

Yuhua Luo
Jinbo Jiang
Doudou Bi *Editors*

Tourism Product Development in China, Asian and European Countries

 Springer

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Yuhua Luo · Jinbo Jiang · Doudou Bi
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Editors

Yuhua Luo
University of the Balearic Islands
Palma de Mallorca, Spain

Jinbo Jiang
South China University of Technology
Guangzhou, China

Doudou Bi
South China University of Technology
Guangzhou, China

ISBN 978-981-15-4446-0 ISBN 978-981-15-4447-7 (eBook)
<https://doi.org/10.1007/978-981-15-4447-7>

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Preface

This proceedings book is a collection of the selected papers of the 9th International Conference on Tourism and Hospitality between China and Spain (www.china-spain.org) held in Barcelona, September 30–October 2, 2019.

Among many papers presented in the conference we chose a special set of papers that are concentrated on the development of tourism products. The book covers the entire chain of tourism product business process including market analysis, product positioning, marketing and sales, etc.

Many papers in this book use both cutting-edge IT technology tools and advanced methodology to analyse some typical tourism products and the factors that affect them. AI, big data processing, data mining, visual content analysis, etc. are among those cutting-edge technological tools applied to the studies in this book.

To identify the sustainable tourism products, a chapter describes the result of a survey of literature published in a sustainable tourism products journal. The authors discovered ten most popular forms of sustainable tourism products. Data visualisation techniques are applied in their study for the analysis.

Tourism products under analysis in the book include products from food tourism, cruise tourism, medical tourism, youth adventure tourism, coastal destination tourism, cultural and religion tourism, etc.

A couple of chapters of this book look at the tourism products in a geographic area with a much-detailed scale. The regional policy, promotion media for these products are also studied. Guangdong-Hong Kong-Macao Greater Bay is one of these geographic areas. Some high-end tourism products and intelligent tourism products have been identified. Caribbean, Tibet, Barcelona, Majorca are also among the areas our authors paid special attention to. Each area has its own set of favourable tourism products to match the specific features of the area.

Two chapters in the book concern the medical tourism. One is about the progress and impacts of the so-called “fertility tourism” after the end of the one-child policy in China. This opens some new market possibilities in the destination countries. Another chapter discusses how to explore the development of tourism products with traditional Chinese medicine to satisfy the increasing demand.

To study the destination image for tourism product marketing is one of the topics the book addresses. The image of a tourist destination should be thoroughly investigated before product positioning attempts are undertaken. Two chapters analyse the images of Caribbean area and Barcelona city, respectively, among the Chinese tourists. The strategies of how to position the tourism products in these destinations are discussed.

The tourism product pricing is a vital element in the product process chain. One chapter of the book compares the prices of cruise tourism products in China and Spain. A large amount of cruise price information has been collected using big data. Hedonic approach is applied in the study. The outcome of the study helps to improve the pricing of the cruise tourism products.

There is one chapter dedicated to an in-depth analysis for one particular tourism product—the youth adventure tourism in the author’s country—Bangladesh. The inherited traditions, behavioural and societal values, family traditions, etc. of the target group have been studied to analyse their travel motivation.

To find out the relationship between the regional tourism innovation ability and the new tourism product creation, one chapter studies the tourism innovation ability data of 31 provinces in China from 2000 to 2016. The spatial, temporal patterns and the evolution characteristics of tourism innovation ability have been obtained.

One chapter examines the role of tourism products for promoting the destination image through social media. The authors tried to identify the factors that have impacts on their home country Iran’s image as a tourism destination. The result shows that Instagram can be considered as an effective visual tool for promoting the inbound tourism.

The close relationship between the economic and tourism product development can be seen clearly from a chapter concerning the pro-poor tourism products. Such relationship can also be seen from another chapter which studies a special phenomenon—the tourism islanding effect that affects the economic development of surrounding areas of tourism hot spots.

We hope that this book can provide an in-depth insight about the tourism products in China, Asia and European countries. China is currently positioning tourism as a dominant industry in certain areas by integrating regional resources to coordinate the economic and social development. This has been considered as one of the national strategies. Spain is a traditional tourism country and plays an important role in the tourism development in the world. We believe that the experience and research outcomes presented in this book can benefit the two countries and other areas in the world. The series of our conferences (www.china-spain.org) has been contributing and will continue to contribute along this direction.

