

Characteristics and trend analysis of Chinese tourism academic research

Based on CNKI (1992-2018) bibliometric analysis

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Abstract. Based on the retrieval of journals published on CNKI in the field of tourism, and the statistical analysis by Cite Space, this paper finds that: (1) in terms of the number of published papers, tourism research can be divided into three stages: infancy period in 1992-2000; Steady growth period in 2001-2011 years; Rapid decline period in 2012-2018 years. (2) The key institutions of tourism research are institutions of higher learning, among which Shaanxi Normal University and Zhongshan University have obvious institutional competitiveness. (3) Through the co-occurrence analysis of core authors and key words, eight core author groups and corresponding research fields can be divided. (4) The research direction of tourism mainly focuses on tourism industry, tourism resources, tourism development, tourist, the Belt and Road cultural tourism, rural tourism and city tourism. The future research will focus on the research direction of "big data", "the Belt and Road tourism", "poverty alleviation", "global tourism" and "Rural Revitalization".

1 Introduction

Tourism activities involve many aspects of social development, and tourism research also needs multidimensional analysis on social development issues. Since the reform and opening up, China's tourism has entered the market economy mode and develops rapidly, which has promoted the development of tourism research in China. The upgrading of tourism discipline has also become a topic of wide concern for scholars. Some scholars pointed out that as a typical emerging discipline, tourism discipline has strong academic logic and social demand logic support in China[1].

Because tourism is a new discipline, the academic system is not yet fully mature, so it is necessary to divide the research fields of tourism discipline. Based on the analysis of the global tourism research pattern, Pu Zhina and Wu Bihu divide the tourism discipline research into tourism management, tourism resource (tourist destination) development and management, tourism theory and technology, tourism psychology, tourism anthropology and sociology, tourism economics, tourism planning and design, leisure research and outdoor recreation, tourism politics, tourism beauty[2], which is significant to establish and improve the academic system.

In order to promote the future development of tourism academic research, it is necessary to sort out the existing research results in time, and constantly clarify the development direction of tourism discipline through review, reflection and summary.

It is an important way to find out the development of

tourism discipline by analyzing the scientific and technological documents. Through it, we can not only make clear the development course, research hotspot and frontier of the discipline, but also provide important basis for the tourism academic circle and the competent education department in China to evaluate the perfection of tourism discipline[3][4]. Based on the core paper database collected by CNKI, this paper makes an interdisciplinary analysis of tourism related literature from 1992 to 2018, using the theory and method of bibliometrics[5]. This paper analyzes the characteristics, trends, research frontiers and hot spots of China's tourism academic research, which also provides basis for Chinese researchers and education authorities to fully understand the overall situation of international tourism research and scientifically define the positioning of tourism discipline.

2 Data sources and research methods

2.1 Data Sources

The SCI source journals, EI source journals, core journals, CSSCI and CSCD in CNKI database are selected as data resources. And the key words of journal articles are defined as "tourism". The starting time is not set, and the deadline is 2018. A total of 13779 documents are obtained through screening.

2.2 Research Methods

The co-occurrence analysis involved in this report mainly

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includes the following two types:

2.2.1 Co-occurrence of authors

It is called co-occurrence of authors that two or more author keywords appear in one document at the same time. It shows that there is strong correlation between the two authors in a certain field. The more co-occurrence of authors exist, the closer their relationship get, and the more similar their research direction are. At the same time, multiple authors with strong connection can form a cooperative group of authors.

2.2.2 Co-occurrence of key words

The key words reflect the core theme and main content of the article. When two key words expressing the research theme or direction of a certain subject field appear in the same document, it indicates that the two words have certain internal relations, and the more times they appear, the closer relationship[6]. It is called keyword co-occurrence when two or more keywords appear in the same document. At the same time, the keyword co-occurrence was used to classify and summarize the research hotspot and the discipline structure.

3 Overall Situation

3.1 Research quantitative characteristics

The template is designed so that author affiliations are not repeated each time for multiple authors of the same affiliation. The affiliations were kept as succinct as possible (for example, do not differentiate among departments of the same organization). This template was designed for two affiliations. Since 1992, there have been 117 research articles on tourism, and the number of research articles on tourism has increased steadily, reaching the highest in 2011 (1056 articles). After a significant decline in 2012, the number of papers issued in 2016 was relatively stable, followed by another decline in 2017-2018, and the number of papers issued in 2018 reached the lowest (64 articles). Therefore, tourism research can be divided into three stages:

3.1.1 Infancy period in 1992-2000 years:

During this period, the number of annual publications is relatively small, and the number of achievements is growing slowly, which is in the process of preliminary development of tourism research and relatively broad research content.

