



Enlightening Tourism.

A Pathmaking Journal



Universidad
de Huelva

Editorial Team

Editor in Chief

Alfonso Vargas-Sánchez, University of Huelva, Spain

Associate Editor

T.C. Huan, National Chiayi University, Taiwan

Books Review Editor

Brendan Paddison, York St. John University, United Kingdom

Secretariat

Elena García de Soto, University of Huelva, Spain

Cinta Borrero-Domínguez, University of Huelva, Spain

Style reviewer and text editor

Anestis Fotiadis, I-SHOU University, Taiwan, Province of China

Editorial Board

José Manuel Alcaraz, Murdoch University, Australia

Mario Castellanos-Verdugo, University of Seville, Spain

José Antonio Fraiz-Brea, University of Vigo, Spain

José Manuel Hernández-Mogollón, University of Extremadura, Spain

Shaul Krakover, Ben Gurion University, Israel

Jean Pierre Levy-Mangin, University of Quebec, Canada

Tomás López-Guzmán, University of Córdoba, Spain

Yasuo Ohe, Chiba University, Japan

Mirko Perano, University of Salerno, Italy

María de los Ángeles Plaza-Meija, University of Huelva, Spain

Nuria Porras-Bueno, University of Huelva, Spain

João Albino Silva, Algarve University, Portugal

Advisory Board (Spanish Members)

César Camisón-Zornoza, University of Valencia, Spain

Enrique Claver-Cortés, University of Alicante, Spain

María Teresa Fernández-Alles, University of Cádiz, Spain

José Luis Galán-González, University of Seville, Spain

Félix Grande-Torrales, University of Jaén, España

Antonio Leal-Millán, University of Seville, Spain

Inmaculada Martín-Rojo, University of Málaga, Spain

Antonio Manuel Martínez-López, University of Huelva, Spain

Francisco José Martínez-López, University of Huelva, Rector, Spain

Pablo A. Muñoz-Gallego, University of Salamanca, Spain

Francisco Riquel-Ligero, University of Huelva, Spain

José Miguel Rodríguez-Antón, Autonomous University of Madrid, Spain

Sandra Sanchez-Cañizares, University of Cordoba, Spain

Josep Francesc Valls-Giménez, ESADE, Spain

Advisory Board (Other European Members)

Paulo Aguas, University of Algarve, Portugal

Gustavo Barresi, University of Messina, Italy

Carlos Costa, Aveiro University, Portugal

Salvatore Esposito de Falco, University of Rome "La Sapienza", Italy

Sheila Flanagan, Dublin Institute of Technology, Ireland

Tania Gorcheva, Tsenov Academy of Economics, Bulgaria

Tadeja Jere-Lazanski, University of Primorska, Slovenia

Metin Kozak, Mugla University, Turkey

Álvaro Matias, Lusitana University, Portugal

Alfonso Morvillo, National Research Council, Italy

Alexandru Nedelea, Stefan cel Mare University of Suceava, Romania

Claudio Nigro, University of Foggia, Italy

Angelo Presenza, University "G. D'Annunzio" of Chieti-Pescara, Italy

Kanes Rajah, Royal Agricultural University, United Kingdom

Advisory Board (Members from the rest of the world)

John Allee, American University of Sharjah, United Arab Emirates

Nestor Pedro Braidot, National University of La Plata, Argentina

Roberto Elias Canese, Columbia University, Rector, Paraguay

Luca Casali, Queensland University of Technology, Australia

Nimit Chowdhary, Indian Institute of Tourism and Travel Management, India

Steven Chung-chi Wu, National Pingtung University of Science and Technology, Taiwan

Dianne Dredge, Southern Cross University, Australia Daniel Fesenmaier, Temple University, United States

Babu George, Alaska Pacific University, United States

Dogan Gursoy, Washington State University, United States

Jafar Jafari, University of Wisconsin-Stout, United States

Sanggun Lee, Pai Chai University, Korea Republic of

Albert Yeh Shangpao, I-SHOU University, Taiwan

Pauline Sheldon, University of Hawaii, United States

Germán A. Sierra-Anaya, University of Cartagena de Indias, Rector, Colombia

Xiaohua Yang, University of San Francisco, United States



REMARKS FROM TOURISM PLANNING AND SUSTAINABLE TOURISM - A BIBLIOMETRIC STUDY

Luis Mota

University of Madeira (Portugal)

luis.mota@staff.uma.pt

Sérgio Teixeira

University of Madeira (Portugal)

sergio.teixeira@staff.uma.pt

Frederica Gonçalves

University of Madeira (Portugal)

frederica.goncalves@staff.uma.pt

ABSTRACT

Tourism is emphasized as one of the sectors with the greatest potential for expansion on a global scale; therefore, it is important to understand related factors regarding tourism planning and sustainability. The main contribution of this study is to identify research trends linked to the keywords, respective gaps and specific needs for future scientific research within the research field of tourism planning and sustainable development. Using VOSviewer Software and applying bibliometric techniques, visualization maps of the intellectual structure were created for a systematic review of the literature. The number of articles published and the number of annual citations for the period 1997 to 2017 of the Web of Science database were used for this purpose. The results draw attention to multiple research clusters focused on the intellectual structure of tourism planning and sustainable development.

KEYWORDS

Bibliometric Studies; Environmental Management; Environmental Protection; Sustainable Tourism; Tourism Planning.

ECONLIT KEYS

O29; D85; Z32; Z39.

1. INTRODUCTION

According to the World Tourism Organization UNWTO (2012) and Alonso-Almeida (2013), the organizational principle of sustainable development can contribute significantly to development of economic, social and environmental pillars. Tourism by itself plays an important role in the global economy and the tourism industry, as it is considered very important for the development of many countries (Carrillo & Jorge, 2017; Blancas, et al., 2017; Assaf & Tsionas, 2018).

There is, however, an urgent need to expand knowledge and improve on attitudes facing environmental issues. There are tourists considering such matter as drive force of more environmentally friendly traveling decisions in benefit of the environment (Eagles & Cascagnette, 1995). Specific analysis with this focus allows us to determine the success of sustainable tourism development on a global scale (Jurowski, et al., 1995; Laroche, et al., 2002; Chiu, et al., 2014; Kim & Filimonau, 2017). Despite the recognition of the importance given to the relationship between attitude and pro-environmental tourism behaviour, there is a gap on systematic analyses or bibliometric studies addressing this issue on tourism, planning and sustainable development (Evren & Kozak, 2014). However, there has been a particular interest in bibliometric research, considered a robust and relevant method on literature related to this field (Hall, 2011).

The objective of this study is to analyse systematically the occurrence and characteristics of the studies using the keywords "Tourism Planning*" and "Sustainable Tourism*" using the on-line database Web of Science - WoS. Contributing to the understanding of the general panorama of the evolution of academic publications, this study applies a bibliometric method of verification.

