics in rural tourism research include stakeholders' perception and satisfaction, tourism model construction, rural tourism management issues, tourism motivation.

2. In the middle stage, the research shifted towards addressing management issues and enhancing technological means. In the later stage, attention turned towards improving tourists' satisfaction and enhancing tourism competitiveness.

3. Co-citation analysis highlighted high-impact journals and literature in the field, facilitating subsequent scholars in identifying core research and grasping the central content. Highly cited literature and influential works on basic concepts of rural tourism establish the knowledge foundation of the field.

It serves as a valuable resource for scholars seeking to explore the core aspects and future directions of this disciplinary field.

## 5.2 Limitation and Outlook

In order to ensure data quality and completeness, we only analyzed journal articles indexed in the two major indexes of SSCI and SCIE in the core collection of the Web of Science database. Other databases were excluded, and only nine core field journals in the field of tourism were selected. As a result, the analysis may lack comprehensiveness.

Furthermore, quantitative analysis requires the researcher to interpret the data, which necessitates an in-depth. There is a risk of subjective interpretation.

Future studies should consider integrating literature from multiple databases and selecting more comprehensive research journals to gather as extensive data as possible. Additionally, active communication with scholars in the field of rural tourism is crucial to stay updated on the latest advancements and enhance objective knowledge. This will help minimize personal subjectivity during the process of analysis and interpretation.

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