3.1.2 Steady growth period in 2001-2011 years:

Tourism research flourished, and formed a more comprehensive research direction and content in combination with tourism practice.

3.1.3 Rapid decline period in 2012-2018 years:

Tourism research changed from low production into a significant decline stage.

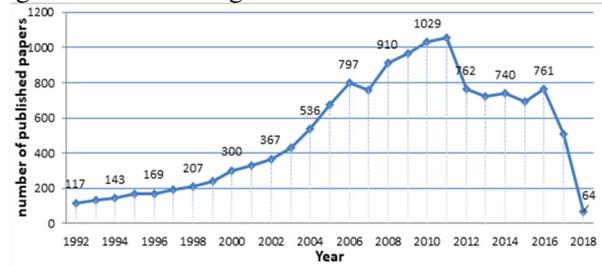


Fig.1. Annual distribution of tourism research papers

3.2 Core institutions

There are 611 research institutions (16.86% of the total) with more than 2 papers (including 2 papers) in tourism science. Among the top 20 core institutions (as shown in Table 1), 18 institutions are from higher learning. It can be seen that higher education institutions have formed more obvious advantages in tourism research.

Table1. Top 20 core institutions in terms of number of published papers

Serial number	Core institution	Number of published papers
1	Shaanxi Normal University	324
2	Sun Yat sen University	307
3	Nanjing Normal University	165
4	Institute of Geographical Sciences and resources, Chinese Academy of Sciences	159
5	Sichuan University	136
6	Anhui Normal University	136
7	Nanjing University	127
8	Beijing Union University	108
9	Yunnan University	107
10	Jishou University	94
11	China Tourism Research Institute	83
12	Peking University	83
13	Nankai University	67
14	Hainan University	65
15	Overseas Chinese University	64
16	Northwest Normal University	60
17	Northwest University	60
18	Henan University	60
19	Southwest University for Nationality	59
20	Shanghai Normal University	59

3.3 Core authors and research direction

3.3.1 Core authors

Among all the tourism articles analyzed, there are 13 authors with more than 30 articles published (as shown in table 2), Ma Yaofeng, the first author, comes from Shaanxi Normal University. Lu Lin comes from Anhui Normal

University. Zhang Jie comes from Nanjing University. In addition to Wu Bihu of Peking University, other authors' organizations are ranked in the top ten, which shows that more authors can drive their organizations to form research joint forces.

Table2. Core authors with more than 30 articles

Core authors	Table column subhead	Number of published papers
Ma Yaofeng	Shaanxi Normal University	112
Lu Lin	Anhui Normal University	84
Zhang Jie	Nanjing University	59
Huang Zhenfang	Nanjing Normal University	56
Sun Gennian	Shaanxi Normal University	52
Wu Bihu	Peking University	47
Zhang Jinhe	Nanjing University	41
Bao Jigang	Sun Yat sen University	40
Sun Jiuxia	Sun Yat sen University	38
Bai Kai	Shaanxi Normal University	34
Zhong Linsheng	Institute of Geographical Sciences and resources, Chinese Academy of Sciences	33
Chen Tian	Institute of Geographical Sciences and resources, Chinese Academy of Sciences	33
Zhang Lingyun	Beijing Union University	31

3.3.2 Research direction

Through the co-occurrence analysis of authors, the above core authors form several important co-operative groups of authors. We further analyze the key words of their cooperative literature, and summarize their main research fields and research directions, as follows:

a) *The author cooperation group is mainly composed of Ma Yaofeng, Bai Kai, Li Tianshun, Li Chuangxin and Zhang Youyin. Its research direction is inbound tourism, tourism perception, tourism consumption, tourists, tourism decisionmaking, tourism research of Xi'an City, etc;*

b) *The author cooperation group, mainly composed of Lulin, yangxingzhu, lingshanjin and Wangli, focuses on traditional villages, sustainable development of tourism and tourism in Huangshan City;*

c) *The author cooperation group, mainly composed of Huang Zhenfang, Cao Fangdong, Yu Fenglong, Wang Kun and Wu Limin, focuses on tourism resources, tourism economy, tourism efficiency and urbanization;*

d) *The author cooperation group, mainly composed of Zhang Jie, Zhang Honglei, Zhong Shien, Zhang Jinhe and Liu Zehua, focuses on Jiuzhaigou, tourism flow, tourism, tourism resource evaluation and motivation;*