The remainder of this article is organized as follows: in the next section, we review the scientific literature on tourism planning and sustainable development. Next, we detail the methodology used and the procedures to obtain the results of bibliometric studies. Subsequently, the results are presented considering the indicators used and their analysis. Finally, we conclude with the general conclusions, limitations of the study and suggestions for future research.

2. THEORETICAL BACKGROUND

2.1) TOURISM PLANNING AND SUSTAINABLE DEVELOPMENT

Tourism is a transversal activity as well as being responsible for impacts on the ecosystem and carries the capacity of changing peoples' awareness towards the sustainability goals. Tourism activity has a global effect where physical and psychological aspects can influence directly or indirectly the environment. For example, natural resources such as water are important to preserve. Water demands have much higher values on tourist setups than on residential areas and an object of grievance and conflicts related to the growth of population and their need to access to natural resources (Gössling, 2002). Tourism development carries the power to shift water demand and availability to scarce areas where tourist pro-environmental behaviour differs significantly from their normal water consumption at home. Sustaining that tourism increases water consumption, a comparison between one of the market source and tourism destination is used. In Germany, 126 litres/capita/day of groundwater were consumed in 2004 (Hillenbrand & Schleich, 2009), and close to 2001 in Zanzibar, almost 700 litters per bed, overnight, was the average consumption (Gössling, 2001).

The energy required fulfilling a need associated with accommodation and electricity consumption to run tourism infrastructures enlarges the ecological footprint for tourism.

Sustainability lays on specific pillars targeting social, cultural, environmental and economic activities, and development is what we do (Brundtland, 1987). Regardless of its prominence, political and technological dimensions are important to consider when talking about sustainable development. Despite improving quality life conditions through tourism, governments controlling the activity keep the local society excluded from the decision-making process. The fact is commonly associated with poor community participation, leadership, regulations and foreign investment (Chris Choia & Sirakaya, 2006).

Technological advances have some responsibility on the way we communicate, how we move and influences the policymaking process. A communication network system becomes easy to reach, and host communities use technology to

disseminate their offers and products. Technology reduces the time from the action, due to its environmentally friendly use it is now socially acceptable.

A Delphi study conducted by Chris Choia & Sirakaya (2006) to develop objective indicators for sustainable development identified check list-indicators in the fields of human resources, planning, and education. The authors stated the importance of planning and community involvement in management activities as significant factors for sustainable tourism development. The access to communication channels benefits participation and provide better reaction to local policies for development.

On a study about rural tourism in Spain, Hernández-Mogollón et al. (2011) highlighted the fact of specific needs for planning and managing tourism destinations and businesses. There is a need for effective tools for enhancing competitiveness, as this type of tourism happens on a smaller scale and mainly uses local resources. Based on his research the author identified the “increment of 145.13% of rural accommodation, 164.68% in the personnel employed” (p. 46). This activity generates employment within rural areas. Nevertheless, lacks strategy and analysis of tourists’ behaviour.

As awareness level represents individual differences, Fotiadis and Vassiliadis (2015) directed their research to hotel owners in Greece and Taiwan to identify practical issues for sustainable tourism development. Hoteliers from both regions describe opposite positions regarding what is preventing sustainable tourism practices as they are related to investment, economic return, and personnel issues. For example, occidental hotel representatives believe greatly on the fact that sustainable development is barred by the high cost and return of investment, although both hoteliers consider “the least important reason is the fear of reducing occupancy or losing customers” (Fotiadis & Vassiliadis, 2015, p. 167).

Education and training are also essential for tourism development, raising awareness among visitors and stakeholders. A corresponding situation highlights education tourism where participants undergo a learning process, acquiring concepts and extending knowledge. For example, visitors to the Mayan ruins in Mexico are attracted by Mayan culture and rituals and traveling to visit the ancient ruins to witness first-hand what they have considered previously. In some cases, obtaining professional guidance during a visit enhances the level of the experience itself,

enabling the learner to gain a deeper understanding of certain aspects of interest (Mota, 2015).

On a literature review of scientific tourism studies, Buckley (2012) states that tourism affects populations by reducing the number of local visitors to natural attractions; better income links indirectly females' dependence on subsistence economy with decreasing family size. However, healthcare infrastructures affect positively the longevity of the population. The author stated that nature-based tourism carries the risk of dependency, impacting directly on local communities and, therefore, a disruption of the activity can negatively affect the flow of tourism and lower a country's gross domestic product (GDP). Apparently, development is associated with economic return and impacts can be both positive and negative. There is also the need for managing resources and reducing footprints by educating local populations and visitors about the importance of good practices in order to leave a legacy for future generations (Mota, 2015).

As mentioned on Evren & Kozak (2014), bibliometric studies are scarce, but the relationship between attitude and pro-environmental behaviour is still an object of study at different levels, including planning. Further studies aimed to explore how researchers and policymakers used outputs from bibliometric research on the sustainable tourism field for practical solutions. Setting the reference at the Bruntland (1987) report, the period 2012-2017 was peculiar by the incidence of studies on climate change, modelling, values, behaviour. This is a clear evidence of how important these current topics are, turning themselves as push factors for sustainable planning. Nevertheless, practical application remains underrepresented (Bramwell & Lane, 2005).

The concept of sustainable tourism is commonly recognized as a type of tourism focused on eco-friendly practices showing respect by the global environment, and being much more responsible (Weaver, 2014). Although, sustainability is much more than that (Gössling, 2001, 2002; Frausto & Mota, 2015; Ruhanen, et al., 2015; Kim & Filimonau, 2017), Buckley (2012) was keen to understand environmental impacts from tourism, and social paradigms to overcome tourism development. The author analysed 5000 articles and highlighted political approaches as a tool to evade environmental limitations. Based on environmental regulation, tourism planning contemplates the use of natural resources for tourism activity.

The bibliometric analysis conducted by Ruhanen, et al. (2015) reviewed 492 articles to understand the state of art of sustainable tourism research. New approaches registered testing empiric concepts to report findings and build new models providing possible solutions for sustainable tourism management. Despite of identifying a variety of fields linked to sustainable tourism, climate change is still being considered a trend and is speculated if it will become the new sustainable tourism.

Kaiser et al. (2003) referred to the vital need for studying pollution levels, and the need to save energy and resources, even though environmental psychologists had conducted little research on it. Personal impacts on the environment and natural resource consumption are also important to measure. Bortoleto et al. (2012) developed a model for household waste prevention, which is suitable for use as a tool for governance and assists in understanding how to reduce waste thus preventing such behaviour. The author points out that: “personal norms and perceived behaviour control are the main predictors and that, unlike the case of recycling, subjective norms have a weak influence on waste prevention behaviour. Waste prevention behaviour is likely to be influenced by concern for the environment and the community, as well by a perception of moral obligation and inconvenience” (Bortoleto et al., 2012, 2195).