Palma de Mallorca, Spain
Guangzhou, China
Guangzhou, China

Editors
Yuhua Luo
Jinbo Jiang
Doudou Bi

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Bibliometric Analysis and Visualization for Sustainable Tourism Products



Wei Wei, Donghui Lu, Xin Xu, Xiaoyu Wang, and Hongxi Zhang

Abstract The concept of Sustainable Tourism Products (STP) derives from the discussion of sustainable tourism. This paper takes Journal of Sustainable Tourism as an analyzed example and tries to provide a comprehensive bibliometric overview on the research of sustainable tourism products. Data of 750 articles and reviews published between 2008 and 2018 in the journal are collected from Web of Science Core Collection, using CiteSpace for collaboration analysis, co-citation analysis, and the keywords co-occurrence analysis. The visualization results show that sustainable tourism products have been developed in a very diverse way. 10 forms of sustainable tourism products research hotspots are identified which are ecotourism, nature-based tourism, volunteer tourism, rural tourism, wildlife tourism, indigenous tourism, community-based tourism, pro-poor tourism, heritage tourism and cultural tourism. This paper also describes the evolution and emerging trends of sustainable tourism research for practitioners.

Keywords Sustainable Tourism Products · Journal of Sustainable Tourism · Bibliometric analysis · Visualize analysis · CiteSpace

W. Wei · X. Xu · H. Zhang

South China University of Technology, Guangzhou, Guangdong, People's Republic of China
e-mail: weiweitour@163.com

X. Xu

e-mail: visionxu0208@163.com

H. Zhang

e-mail: hongxizh@gzmu.edu.cn

D. Lu (✉)

Guangdong Polytechnic College, Zhaoqing, Guangdong, People's Republic of China
e-mail: 30449629@qq.com

X. Wang

South China Normal University, Guangzhou, Guangdong, People's Republic of China
e-mail: 244190054@qq.com

D. Lu

School of Economics and Management, Guangdong Polytechnic College, Ave. Qi Fu, Gao Yao District, Zhaoqing, Guangdong, People's Republic of China

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Y. Luo et al. (eds.), *Tourism Product Development in China, Asian and European Countries*, https://doi.org/10.1007/978-981-15-4447-7_1

1 Introduction

Sustainable tourism has emerged as the dominant paradigm in tourism development since the release of the 1987 Brundtland Report [1]. The World Tourism Organization [2, p. 21] defined Sustainable Tourism (ST) development as meeting the needs of present tourists and host regions while protecting and enhancing opportunities for the future. Sustainable Tourism is envisaged as leading to the management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems. The concept of Sustainable Tourism Products (STP) derived along with the discussion of sustainable tourism. There are in excess of 5000 published works on sustainable tourism [3]. The content of ST debate has broadened to include not only environmental but economic, social and cultural issues, political power and social equality [4]. STP can be defined as any tangible and intangible thing with sustainability attributes which can meet tourists' needs for balancing the experience during consuming and maintaining sustainable development of tourist destination.

The Journal of Sustainable Tourism (JST) is the only journal exclusively devoted to sustainable tourism research since 1993. On its homepage, JST describes itself as a leading academic publication that advances specifically critical understanding of the relationships between tourism and sustainable development. The journal has become the leading research publication dedicated to advancing the understanding and discussion of sustainable tourism, and it is also ranked highly as a journal in the general tourism field. According to the Web of Science journal impact report, JST ranks No. 1 among 5 journals of the same categories. Initially articulated goals for the JST, the first issue included the aim "to foster research and practice in ST; to help develop both a theoretical base for the subject and reliable empirical evidence of its results and impacts; to provide interdisciplinary perspectives and an international outlook on the subject matter" [5, p. 3]. Nowadays JST makes it, and in some respects, the journal could be seen as a thematic or specialist publication of tourism field rather than a general tourism journal [6]. With its outstanding in this specific niche subject, the publications in JST must have generated abundant information concerning about STP, so as to be selected as the objectives of this paper.

Berry [7] identified a number of barriers like mistrust government policy, poor administration and unclear lines of communication, to successful implementation of sustainable tourism practices. Lu and Nepal [4] employed a content analysis to review and bibliometrically analysed 341 papers published from 1993 to 2007 in JST, mapping out the research field, tourism forms, and subjects of ST. Ruhanen et al. [1, 8] implemented a bibliometric analysis by selecting ATR, JST, TM, and JTR, the four highest ranked journals in tourism field and had a further discussion in 2018, provided key insights into the nature of academic sustainable tourism research and point towards the possible future progress of this field. Bramwell et al. [6] published an editorial to mark the 25th anniversary of the inaugural issue of JST. That editorial advised some bright ways for the research in Sustainable tourism area, and offered

some strategic development suggestions for JST in the future to further increase its relevance, innovation and impact by reviewing the publications in JST over the past 25 years. All the studies mentioned above focused on the sub-field of tourism, while this paper tried to find out the development of STP. Bibliometric is defined as an approach to evaluate and monitor the progress of given disciplines by sorting data, including citations, author affiliations, keywords, themes discussed, and methods employed for published studies in this disciplines [9, 10]. This paper tries to present the bibliometric analysis results of STP by using CiteSpace software packages 5.0.