e) *The author cooperation group, mainly composed of sun Gennian, Ma Lijun, Wang jiejie and Tan Zhixi, focuses on tourism trend, tourism trade, climate*

comfort, Zhangjiajie and tourism;

f) *The author cooperation group, mainly composed of Wu Bihu, Zhang Yujun, Yu Qing and Congli, focuses on tourists, tourism discipline, tourism development, non resource consumption and historical blocks;*

g) *The author cooperation group mainly includes Bao Jigang, Zhang Xiaoming, Chen Zhigang, Lin Minhui, etc. the research direction is community participation, theme park and tourism influence mechanism;*

h) *The author cooperation group is mainly composed of Zhong Linsheng, Cheng Shengkui, Chen Tian, Zhang Aiping and Tang Chengcai. Its research direction is tourism resources, tourism activities, tourism consumption and community participation.*

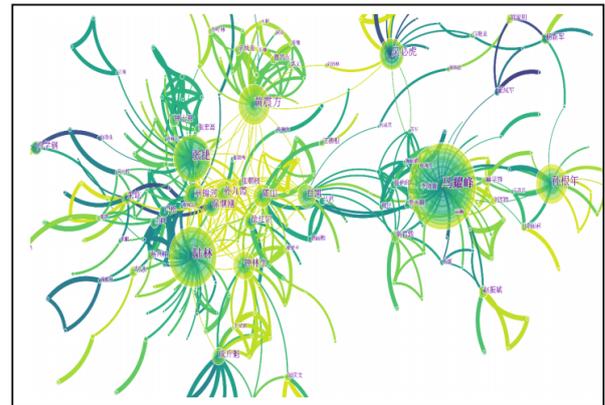


Fig2. Core authors of tourism research

4 Research hotspots and research trends

4.1 High frequency keywords and research hotspots

High frequency keywords refer to the number of times that the analyzed keywords appear in all literatures. By extracting the frequency distribution of key words which can express the core content of the document from the document information, this paper studies the development trend and research hotspot of this field. Key words co-occurrence refers to when two or more key words appear in the same document, and the analysis of its intermediary centrality can reveal the mutation or transformation relationship between research hotspots. The key words which have never appeared before in a certain period of time may appear suddenly. We call them emergent words, which also show the change of research topic and content.

As the year span is relatively large, the high-frequency key words are counted according to three years as a time period. Finally, the high-frequency key words, emergent words and representative high cited literature are obtained in table 3:

Table3. High frequency words and emergent words in different stages

<i>Time slot</i>	<i>High frequency words</i>	<i>Emergent words</i>
1992-1994	Tourism industry; tourists; economy; enterprise management; tourism resources;	Tourism resources; tourists; tourism industry; tourism development; tourism enterprises; tourism planning; tourism development; tourism commodities; tourist market;
1995-1997	Tourism industry; tourism resources; tourists; business management; service facilities;	Tourism destination; tourism consumption; sustainable development; tourism demand; tourism products;
1998-2000	Tourism industry; tourism resources; tourists; business management; travel agencies;	Tourism culture; competitiveness; development strategies and strategies; resource evaluation;
2001-2003	Tourism resources; tourism industry; tourism development; tourism enterprises; sustainable development;	Tourism economy; resource protection; tourism research; tourism image; innovation; development status;
2004-2006	Tourism industry; tourism resources; development strategies; tourists; sustainable development;	Development status; tourist attractions; tourism system; spatial structure; social environment and policy impact on tourism;
2007-2009	Tourism industry; tourism resources; tourism development; tourism enterprises; sustainable development;	Resource development model; competitiveness research; stakeholder research; industrial cluster; tourist satisfaction; network marketing; geographic information system;
2010-2012	Tourism industry; tourism resources; tourism development; sustainable development; intangible cultural heritage;	Intangible cultural heritage; tea cultural tourism; industrial integration; tourism experience;
2013-2015	Tourism industry; tourism development; tourism resources; tourism economy; tourists;	Tourism poverty alleviation; tourism logistics; tourism geography;
2016-2018	Tourism industry; tea culture tourism; tourism resources; tourists; tourism economy;	the Belt and Road; big data; accurate poverty alleviation; Rural Revitalization;

According to the number of papers published in the second part of this paper, tourism research can be divided into three stages: 1992-2000, 2001-2011 and 2012-2018. According to these three periods, we conduct keyword co-occurrence statistics:

Table4. Co-occurrence of key words in each stages

<i>Time slot</i>	<i>Key words</i>	<i>Frequency</i>
1992-2000	Tourist area	32
	Scenic Attraction	37
	Source market	23
	Tourism development	41
	Tourist industry	234
	Economics	88
	Tourist goods	12
2001-2011	Tourist industry	214
	Tourist	111
	Sustainable development	160
	Resources	115
	Innovate	48
2012-2018	Tourist resources	121
	Tourist	82
	Tourism development	104
	Tea culture	88
	Intangible cultural heritage	55
	Tourist industry	81
	Influence factor	40

Through the analysis of high-frequency keywords or keyword co-occurrence, we can see that the focus of tourism research is: tourism industry / industry, tourism resources, tourism development / development, tourists /

tourists. Tourism industry mainly includes: sustainable development, tourism market, tourism enterprises, travel agencies, industrial integration and tourism economic research. Tourism resources mainly include: resource development, tourism resource evaluation, tourism destination, spatial structure, resource classification and integration, landscape resources research. The contents of tourism development include: intangible cultural heritage, right subject, community residents, tourism destination and cultural heritage research. The contents of tourists include: source market, tourism service, tourism image, satisfaction, tourism perception and so on.

Further analysis of the emergent words can sort out the sudden changes of research topics in tourism field in detail:

Before 2000, the research themes were: "tourism industry development and sustainable development", "tourism resource evaluation and development", "tourist market and tourists", "tourism development", "tourism culture", "tourism consumption and products", "tourism demand", etc. With the continuous promotion of tourism, new research topics appear in combination with specific problems in tourism practice, such as "resource protection", "tourism image", "tourism education", "scenic spot research", "spatial structure design" and Research on the social environment where the tourism industry is located. From 2007 to 2009, there were more articles on the research of "resource development mode", "industrial cluster", "network marketing" and "tourism geographic information system"; after 2010, tourism research explored the internal driving forces of tourism, such as "intangible cultural heritage", "cultural tourism", "industrial integration", "tourism experience" and "tourist perception"; In 2013-2015, the Belt and Road tourism, the other is tourism and tourism geography. In 2016-2018 published a literature on "the Belt and Road tourism", "big data", "precision poverty alleviation" and "Rural Revitalization".

4.2 Research trends analysis

It can be seen from the law of high-frequency keywords and emergent words that the research content of emergent words display may accumulate and become the research focus after a period of time. Therefore, we can predict the development trend of tourism research, which will still focus on cultural tourism, rural tourism, urban tourism and other hot spots. "The Belt and Road tourism", "big data", "poverty alleviation", "global tourism", "rural revitalization" will be further studied.

5 Conclusions

Based on the bibliometric analysis of CNKI research literature, tourism research presents the following characteristics:

1) Tourism research has become an important field of domestic universities, research institutes and other scholars. In terms of the number of papers, it can be divided into three stages: the first stage, 1992-2000, the embryonic stage of tourism research. The second stage, 2001-2011, is a period of rapid growth of tourism research. In the third stage, from 2012 to 2018, tourism research results declined.

2) The key institutions of tourism research are institutions of higher learning, and scientific research institutes are also an important part of tourism research.

3) By analyzing the co-occurrence of core authors and key words, it can be divided into eight core author groups and corresponding research fields, which are mainly Ma Yaofeng, Lu Lin, Zhang Jie, Huang Zhenfang, sun Gennian, Wu Bihu, Bao Jigang and Zhong Linsheng: ① inbound tourism, tourism perception, tourism consumption, etc.; ② traditional villages, sustainable development of tourism, tourism research in Huangshan City; ③ Research on tourism resources, tourism economy, tourism efficiency and urbanization; ④ research on Jiuzhaigou, tourism flow, tourism industry, tourism resource evaluation and motivation; ⑤ research on tourism trend, tourism trade and climate comfort; ⑥ research on tourists, tourism discipline, tourism development, non resource consumption and historical block; ⑦ research on Community participation, theme park and tourism impact mechanism; ⑧ research on Tourism Research on resources, tourism activities and tourism consumption;

4) The research contents in the field of tourism mainly focus on four aspects: tourism industry, tourism resources, tourism development, tourists, the Belt and Road tourism of cultural tourism, rural tourism and city tourism. The future will be explored in the following areas: big data, the Belt and Road tourism, poverty alleviation, global tourism and Rural Revitalization.

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