Finally, yet importantly Miao and Wei (2013) studied the pro-environmental behaviour of 1185 people and showed that they had a higher level of pro-environmental behaviour in the household than when staying in a hotel, which was evidence of behavioural inconsistency.

2.2) BIBLIOMETRIC TECHNIQUE

Several techniques can be used to analyse existing literature on a given scientific domain. Several researchers have turned to bibliometric techniques, Co-citation Analysis and Co-word Analysis, to study some of the various fields of tourism (Evren & Kozak, 2014; Teixeira & Ferreira, 2018).

A bibliometric technique is used as an approach to explore evidence of transitions in different fields. For example, to demonstrate the centrality of various authors to the field of Human-Computer Interaction (Wania, et al., 2006) to a determinate statistic

like the most first authors or most cited articles (Oulasvirta, 2006), or to clustering publications into thematic categories (Kaye, 2009). Others, such as Newman (1994) used and combining with other techniques to categorized products of Human-Computer Interaction research. Guha, et al. (2013) expose relationships between sub-disciplines in computer science and showed evidence of transitions in the field.

Bibliometric studies provide the ability to identify authors and publications who are references for researching on sustainable tourism. For example, for 1999-2008, Benckendorff (2009) analysed articles published in the Journal of Sustainable Tourism and reported influences from Australian, British and Canadian geography researchers. Their registry is frequently related to the study of ecotourism and to ecological sustainability, leaving a gap represented by little research on socioeconomic aspect characteristics from sustainability.

In fields like Tourism, a bibliometric analysis is important as a result of external evaluation of research quality, interest in impact and prestige factors (Hall, 2011). Palmer, et al. (2005) used bibliometric analysis in 12 tourism journals published within a 5-year period. In their study, they showed the percentage of articles that apply statistical techniques as compared to those that do not, and a ranking of the techniques most often used and their distribution according to a journal. Others, such as Barrios et al. (2008) presented a study using bibliometric analysis of the field of psychology of tourism between 1990 and 2005. Results showed a significant growth in the literature on the subject, as well as an increase in co-authorship and institutional collaboration during that period. Ruhanen, et al. (2015) conducted a bibliometric analysis for the four highest ranked journals in the tourism field during a period of 25-year. Their results indicate that the growth in sustainable tourism research has been remarkable.

3. METHODOLOGY

3.1) DATA AND METHODS

Several researchers used bibliometric techniques targeting co-citation analysis and co-word analysis to study a variety of management aspects (Zupic & Čater, 2015). In several studies, bibliometric analysis was used to obtain a better

understanding of the data analyzed in the past and to discover possible hidden patterns that may be of great relevance for current and future research (Fahimnia et al., 2015, Zhong et al., 2016).

Following the same approach to gather information about co-word and co-citation analysis, it was used the VOSviewer version 1.6.5ⁱ software for the bibliometric analysis concentrated on published articles, and the number of citations in journals of the research fields such as “Sustainable Tourism and Tourism Planning”.

The procedure for analysis was as follows: i) in a first phase of the research in WoS, it was set the filter to retrieve all documents to be downloaded with the complete record including cited references, author, title, source and abstract. The file format used was tab-delimited (Win), and the software set to download the maximum files possible, 500 per transfer; and ii) in a second phase, the "full counting" method was used to analyse titles and summaries of all the documents.

For the period 1997-2017, the data analysis was conducted between March and April of 2018, resulting on a sample of 11153 articles and 85307 citations. The information contained in this study is in its raw form, which means that the research did not use any chronological filter corresponding to the period of birth, maturation, and solidification of research related to tourism planning and sustainable tourism.

4. RESULTS

For the period 1997-2017 and using the keywords "Tourism Planning*" and "Sustainable Tourism*", Table 1 gives the total sample for the number of articles and number of citations of 11153 and 85307 respectively.

Keywords	No. of Articles	No. of Citations
"Tourism Planning*"	5316 (47.66%)	42313 (49.60%)
"Sustainable Tourism*"	5837 (52.34%)	42994 (50.40%)
Total	11153 (100.0%)	85307 (100.0%)

Table 1: Unfiltered number of articles and citations. Source: Own elaboration.

Apart from the first eight years, the use of the chosen keywords has been always greater for "Sustainable Tourism*" except in the years 2006, 2007 and 2012. The

evolution of the number of annual articles for the sample period is pictured in Figure 1 in which we can identify three different periods for publications and citations.

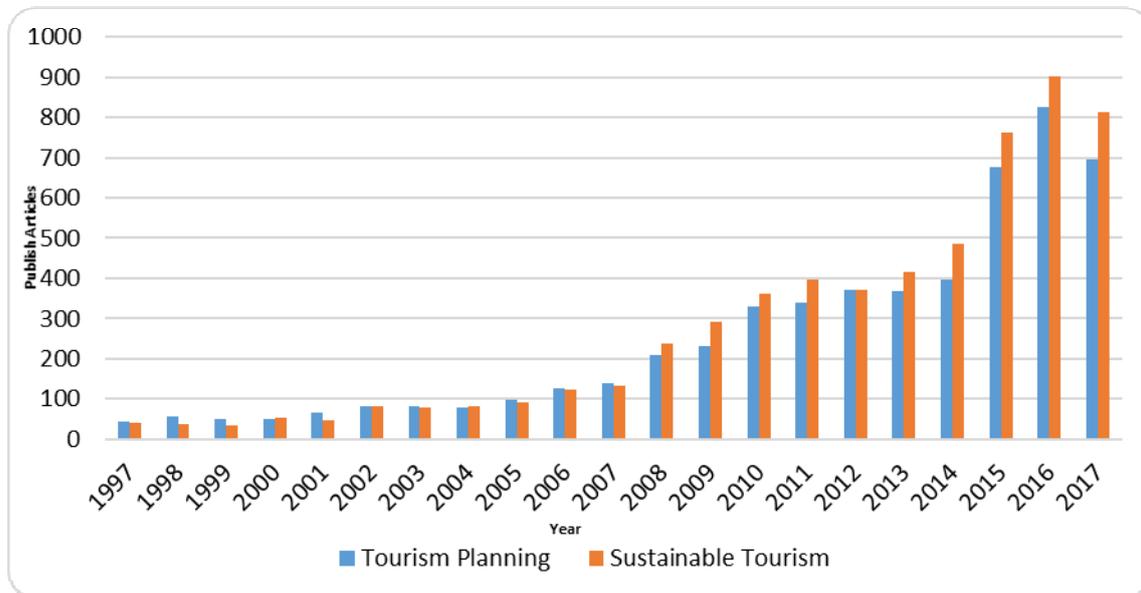


Figure 1: Evolution of the number of articles along the sample timeframe. Source: Own elaboration.