2 CiteSpace

CiteSpace5.0, a bibliometric Java application for analysing and visualizing social networks between contributors or between literatures, enables analysts to perform quantitative and qualitative studies of scientific subject domains more easily [11, 12]. Nodes and links are the key units of CiteSpace visualization graphs. The types of nodes include authors, institutions, countries, terms, keywords, categories, cited authors, references, cited journals, references, grants and articles. With CiteSpace5.0, collaborative networks, intellectual basis, landmarks, hotspots, emerging trends, and pivotal points of certain discipline can be defined through implementing co-citation and co-occurrence analysis. There are about 13,900 results keyword-searched CiteSpace by Google scholar on Jun. 5, 2018. CiteSpace has become a practical tool for bibliometric analysis.

3 Material and Methodology

3.1 Data Collection

Articles published in leading scientific journals are accepted as “certified knowledge” [13]. According to Samuel Clement Bradford’s literature distribution law, most of the key literatures of a certain discipline would be published in few core journals, which reveal the research state, trends and scholar level of the discipline. JST, the leading journal focusing on the specific subject of ST as mentioned above, therefore, was selected as the only sample for this paper.

All the data of this paper were collected from ISI Web of Science Core Collection to make sure the data contain full records and can be employed co-citation analysis. Three steps were taken to get the data ready. Input “Journal of Sustainable Tourism” as the Publication Name, refine the search results by published year from 2008 to 2018, and choose Articles and Reviews types. Two members of research team checked some reviews from the results and determine not exclude reviews from the data. Second, export 750 data as plain text format and choose Full record and Cited

references to save contents. WOS offers statistic output and cited analysis of search results. The exported plain text files and cited analysis of search results from WOS are both utilized in this paper. Running CiteSpace and analysing the records of 750 articles is the third steps. The steps above were tried for times for several bibliometric testing since the proposal of this paper from March, 2019. Considering the numbers of articles published in JST are fixed but the cited data may increase daily, the data to analyse finally exported on May, 30, 2019. As the data of 2019 in JST is incomplete with less statistic implication, the published year defined from 2008 to 2018. As Asia and Europe become the most increasing tourism destination around the world according the data of the World Economic Forum, this paper pay more attention to the development of sustainable tourism products in these two areas.

3.2 Methodologies

Bibliometric studies are categorized into three groups: (1) review studies, (2) evaluative studies, and (3) relational studies [14]. Review techniques include structured literature reviews, systematic literature reviews, or meta-analyses/reviews, all of which are called traditional review methods [14]. They generate knowledge by using bibliographic data from published studies via frequency analysis or basic statistics. Evaluative techniques measure the impact of scholarly work when compared to the performance or scientific contributions of two or more individuals or groups [15]. Hall [16] classifies evaluative metrics into three groups. The first group includes productivity measures. The second includes impact measures. The third consists of hybrid metrics. Relational techniques explore relationships among the research fields, the emergence of new research themes and methods, or co-citation and co-authorship patterns [15]. Relational techniques can be divided into four categories: co-citation analysis, co-word analysis, co-authorship analysis, and bibliographic coupling which can be accomplished by downloading cited analysis from WOS and implementing into CiteSpace5.0 software.

4 Results

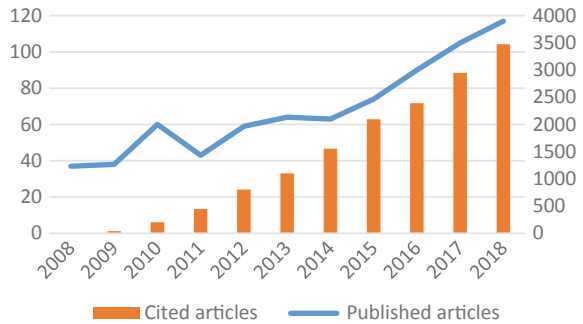
4.1 Search Results

Table 1 shows that the counts of the publications (purple bar) in JST and their cited times (blue bar) during 2008 and 2018 which both increase over the last decade. There were about 40 articles published in JST each year during 2008 and 2009. The number increased about 50% to 60 articles each year during 2010 and 2014, then kept rolling up year by year from 2015, and reached to 110 articles by 2018. According to the features of the growth bars in Fig. 1, the last decade can be identified

Table 1 Publications and their cited times of JST (2008–2018)

Year	Articles (%)	Cited times (%)
2008	37 (4.933)	3 (0.020)
2009	38 (5.067)	38 (0.252)
2010	60 (8.000)	203 (1.348)
2011	43 (5.733)	446 (2.962)
2012	59 (7.867)	803 (5.333)
2013	64 (8.533)	1100 (7.306)
2014	63 (8.400)	1155 (10.327)
2015	74 (9.867)	2095 (13.914)
2016	90 (12.000)	2390 (15.873)
2017	105 (14.000)	2949 (19.536)
2018	117 (15.600)	3475 (23.079)
Total	750 (100.000)	15,057 (100.000)

Fig. 1 Published articles (Blue) and cited articles (Purple)



as physical publishing era (2008–2014) and digital publishing era (2015–2018). As the digital media are applicable widely and shared easily, the traditional print media are replaced and fading out of our sight. This is the worst time and best time for the journals. It offers an easy way to overview each journal’s performance which may lead to Matthew effect. On the contrary, with digital technology, the size of each volume becomes unlimited and is up to the high-quality productive of the research field.