From results, only in 2006 publications went over 100 articles growing until the second period in 2010-2013, and finally the third-period referent to 2015-2017. Until 2007, publications on tourism planning have been always greater but afterward have been always behind sustainable tourism.

4.1) *TOURISM PLANNING*

The evolution along the sample period for the 5316 of published articles, and as well as for the 42313 citations for “Tourism Planning*” is shown in Figure 2. The number of articles has been always significantly below the number of citations, except for in the last year of the period.

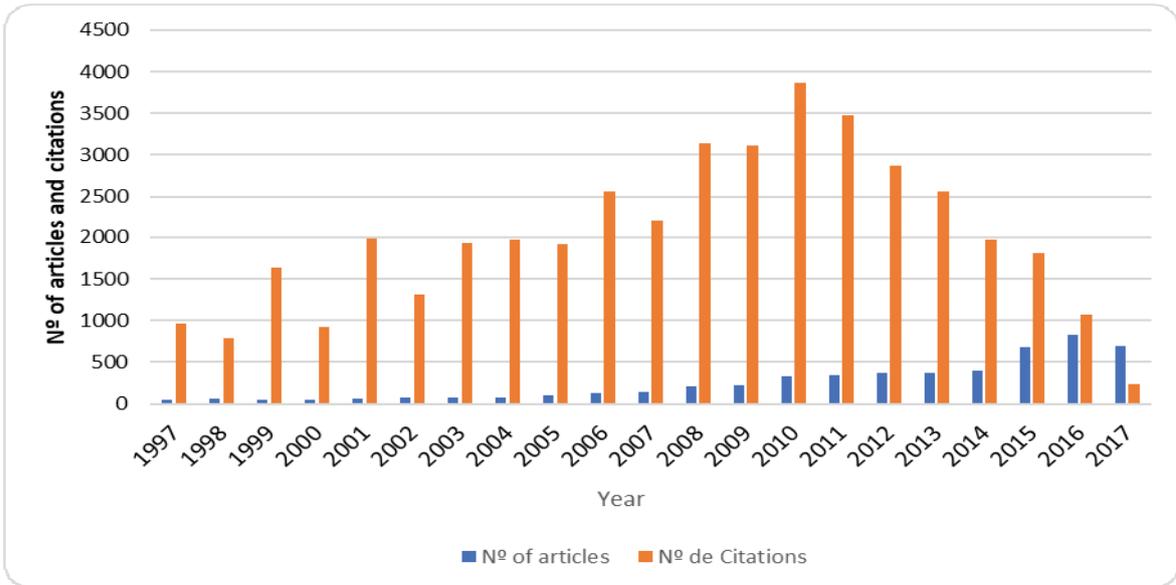


Figure 2: Annual evolution of the number of publications and citations based on the keyword "Tourism Planning*". Source: Own elaboration.

Since 2003, the number of citations was always above 1000 per year on the WoS database, reaching the peak in 2010 and declining continuously to a very low number of 232 in 2017, when it became around 30.00% of the number of articles.

Using the keyword "Tourism Planning*", the software provides Figure 3 as the map of analysis of the 100 Keywords Most Talked on Tourism Planning, creating several subject categories with greatest importance and the fields with the greatest incidence of existing studies. The colour of a subject category is related to the impact of a publication in the Tourism Planning category relative to the world average. The impact is related to the average number of citations per publication.

CLUSTER 1 (32 items)	CLUSTER 2 (31 items)	CLUSTER 3 (19 items)	CLUSTER 4 (13 items)	CLUSTER 5 (4 items)	CLUSTER 6 (1 items)
<i>Australia, authenticity, challenges, china, cities, city, collaboration, community, community participation, development, environment, governance, growth, heritage, identity, issues, networks, participation, place, planning, policy, politics, power, resources, stakeholders, sustainability, sustainable tourism, tourism development, tourism planning, turkey, urban planning, urbanization.</i>	<i>Behaviour, choice, decision-making, demand, design, destination, destination image, destination management, destinations, experience, experiences, impact, industry, information, internet, knowledge, model, motivation, performance, perspective, perspectives, quality, rural tourism, satisfaction, services, social media, systems, Taiwan, tourism, tourism demand, travel.</i>	<i>Areas, benefits, biodiversity, biodiversity conservation, communities, conservation, ecosystem services, ecotourism, gis, indicators, land-use, landscape, management, models, national-park, nature-based tourism, protected areas, recreation, sustainable development.</i>	<i>Adaptation, climate change, climate-change, framework, future, patterns, perception, preferences, resilience, risk, scenarios, Spain, vulnerability.</i>	<i>Attitudes, impacts, perceptions, support.</i>	<i>Strategic planning.</i>

Table 2: Top 100 Most relevant clusters on Tourism Planning. Source: Own elaboration.

Table 3 is a selection of the Top 10 scientific journals with the largest number of citations by Journal in this field of study, highlighting by itself the three most prominent journals as “Tourism Management”, “Annals of Tourism Research” and “Journal of Sustainable Tourism”.

Ranking	Source	Citations	No. of Articles	Total link strength
1	Tourism Management	6707	190	12879
2	Annals of Tourism Research	3749	79	7066
3	Journal of Sustainable Tourism	1629	105	10847
4	Journal of Travel Research	794	29	3059
5	Tourism Geographies	334	38	3669
6	International Journal of Tourism Research	269	26	2958
7	Current Issue in Tourism	259	26	2364
8	Sustainability	153	41	2506
9	Asia Pacific Journal Of Tourism Research	80	22	2111
10	Tourism Planning & Development	21	17	2353
	Total	13995	573	49812

Table 3: Top 10 most cited journals for “Tourism Planning*” as keyword. Source: Own elaboration.

From the total of 573 articles with “Tourism Planning*” as keyword published on the WoS, and the total of 13995 citations, the Top 10 most cited journals has the total link strength of 49812 possible connections with different subject categories and publication.

The Top 10 of scientific articles most relevant to the study in Tourism Planning is given on Table 4, highlighting the first article with 292 citations, followed with the next four articles with several citations ranging from 221 to 260.