The publication data of JST in WOS Core Collection only begins from the year of 2008. The cited times of the articles in JST before 2008 are not available. The cited times of each year for JST was only 3 in 2008 but increased dramatically to 1186 by 2018, which explains why JST accumulated impressive impact factor of 3.339/4.169 by the end of 2017. Human beings are facing challenges related to poverty and inequality, food and water security, health and well-being, socio-cultural change, clean energy, biodiversity, resource depletion and climate change [6]. It is predictable that the more the issues of sustainable development were concerned, the more articles would be cited from JST.

The strategic naming of this journal needs to be addressed. Sustainable tourism is often now seen as a normative orientation that seeks to redirect societal systems and behaviour on a broad and integrated path toward sustainable development [6]. The name of JST dynamically states out its vision and principle which might help it to attain more motivated research articles and as a competitive advantage of its development.

4.2 Collaborative Networks of Authors and Cited Authors

Authors of scientific literature are the subject of scientific research activities. The core authors are leading the research orientation of the discipline. Therefore, the research status of specific discipline can be accurately understood by positioning the core authors. CiteSpace5.0 was used to conduct visualized analysis on the researchers of JST. The node type was set as “author” or “cited author”, and the time slice was set as 1, so as to find out the productive authors. Derek John de Solla Price’s well-known square root law (1964) [17] is used to position and examine the core authors in specific discipline. The formula is as follow:

$$\text{Formula 1: } N = 0.749n_{\max}^{1/2}$$

Figures 2 and 3 visualize the social network of the authors. The size of node shows the importance, the circles on the node represent the frequency. The purple external rings mean high centrality of the node which indicates that someone holds authority over collaboration controls between clusters in a network. The more the productive or contributed, the bigger the nodes are. The more the links between the nodes, the more collaborative connect there are.



Fig. 2 Visualization of Authors network in JST (2008–2018)

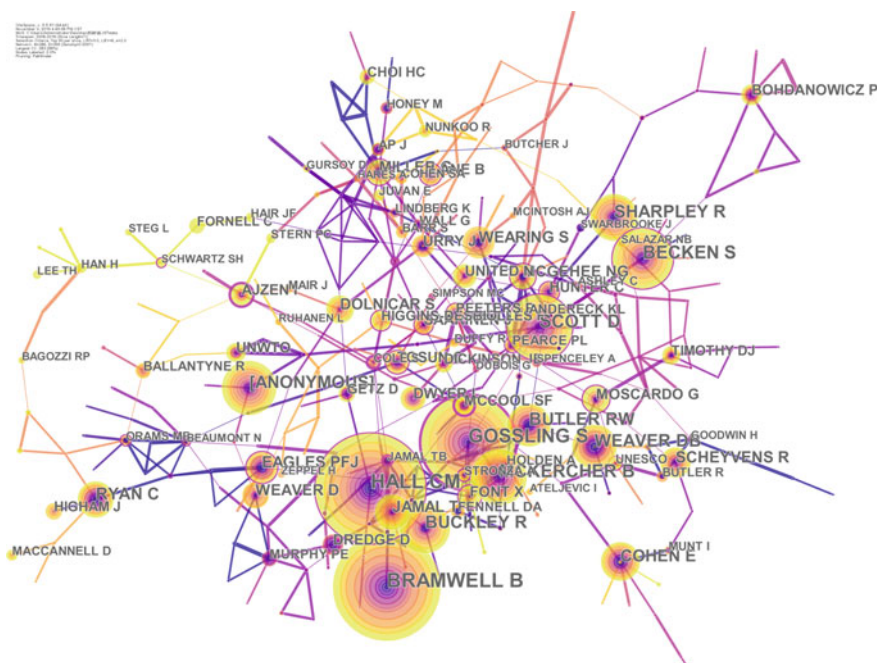


Fig. 3 Visualization cited Authors network in JST(2008–2018)

Table 2 Top 32 productive authors in JST (2008–2018)

Authors	Freq.	Authors	Freq.
Gossling S	18	Prideaux B	6
Hall CM	16	Ramkissoon H	6
Becken S	12	Ryan C	6
Scott D	12	Zhang CZ	6
Font X	11	Coles T	5
Ruhanen L	9	Higgins DF	5
Weiler B	9	Higham J	5
Dolnicar S	8	Laing J	5
Han H	8	Lee TH	5
Boley bb	7	Mair J	5
Coghlan A	7	Mcgehee NG	5
Peeters P	7	Moscardo G	5
Dickinson JE	6	Mckercher B	5
Dredge D	6	Wearing S	5
Filimonau V	6	Woosnam KM	5
Jamal T	6	Xu HG	5

Table 3 Top 24 citing authors of JST (2008–2018)

Authors	Freq.	Authors	Freq.
Han H	52	Wall G	21
Gossling S	44	Kim S	20
Hall CM	44	Weiler B	20
Becken S	36	Lee TH	19
Nunkoo R	26	Ramkissoon H	19
Font X	25	Bramwell B	19
Boley BB	23	Law R	18
Lee S	22	Ruhanen L	18
Woosnam KM	22	Saaynan M	18
Filimonau V	21	Gursoy D	17
Saarinen J	21	Kim W	17
Scott D	21	Moyle BD	17

Table 2 lists out the most productive authors in JST. Gossling S ranks No. 1 with 18 articles as the most productive author and the $N = 0.749 * 181/2 \approx 3.2 \approx 4$. Adjust the threshold to 4 in CiteSpace, the contributed authors will be visualized. Table 2 shows the contributed authors who have published at least 5 articles in JST, among which the contributed Asia and European authors are Gossling S(18) from Norway, Hall CM(16) from Sweden, Font X(11), Dickinson JE(6), Filimonau V(6) and Coles T from England, Han H(8) from South Korea, Peeters P(7) from the Netherlands, Dredge D(6) from Denmark, Zhang CZ(6), Mckercher B(5), and Xu HG(5) from P. R. China, with Lee TH(5) from Taiwan region as well.

The names listed on Table 3 are the top citing authors in JST. It can be interpreted the list of the most influential authors in STP domain. Han H from South Korea ranks No. 1 as the most citing author, followed by the European authors as Gossling S(44), Hall CM(44), Font X(25), etc. Not all the articles of STP were published in JST, for instance, Gossling S published $18/44 * \% = 41\%$ of his research article in JST. But the ranking of the Table 2 is similar with that of Table 3, which proves the sample representativeness of this paper.

Table 4 listed the frequent cited authors of JST. Bramwell B and Hall CM rank both No. 1 with 206 counts. Bramwell B, with 19 citing times in Table 3, is the ex-chief editor of JST, whose research results and viewpoints of articles must have inspired many authors and landmarked the evolution of STP researches and debates. Sharpley R, Cohen E and Eagles PFJ are not listed on Tables 2 and 3 but Table 4, which suggest that they have published a few but important articles to STP discussion, which even may be regarded as the base key stones of STP topic. The researchers, post graduate, doctoral students, and the new comers to STP top should not miss the articles written by the authors listed in Tables 2, 3 and 4.

Table 4 The cited frequencies of Authors in JST (2008–2018)

Cited Authors	Freq.	Cited Authors	Freq.
Bramwell B	206	Dwyer L	47
Hall CM	206	Tosun C	46
Gossling S	180	Urry J	46
Scott D	126	Lane B	44
Becken S	122	Saarinen J	44
Mckercher B	116	Bohdanowicz P	43
Buckley R	101	Hunter C	44
Sharpley R	98	Mccool SF	43
Weaver DB	94	Font X	43
Butler RW	93	Ajzen I	42
Cohen E	76	Dredge D	42
Ryan C	75	Higgins DF	40
Jamal T	73	Timothy DJ	39
Wearing S	66	Getz D	37
Scheyvens R	64	Peeters P	36
Eagles PFJ	61	Higham J	36
Dolnicar S	59	Choi HC	35
Megehee NG	54	Dickinson JE	35
Miller G	53	Ballantyne R	33
Moscardo G	49	Holden A	31

4.3 Institutions and Their Geographic Location

Run CiteSpace5.0 to analyse the institutions and results 100 nodes and 174 links. Many institutions around the world have publications in JST. The productive institutions are Griffith University(41), University of Queensland(32), University of Waterloo(24), Hong Kong Polytechnic University(20), University of Otago(20), So Cross University(18), James Cook University(18), Monash University(17), University of Surrey(14) and Linnaeus University(14), etc.

Table 5 lists the top 30 institution contributors and each of their geographic location. There are 7 universities located in Australia, 5 in USA, 3 in England and 3 in New Zealand, all of which hold the authorities of STP in specific perspectives. High productivity suggests excellent teamwork collaboration and knowledge delivery. Hong Kong Polytechnic University (HKPU) in Hong Kong Region of P. R. China in Asia ranks with a remarkable position of No. 4, in line with its No. 1 hospitality and tourism major ranking in Academic Ranking of World Universities of 2018 and also wins the highest half-life (HL) of 7. Half-life is the time taken for the radioactivity of a specified isotope to fall to half its original value. The topics raised by HKPU take 7 years to fade out its original discussion value.