Author	Journal	Title	Methodology	Citations
(Middelkoop et al., 2001)	<i>Climatic Change</i>	Impact of climate change on hydrological regimes and water resources management in the rhine basin	Quantitative	292
(Faulkner, 2001)	<i>Tourism Management</i>	Towards a framework for tourism disaster management	Qualitative	260
(Bramwell & Sharman, 1999)	<i>Annals of Tourism Research</i>	Collaboration in local tourism policymaking	Qualitative	241
(Sautter & Leisen, 1999)	<i>Annals of Tourism Research</i>	Managing stakeholders - A tourism planning model	Qualitative	226
(Ko & Stewart, 2002)	<i>Tourism Management</i>	A structural equation model of residents' attitudes for tourism development	Quantitative	221
(Pan & Fesenmaier, 2006)	<i>Annals of Tourism Research</i>	Online information search - Vacation planning process	Qualitative	169
(Reed, 1997)	<i>Annals of Tourism Research</i>	Power relations and community-based tourism planning	Quantitative	157
(Tress & Tress, 2003)	<i>Landscape and Urban Planning</i>	Scenario visualisation for participatory landscape planning - a study from Denmark	Mixed	153
(De Freitas, 2003)	<i>International Journal of Biometeorology</i>	Tourism climatology: evaluating environmental information for decision making and business planning in the recreation and tourism sector	Qualitative	152
(Timothy, 1999)	<i>Annals of Tourism Research</i>	Participatory planning - A view of tourism in Indonesia	Mixed	152

Table 4: Top 10 of scientific articles most relevant to the study in “Tourism Planning”. Source: Own elaboration.

The remaining articles are also not so distant from each other, but with a difference of 52+ citations from the previous group. The three most cited studies on tourism planning were:

- (1) Middelkoop, H., Daamen, K., Gellens, D., Grabs, W., Kwadijk, J. C. J., Lang, H., Wilke, K. (2001). Impact of climate change on hydrological regimes and water resources management in the Rhine basin. *Climatic Change*, 49(1–2), 105–128.
- (2) Faulkner, B. (2001). Towards a framework for tourism disaster management. *Tourism Management*, 22(2), 135–147.
- (3) Bramwell, B., & Sharman, A. (1999). Collaboration in local tourism policymaking. *Annals of Tourism Research*, 26(2), 392–415.

From Table 4, we can see that the leading journal using this rank for scientific articles is “Annals of Tourism Research” with 945 citations in the table. For the sample period considered for this analysis, the WoS has 65 articles published with the keyword “Tourism Planning*”, being cited 2106 times and representing the total link strength of 3188 possible connections with different clusters.

Table 5 lists the Top 10 most cited authors according to the results of this research method, indicating the author Xiang, Z. as the lead reference with 894 citations with only 9 articles, followed by Wall, G. who published the double number of articles, but being cited only 367 times, and Badalamenti, F. cited 303 times from 3 published articles.

Ranking	Author	Citations	No. of Articles	Total link strength
1	Xiang, z	894	9	13
2	Wall, g	367	18	352
3	Badalamenti, f	303	3	144
4	Katsanevakis, s	224	3	144
5	Ruhanen, i	123	7	259
6	Saarinen, j	84	9	202
7	Stylidis, d	67	3	303
8	Jaafar, m	21	4	746
9	Rasoolimanesh, sm	21	4	746
10	Hanrahan, j	2	5	279
	Total	2106	65	3188

Table 5: Top 10 most cited authors for the keywords “tourism planning*”. Source: Own elaboration.

Table 6 identifies countries with the largest number of citations on this study arena with “USA” at the top of the list followed by England and Australia, Canada, Spain, Peoples' Republic of China, Italy, New Zealand, Portugal, and Malaysia. Although,

this ranking is not necessarily correlated with the number of articles published. For example, Peoples' Republic of China is on position 6 with 1664 citations and has the highest number of publications, 563.

Ranking	Country	Citations	No. of Articles	Total link strength
1	USA	7525	410	37625
2	England	4631	219	23412
3	Australia	4394	250	26423
4	Canada	2723	151	17437
5	Spain	2514	262	19501
6	China	1664	563	21969
7	Italy	1637	185	10781
8	New Zealand	1266	80	12700
9	Portugal	469	85	9061
10	Malaysia	308	88	9381
	Total	27131	2293	188290

Table 6: Top 10 of countries with the largest number of citations featuring the keywords "Tourism Planning*". Source: Own elaboration.

Despite the low number of articles published on the WoS, Tourism planning has been always cited and the number of articles is increasing. The bibliometric analysis shows the presence of new categories and topics to further studies on the field of tourism planning.

4.2) SUSTAINABLE TOURISM

Figure 4 gives the evolution along the sample period for the 5837 published articles, and as well for the 42994 citations for "Sustainable Tourism". The number of articles was always greatly below the number of citations, except in the last year of the sample period.

Since 2001, the number of citations was always above 1000 per year on the WoS database; with three different peaks in 2002, 2005-2006 and 2011. From the last result, declined continuously to a very low number of 395 in 2017, when it became around 50.00% of the number of articles.

Using the keyword "Sustainable Tourism*", the software provides Figure 5 as the map of analysis of the 100 Keywords Most Talked on Sustainable Tourism, which create several clusters with greatest importance and the fields with the greatest incidence of existing studies. Furthermore, entering data by including only titles and abstracts in accordance with the "Full Counting" method, Table 7 provides a list of the most cited items, identifying five cluster fields with the respective items.

CLUSTER 1 (30 items)	CLUSTER 2 (26 items)	CLUSTER 3 (18 items)	CLUSTER 4 (15 items)	CLUSTER 5 (11 items)
<i>Australia; authenticity, challenges, china, collaboration, community, community participation, culture, economy, experience, governance, heritage, identity, issues, networks, participations, perspectives, place, policy, power, residents attitudes, rural tourism, stakeholders, support, sustainable tourism, sustainable tourism development, tourism development, turkey, world.</i>	<i>Agriculture, areas, competitiveness, corporate social-responsibility, demand, destination, destinations, environment, ethics, growth, hospitality, hotels, impact, industry, innovation, model, performance, perspective, quality, Spain, strategies, strategy, sustainability, sustainable development, systems, tourism.</i>	<i>Africa, benefits, biodiversity, biodiversity conservation, communities, conservation, developing-countries, ecosystem services, ecotourism, gis, impacts, landscape, management, marine protected areas, national-park, nature-based tourism, protected areas, recreation.</i>	<i>Adaptation, climate change, climate-change, consumption, development, ecological footprint, framework, future, indicators, New Zealand, resilience, resources, system, travel, vulnerability.</i>	<i>Attitudes, behaviour, decision-making, destination image, determinants, knowledge, motivation, place attachment, planned behaviour, satisfaction, values.</i>

Table 7: Most relevant clusters on Sustainable Tourism (Top 100). Source: Own elaboration.

Cluster 1 is composed of 30 items with "sustainable tourism" and "sustainable tourism development" within the cluster. The remaining clusters do not mention the chosen keyword but a link with important objects to study without exception. For example, cluster 2 includes "sustainability" and "sustainable development" and clusters' number 3, 4, 5 and 6 make relationship between several items as part of sustainability and tourism activity.