Table 5 Top 30 institutions of JST (2008–2018)

University	Location	Freq.	Brst
Griffith Univ	Australia	41	
Univ Queensland	Australia	32	
Univ Waterloo	Cannada	24	
H. K. Polytech Univ	P. R. China	20	
Univ Otago	New Zealand	20	
So Cross Univ	Australia	18	5.78
James Cook Univ	Australia	18	3.6
Monash Univ	Australia	17	3.78
Univ Surrey	England	14	
Linnaeus Univ	Sweden	14	
Univ Johannesburg	South Africa	13	
W Norway Res Inst	Norway	13	
NHTV Breda Univ Appl Sci	Netherlands	13	
Univ Canterbury	New Zealand	12	
Lund Univ	Sweden	11	
Texas A&M Univ	USA	9	3.2
Wageningen Univ	Netherlands	9	
Virginia Tech	USA	8	3.2
Leeds Metropolitan Univ	England	8	2.51
Arizona State Univ	USA	8	
Univ Oulu	Finland	8	
Bournemouth Univ	England	8	
Univ Technol Sydney	Australia	7	
Univ Georgia	USA	7	
Univ New S Wales	Australia	7	
Univ Waikato	New Zealand	7	
Sun Yat Sen Univ	P. R. China	6	
Univ Aweiro	Portuguese	6	
Sejong Univ	South Korea	5	
Penn State Univ	USA	5	

Besides HKPU, the most productive Asia institutions are Sun Yet Sen University in mainland China and Sejong University in South Korea. The most productive European institutions are University Surrey(14), Leeds Metropolitan University(8) and Bournemouth University(7) in England, Linnaeus University(14) and Lund University in Sweden(11), Western Norway Research Institution(13) in Norway, NHTV Breda University of App & Science(15) and Wageningen University(9) in the Netherlands, University of Oulu(8) in Finland and University of Aweiro in Portuguese(6). Figure 4 shows the collaborations among the contributed Asian and European institu-

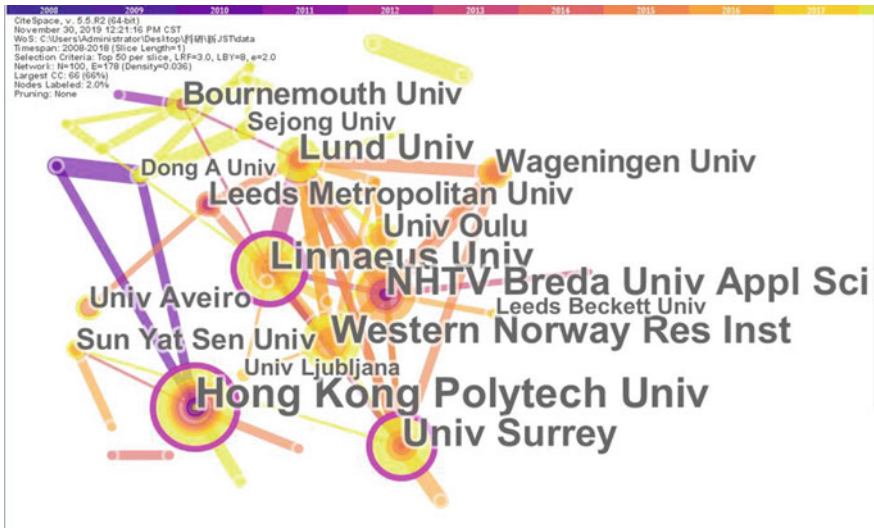


Fig. 4 Visualization of collaborative network of Asian and European Institutions (2008–2018)

tions. The red nodes mean the universities which raised considerable burst subjects. As numbers of university institutions contribute to sustainable tourism, there should be more collaboration between Asia intuitions and European institutions since each of them can offer different case of sustainable attributes.

4.4 Countries and Cited Countries Analysis

Lu et al. [4] defined top 5 contributed countries to JST were USA, Canada, England, Australia and New Zealand during 1993—2007. This changes a lot in the past 11 years. As stated on the left side of Table 6, the contributed author and institutions are mainly come from Australia (195 articles), USA (159 articles), U.K. (En/Sc.115+11 articles), New Zealand (68 articles), P. R. China (68 articles), Canada (62 articles) and Spain (40 articles). The institutions and authors from Australia and China made an impressive progress. There are 34 nodes and 125 links output from CiteSpace5.0. The centralities of USA (0.66) and England (0.45) are higher than that of Australia (0.27), which suggests that the research leadership of USA and England to STP topic has not changed. The thickness of purple node ring in Fig. 5 tells the importance of England exactly. Table 6 shows the contributed countries or regions to STP topic from cited references, many Asian and European countries and regions are on the list.

The contributed countries are classified into 5 groups. The first group is defined as powerful countries, like USA, England, and Canada. They possess economic

Table 6 Countries (left) and cited countries (right) in JST

Cntry/Rgn	Frq	Cited Cntry/Rgn	Frq
Australia(0.27)	195	USA	938
USA(0.66)	158	Australia	809
England(0.45)	114	P. R. China	584
New Zealand	68	England	536
P. R. China(0.11)	68	Spain	331
Canada	62	Canada	289
Spain	40	Taiwan	240
Netherlands	32	New Zealand	230
Norway	29	South Africa	194
Sweden	27	South Korea	193
Taiwan	20	Sweden	173
South Africa	18	Italy	165
Finland	16	Germany	146
Germany	15	Netherlands	146
South Korea	14	Norway	139
Scotland	9	Malaysia	132
Austria	8	Finland	118
Portugal	8	Portugal	92
Italy	7	Scotland	86
Turkey	6	Turkey	76
Malaysia	6	Switzerland	73
Poland	6	Austria	71
Slovenia	5	France	57
Wales	4	Indonesia	50
Japan	3	Poland	49

advantages and the best researchers and institutions, surely should responsibly contributed more to the sustainable development than the other countries. The second group is nature-resource-endowment countries, like Australia and New Zealand. The Oceania is always regarded as the heaven escape from the industrial revolution and the environment are their competitive advantages, as well as their best researchers and institutions. The third group is sustainable countries, which located in north Europe. They are the Netherlands, Norway, Sweden, Austria and Finland, showing the models of human race sustainable development. The competitive advantages of the second and the third group may suffer the most from climate change, that's why they concern more about the STP debates. The fourth group is the developing countries and regions of emerging economies from East Asia, like P. R. China, Taiwan and South Korea. The STP research there may be driven by their inner institution or the outer normative from developed countries. The fifth group is the countries



Fig. 5 Collaboration of Asian and European countries in JST (2008–2018)

with the absolute advantage in the hospitality and tourism industry, like Spain and Portugal. The 1st, 3rd and the 5th group locate in Europe and the 4th group locates in Asia. Top 6 productive Asian and European countries are UK, P. R. China, Spain, the Netherlands, Norway and Sweden, implied the hotspot countries which dedicated to sustainable development especially in the field of tourism, also suggested that more and more collaboration are completed or under conducted among those countries.

4.5 Funding Agencies Statistic

The articles published in JST are mainly supported by funding agencies from England, Canada, China and Australia showed in Fig. 6. All the performances of funding agencies are under expected except China in Asia. In Fig. 7, there are even over 100 articles supported by the four funding agencies from China ranking in leading position which are National Natural Science Foundation of China, National Science Foundation of China, China Scholarship council and China Postdoctoral Foundation. High productive suggest that Chinese researchers who have access to the national funding agencies of China are becoming more and more capable of international academic dialogue. In the past two decades, China has produced countless piles of papers, which have been ridiculed by other countries. But it happens to be an applicable way for academic innovation, just as Steven & Burley's New Product Development stages said: 3000 raw ideas equals 1 commercial success. The funding agencies got more returns in a heating up innovation atmosphere.



Fig. 6 Funding agencies of the articles in JST (2008–2018)



Fig. 7 Funding agencies of cited references in JST (2008–2018)

4.6 Cited Journal Analysis

Key research resources of certain discipline can be derived from data analysis of cited journals. The key resources of ST are JST, TM, ATR, JRT and CIT, as shown in Table 7. The cited times from JST itself is 706, and followed by TM (619), ATR (582), JTR (320). The research results suggest that JST keeps a good interaction with other key tourism journals and articles published in other key tourism journals well connect with JST. Cited journals can be divided into 7 research clusters. Orchid Island and Shark Reef are two hot tourist destination of STP. One key way to observe the consuming of STP is to track down and measures the tourists’ carbon footprint, while theory of planned behavior is most applied methodology in understand the

Table 7 Parts of cited Journal in JST (2008–2018)

Journal	Freq.	Journal	Freq.
Journal of Sustainable Tourism	706	Journal of Marketing Res.	111
Tourism Management	619	Journal of Environ. Psychol.	106
Annals of Tourism Res.	582	Environ. Behav.	102
Journal of Travel Research	320	Soc. Nature Resource	100
Current Issues in Tourism	307	Journal of Clean Prod.	97
Int Journal of Tourism Res	247	Thesis	93
Tourism Geographies	205	Int. Journal of Hosp. Manag.	90
Journal of Environ management	184	Journal of Business Res.	75
Ecol. Econ.	140	Environ. Conserv.	71
Journal of Ecotourism	136	SCIENCE	67
Tour. Recreat. Res.	124	Journal of Consum. Res.	57
Global Environ Change	113	ANATOLIA	56

motives STP consuming. Following practitioners can choose top 5 or top 10 journals in Table 7 for future literature review or bibliometric analysis of sustainable tourism products.

4.7 Keywords Co-occurrence and Burst Subject

(1) Keywords co-occurrence analysis

Keywords snapshot the themes, samples, methodology, purpose and even contents of an article, so researcher can figure out the structure or map out the progress of the specific discipline through keywords co-occurrence analysis. Table 8 shows the summary of keywords co-occurrence analysis of JST. The high frequency may reveal a tough challenge or good solution to achieve sustainable tourism development, like climate change or protected area. Most researches focus on the topics like climate change, environment conservation and management, corporate social responsibilities and environmentally responsible practices.