Table 8 is a selection of the Top 10 scientific journals with the largest number of citations in this field of study, highlighting by itself the three most prominent journals as "Tourism Management", "Journal of Sustainable Tourism" and "Annals of Tourism Research". With the total of 1168 articles published on the WoS, and the total of 21086 citations, the Top 10 most cited journals with "Sustainable Tourism*" a

keyword has the total link strength of 224968 possible connections with different clusters and items.

Ranking	Source	Citations	No. of Articles	Total link strength
1	Tourism Management	7006	222	39450
2	Journal of Sustainable Tourism	6359	406	67329
3	Annals of Tourism Research	4649	113	27142
4	Journal of Cleaner Production	734	57	9045
5	Journal of Travel Research	548	37	13710
6	Current Issues in Tourism	524	61	13726
7	Tourism Geographies	475	51	12190
8	International Journal of Tourism Research	360	42	8546
9	Sustainability	359	149	25166
10	Tourism Management Perspectives	72	30	8664
	Total	21086	1168	224968

Table 8: Top 10 most cited journals for “Sustainable Tourism*” as Keyword. Source: Own elaboration.

The remaining articles are also not so distant from each other, but always below 200 citations from the previous group. The three most cited studies on tourism planning were:

- (1) Gössling, S. (2002). Global environmental consequences of tourism. *Global Environmental Change*, 12, 283–302.
- (2) Choi, H. S. C., & Sirakaya, E. (2006). Sustainability indicators for managing community tourism. *Tourism Management*, 27(6), 1274–1289.
- (3) Saarinen, J. (2006). Traditions of sustainability in tourism studies. *Annals of Tourism Research*, 33(4), 1121–1140.

The Top 10 of scientific articles most relevant to the study in “Tourism Planning is given on Table 9, highlighting the first article with 283 citations, followed with the next four articles with a number of citations ranging from 202 to 239. The leading journal using this rank for scientific articles is “Annals of Tourism Research” with 1023 citations within the table. Table 10 lists the Top 10 most cited authors according to the results of this research method. Gössling, S. stands out from the list with 29 articles and 1582 citations, followed by Wall, C.M. who published 20 articles and was cited 828 times, and the next most close citations were obtained by Scott, D., and Bramwell, B. with 575 and 564 citations respectively on 10 and 22 articles.

Author	Journal	Title	Methodology	Citations
Gössling, 2002	Global Environmental Change	Global environmental consequences of tourism	Quantitative	283
Choi & Sirakaya, 2006	Tourism Management	Sustainability indicators for managing community tourism	Mixed	239
Saarinen, 2006	Annals of Tourism Research	Traditions of sustainability in tourism studies	Qualitative	237
Hunter, 1997	Annals of Tourism Research	Sustainable tourism as an adaptive paradigm	Qualitative	233
Sautter & Leisen, 1999	Annals of Tourism Research	Managing stakeholders - A tourism planning model	Qualitative	226
Sims, 2009	Journal of Sustainable Tourism	Food, place and authenticity: local food and the sustainable tourism experience	Qualitative	202
Mihalič, 2000	Tourism Management	Environmental management of a tourist destination - A factor of tourism competitiveness	Qualitative	199
Miller, 2001	Tourism Management	The development of indicators for sustainable tourism: results of a Delphi survey of tourism researchers	Mixed	182
Buckley, 2012	Annals of Tourism Research	Sustainable Tourism: Research and Reality	Qualitative	174
Briassoulis, 2002	Annals of Tourism Research	Sustainable tourism and the question of the commons	Qualitative	153

Table 9: Top 10 of scientific articles most relevant to the study in Sustainable Tourism. Source: Own elaboration.

Ranking	Author	Citations	No. of Articles	Total link strength
1	Gossling, s	1582	29	249
2	Hall, cm	828	20	211
3	Scott, d	575	10	157
4	Bramwell, b	564	22	87
5	Peeters, p	447	12	120
6	Nunkoo, r	425	12	21
7	Dolnicar, s	424	14	47
8	Hunter, c	415	7	19
9	Miller, g	407	9	68
10	Lane, b	335	16	73
	Total	6002	151	1052

Table 10: Top 10 most cited authors for the keywords "Sustainable Tourism*". Source: Own elaboration.

As showed on table 10, the sample period considered for this analysis, the WoS has 151 articles published with the keyword “Sustainable Tourism*”, cited 6002 times and represent the total link strength of 1052 possible connections with different clusters and items.

Table 11 identifies the countries with the largest number of articles in this study field with “USA” at the top of the list followed by England and Australia, Canada, Spain, New Zealand. Sweden, Peoples' Republic of China, Netherlands and Italy.

Ranking	Country	Citations	No. of Articles	Total link strength
1	USA	8024	543	143
2	England	7162	362	118
3	Australia	7060	466	125
4	Canada	3260	196	91
5	Spain	3107	376	69
6	New Zealand	2325	115	72
7	Sweden	2036	99	58
8	China	2011	1056	105
9	Netherlands	1732	110	60
10	Italy	1698	330	53
	Total	38415	3653	894

Table 11: Top 10 of countries with the largest number of citations featuring the keywords “Sustainable Tourism*”. Source: Own elaboration.

Although, this ranking is not necessarily correlated to the number of articles published. For example, Peoples' Republic of China is on position 8 with 2011 citations and has the highest number of publications, 1056.

The bibliometric analysis shows the evolution of citation and articles published along with the timeframe an analysis. Sustainable tourism is composed by a variety of items necessary to explain the conceptual basis. For that, authors and scientific journals invest on research and publications to enhance knowledge about the environment, society, and economy relating to tourism activity.

Our analysis in this article has several inferences. First, the distribution of keywords as highlighted in Tables number 2 and 7 and Figure 3 and 5, indicate a large body of work that focuses on the theme of Tourism Planning and Sustainable Tourism. This would be an expected finding within this data set. However, there are numerous clusters of themes in Tourism Planning (clusters 1, 2, 3, 4), and in Sustainable Tourism (clusters 1, 2, 3, 4, 5) that can represent a wide variety of

practical application fields. This further emphasizes the importance of those themes within the context of tourism.

Second, this analysis highlighted the top 10 most cited journals, articles, authors and countries for the keywords "tourism planning" and "sustainable tourism" as represented in Tables 3, 4, 5, 6, 8, 9, 10 and 11. The implications in Tables are to draw attention not only to the number of the citations and possible connections with different subject categories and publication but also to those that are infrequent (e.g. strategic planning, attitudes, impacts, etc.). In addition, the appearance of the less number of articles published on the WoS, this study highlights that the concepts of Tourism Planning and Sustainable Tourism are finding relevancy in the field of tourism.