Table 8 Parts of keywords summary in JST (2008–2018)

Keyword	Freq.	Keyword	Freq.
Sustainable tourism	255	Nature-based tourism	35
Management	124	Sustainable tourism development	35
Tourism	121	Satisfaction	34
Climate change	117	Performance	32
Protected area	89	Policy	28
ecotourism	86	Volunteer tourism	26
Impact	83	Identity	26
Sustainability	81	Framework	26
Tourism development	80	Tourism impact	26
Perception	77	Corporate social responsibility	25
Attitude	76	In-depth interview	25
Conservation	75	Local community	23
Sustainable development	69	Motivation	22
National park	68	Community participation	22
Governance	58	Rural tourism	21
Behavior	56	Stakeholder	21
Community	51	Perspective	21
Model	48	Tourism destination	21
Tourism industry	38	Tourism sector	19
Experience	37	Developing country	17

Koseoglu et al. [18] categorized bibliometric analysis as theme-focused, method-focused, and sample-focus, as well as journal-focused and contributor-focused, which are presented as previews. Theme-focused studies include articles on discussing how one or more themes, such as climate change or performance, have evolved in the entire discipline. Methodology-focused review studies constituted articles directly focusing on how methodologies have evolved in the tourism literature. Sample-focused review studies focus on the samples which can be categorized into three groups: industry, people, and place. This paper categorizes the keywords in this framework as Table 9.

10 forms of STP is showed in first group of theme-focused in Table 9 covering Ecotourism(86), nature-based tourism(35), volunteer tourism(26), rural tourism(21), wildlife tourism(14), indigenous tourism(12), community-based tourism(8), pro-poor tourism(6), heritage tourism(6), and cultural tourism(3). The higher the frequency is, the closer the concept is in line with ST philosophy. What Lu et al. (2009) have discovered that urban tourism had high frequency is opposite to the result of this paper and mass tourism should march to sustainable way. In-depth interview(25), planned behaviour(15), semi-structured interview(13), structural equation modelling(10), paradigm(6), determinant(6), case study(6), literature review(6),

Table 9 Categories of the output keywords in JST (2008–2018)

Focus	Field	Keyword with its frequency
Themes	Form	Ecotourism(86), nature-based tourism(35), volunteer tourism(26), rural tourism(21), wildlife tourism(14), indigenous tourism(12), community-based tourism(8), pro-poor tourism(6), heritage tourism(6), cultural tourism(3)
	Economic	Tourism(121), tourism development(80), impact(83), value(17), consumption(16), negative impact(12), economic development(10), positive effect(6), state(6), demand(6), political economy(5), economic sustainability(4)
	Management	Management(124), governance(58), performance(32), policy(28), tourism sector(19), indicator(16), knowledge(15), quality(13), practical implication(12), tourism planning(9), power(8), interpretation(8), tourism policy(8), tourism management(8), partnership(7), politics(6), strategy(6), destination image(6), long term(5), planning process(5), certification(5), information(4), environmental management(4), market segmentation(4), adaptation strategy(3), policy maker(3)
	Psychology	Perception(77), attitude(76), behaviour(56), experience(37), satisfaction(34), identity(26), motivation(22), intention(16), participation(15), travel(14), Challenge(13), pro-environmental behaviour(17), environmental attitude(10), involvement(7), tourist behaviour(6), tourism mobility(6), willingness to pay(6), loyalty(6), behaviour change(5), emotional solidarity(4), responsible behavior(3), attitude-behaviour gap(3), emotion(3), rural tourism experience(3)
	Philosophy	Sustainability(81), sustainable development(35), sustainable tourism development(35), perspective(21), environmental sustainability(12), resilience(11), authenticity(10), responsible tourism(9), high level(8), future(8), vulnerability(7), green(7), trust(6), tourism sustainability(5), mitigation(5), corporate environmentalism(4), evolution(3)
	Sociology	Community(51), tourism impact(26), corporate social responsibility(25), community participation(22), local community(23), environmental impact(16), issue(13), community development(12), environmental issue(11), host community(9), rural community(7), poverty reduction(6), poverty alleviation(6), transport(6), network(6), context(5), moderating role(5), social responsibility(5), collaboration(5), social impact(5), culture(4), residents perception(4), social media(4), equity(4), ethics(4), support(4), well-being(4)
	Ecology	Climate change(117), conservation(75), biodiversity conservation(11), biodiversity(10), environment(9), emission(11), natural environment(8), science(4), greenhouse gas emission(4), space(3), CO ₂ emission(3)
Method	Macro level	Tourism research (12), qualitative research (8), empirical research(3)

(continued)