5. DISCUSSION

This article addresses publication issues of bibliometric studies on the topics of tourism planning and sustainable tourism by analysing systematically the WoS for the occurrence and characteristics of studies using the keywords "Tourism Planning*" and "Sustainable Tourism*". When determining scientific journals, leading researchers, and countries, it is perfectly understandable the clear evolution of academic publications and respective citations of the chosen keywords. This way, the study supports Ruhanen et al.'s (2015) indication of the remarkable growth in sustainable tourism research. The number of publications on tourism planning and sustainable tourism still very little, although, since 2016 it has been growing to a point that surpasses the number of citations.

Within tourism planning and sustainable tourism, for example attitudes and behaviour are objects of study at different levels (Evren & Kozak, 2014), as they are part of intellectual structures forming clusters related to tourism planning and sustainable tourism. Common topics among clusters formed by the keywords "Tourism Planning*" and "Sustainable Tourism*" are "Sustainable development", "attitudes", "behaviour", "Australia", "authenticity", "challenges", "China", "collaboration", "biodiversity", "conservation". Barrios et al. (2008) also registered some of these topics on a bibliometric study targeting within the field psychology of tourism for the period 1990-2005.

Trends related to authorship were previously identified by Strandberg et al. (2016) when analysing tourism research in the period 2000-2014, in which the last four years of data registered higher number of publications with co-authorship. The author identified consumer behaviour and environmental aspects the trend and qualitative studies as a constant contribution to the field of tourism research. The present work highlights this last two trends, taking “Tourism Planning*” and “Sustainable Tourism*” as a vector to reach new topics of study.

6. CONCLUSIONS

The main contribution of this study identifies research trends centered on different dimensions. On tourism management, studies published in 2001 still reference for climate change and impacts of water resource management. Tourist disaster management still a very important trend as it is related to safety and tourism destination recovery, ensuring high standards for quality and comfort (Frausto & Mota, 2015).

On Sustainable Tourism, impacts of tourism activity, and indicators to measure sustainability are a trend as the bibliometric study provided evidence of several scientific journals and studies from 2002-2006. Trends are linked to the set of keywords most talked which are part of the delineated clusters, representing an evidence of transitions on different fields (Wania, et al., 2006). Such evolution can create smaller clusters relating peripheral objects of studies to the chosen keywords. Furthermore, the same objects have a higher capacity for research development because there is little knowledge about their contribution to the topic. They identify gaps and future scientific research within the research field of tourism planning and sustainable development.

Benckendorff (2009) analysed articles published in the Journal of Sustainable Tourism, and this study shows the importance of this journal for this field of studies, placing it among the three most cited journals when using the keywords “tourism planning” and “sustainable Tourism”. The accessed studies approach the concept of sustainability very well, although, a gap remains on characterizing by the lack of studies on socioeconomic aspects towards sustainability. This bibliometric analysis shows evidence of small quantity of publications related to this gap. There are

studies mentioning relationship between stakeholders, tourism planning and about “Power relations and community-based tourism planning”. However, by accessing only the WoS it is not conclusive that this gap has been filled with sufficient studies. Upon reflection on the state of the research, we identified several opportunities for tourism research to focus on the knowledgeable field of tourism planning and sustainable tourism.

7. LIMITATIONS AND FUTURE WORK

As the main limitations and suggestions for future research, we refer the fact that this study focused only a single database without applying any filter. Hence, the analysis excluded many specialized journals in this field of studies not indexed on WoS. Therefore, we recommend using another database such as Scopus, comparing with the WoS. Another line of future research that could result would be the use of several databases, conducting qualitative studies, longitudinal studies, and other systematic reviews of the literature, as well as using the data triangulation method. Finally, the selection of such keywords limits the scope of this study, and the bibliometric analysis could be expanded by adding new keywords.

Acknowledgments

The authors thank the "Tourism Project: Characterization, Impact and Sustainability of Madeira Tourism", co-financed by the Operational Program of the Autonomous Region of Madeira 2014-2020 (Portaria nº 92/2015), M14-20-01-0145-FEDER-000007, of the University of Madeira.

References

Alonso-Almeida, M.M. Environmental management in tourism: Students' perceptions and managerial practice in restaurants from a gender perspective. *Journal of Cleaner Production*, Vol. 60, 2013, pp. 201-207, ISSN 0959-6526.

Assaf, A.G.; Tsionas, M. The estimation and decomposition of tourism productivity. *Tourism Management*, Vol. 65, 2018, pp. 131-142, ISSN 0261-5177.

Barrios, M.; Borrego, A.; Vilagínés, A.; Ollé, C.; Somoza, M. A bibliometric study of psychological research on tourism. *Scientometrics*, Vol.77, No 3, 2008, pp. 453-467, ISSN 1588-2861.

Benckendorff, P. What do sustainable tourism researchers value? An analysis of citations from the Journal of Sustainable Tourism (1999-2008). In *Proceedings of BEST EN Think Tank IX: The Importance of Values in Sustainable Tourism & First International Symposium on Volunteering & Tourism*, Singapore, University of Technology Sydney, 2009, pp. 125-145, ISSN 1941-5842.

Blancas, F.J.; Oyola, M.L.; González, M.; Caballero, R. A dynamic sustainable tourism evaluation using multiple benchmarks. *Journal of Cleaner Production*, Vol. 174, 2017, pp. 1190-1203, ISSN 0959-6526.

Bortoleto, A.P.; Kurisu, K.H.; Hanaki, K. Model development for household waste prevention behaviour. *Waste Management*, Vol. 32, No 12, 2012, pp. 2195-2207, ISSN 0956-053X.

Bramwell, B.; Lane, B. From niche to general relevance? Sustainable tourism, research and the role of tourism journals. *Journal of Tourism Studies*, Vol. 16, 2005, No 2, pp. 52-62, ISSN 2406-9116.

Brundtland, G. *Our Common Future: Report of the World Commission on Environment and Development*. Oxford, Oxford University Press, 1987, 283 p., ISBN 019282080X.

Buckley, R. Sustainable tourism: Research and reality. *Annals of Tourism Research*, Vol. 39, No 2, 2012, pp. 528-546, ISSN 0160-7383.

Carrillo, M.; Jorge, J.M. Multidimensional Analysis of Regional Tourism Sustainability in Spain. *Ecological Economics*, Vol. 140, 2017, pp. 89-98, ISSN 0921-8009.

Chiu, Y.T.H.; Lee, W.I.; Chen, T.H. Environmentally responsible behaviour in ecotourism: Antecedents and implications. *Tourism Management*, Vol. 40, 2014, pp. 321-329, ISSN 0261-5177.

Chris Choia, H.; Sirakaya, E. Sustainability indicators for managing community tourism. *Tourism Management*, Vol. 27, No 6, 2006, pp. 1274-1289, ISSN 0261-5177.

Eagles, P.; Cascagnette, J.W. Canadian ecotourists: Who are they? *Tourism Recreation Research*, Vol. 20, 1995, pp. 22-28, ISSN 0250-8281.

Hernández-Mogollón, J.M.; Campón-Cerro, A.M.; Baptista-Alves, H.M. The state of the art in research into rural tourism in Spain: an analysis from the perspective of marketing. *Enlightening Tourism. A Pathmaking Journal*, Vol. 1, No 1, 2011, pp. 31-61, ISSN 2174-548X.

Evren, S.; Kozak, N. Bibliometric analysis of tourism and hospitality related articles published in Turkey. *Anatolia*, Vol. 25, 2014, pp. 61-80, ISSN 1303-2917.

Fahimnia, B.; Sarkis, J.; Davarzani, H. Economics green supply chain management: a review and bibliometric analysis. *International Journal of Production Economics*, Vol. 162, 2015, pp.101-114, ISSN 0925-5273.

Fotiadis, A.K.; Vassiliadis, C. A comparative study of sustainable development in small and medium tourist hotel industry from Pieria (Greece) and Taiwan. *Enlightening Tourism. A Pathmaking Journal*, Vol. 5, No 2, 2015, pp.155-179, ISSN 2174-548X.

Frausto, O.; Mota, L. Disaster tourism based on the experience of tsunamis and hurricanes. In *II Congreso de la Red Internacional de Investigadores en Turismo, Cooperación y Desarrollo. Temas Pendientes y Nuevas Oportunidades en Turismo y*

Cooperación al Desarrollo, University of Quintana Roo, México, 2015, pp. 279-287, ISBN 978-607-9448-08-0.

Gössling, S. The consequences of tourism for sustainable water use on a tropical island: Zanzibar, Tanzania. *Journal of Environmental Management* Vol. 61, No 2, 2001, pp. 179–191, ISSN 0301-4797.

Gössling, S. Human–environmental relations with tourism. *Annals of Tourism Research*, Vol. 29, No 4, 2002, pp. 539-556, ISSN 0160-7383.

Guha, S.; Steinhardt, S.; Lagoze, C. Following Bibliometric Footprints: The ACM Digital Library and the Evolution of Computer Science. In *Conference Proceedings of the 13th ACM/EEE-CS Joint conference on Digital libraries*, Indianapolis, USA, 2013, pp. 139-142, ISBN 978-1-4503-2077-1.

Hall, C.M. Publish and perish? Bibliometric analysis, journal ranking and the assessment of research quality in tourism. *Tourism Management*, Vol. 32, 2011, pp. 16-27, ISSN 0261-5177.

Hillenbrand, T.; Schleich, J. Determinants of residential water demand in Germany. *Ecological Economics*, Vol. 68, No 6, 2009, pp. 1756-1769, ISSN 0921-8009.

Jurowski, C.; Uysal, M.; Williams, D. R.; Nog, F.P. An examination of preferences and evaluations of visitors based on environmental attitudes: Biscayne Bay National Park. *Journal of Sustainable Tourism*, Vol. 3, No 2, 1995, pp. 73-86, ISSN 0966-9582.

Kaiser, F.G.; Doka, G.; Hofstetter, P. Ecological behavior and its environmental consequences: a life cycle assessment of a self-report measure. *Journal of Environmental Psychology*, Vol. 23, 2003, pp. 11-20, ISSN 0272-4944.

Kaye, J. Some statistical analyses of CHI. In *Conference Proceedings of CHI EA'09 Conference on Human Factors in Computing Systems*, Boston, MA, USA, 2009, pp. 2585-2594, ISBN 978-1-60558-247-4.

Kim, S.; Filimonau, V. On linguistic relativity and pro-environmental attitudes in tourism. *Tourism Management*, Vol. 63, 2017, pp. 158-169, ISSN 0261-5177.

Laroche, M.; Bergeron, J.; Tomiuk, M. A.; Barbaro-Forleo, G. Cultural differences in environmental knowledge, attitudes and behaviours of Canadian consumers. *Canadian Journal of Administrative Sciences*, Vol. 19, No 3, 2002, pp. 267-283, ISSN 1936-4490.

Miao, L.; Wei, W. Consumers' pro-environmental behavior and the underlying motivations: A comparison between household and hotel settings. *International Journal of Hospitality Management*, Vol. 32, 2013, pp. 102-112, ISSN 1877-0428.

Mota, L. *Household behaviour to reduce plastic and food waste: Divers vs. non-divers*. Saarbrücken, Scholars' Press, 2015, 464 p., ISBN 978-3639767476.

Newman, W. A preliminary analysis of the products of HCI research, using pro forma abstracts. In B. Adelson; S. Dumais; J. Olson (eds.) *Proceedings of the ACM CHI 94 Human Factors in Computing Systems Conference*, Boston, Massachusetts, 1994, pp. 278-284, ISBN 0-89791-650-6.

Oulasvirta, A. A bibliometric exercise for SIGCHI conference on Human Factors in Computing Systems. In *the CHI 2006 Conference on Human Factors in Computing Systems*, Montreal, Canada, 2006, ISBN 1-59593-372-7.

Palmer, A.L.; Sesé, A.; Montano, J.J. Tourism and statistics. Bibliometric study 1998-2002. *Annals of Tourism Research*, Vol. 32, 2005, pp. 167-178, ISSN 0160-7383.

Ruhanen, L.; Moyle, C.; Moyle, B. New directions in sustainable tourism research. *Tourism Review*, (forthcoming), ISSN 1660-5373.

Ruhanen, L.; Weiler, B.; Moyle, B.D.; McLennan, C.J. Trends and patterns in sustainable tourism research: a 25-year bibliometric analysis. *Journal of Sustainable Tourism*, Vol. 23, No 4, 2015, pp. 517-535, ISSN 0966-9582.

Strandberg, C.; Nath, A.; Hemmatdar, H.; Jahwash, M. Tourism research in the new millennium: A bibliometric review of literature in Tourism and Hospitality Research. *Tourism and Hospitality Research*, Vol 18, No. 3, 2016, pp. 269-285, ISSN 1742-9692.

Teixeira, S.; Ferreira, J. Regional Competitiveness and Innovation in Tourism Sector: A Bibliometric Analysis. *International Journal of Tourism Policy*, 2018 Vol. 8, No. 3, 2018, pp. 214-243, ISSN 1750-4104.

UNWTO. *World Tourism Barometer*. Vol. 10, No 4, 2012, pp. 1-37, ISSN 1728-9246.

Wania, C.; Atwood, M.; McCain, K. How to Design and Evaluation Interrelate in HCI Research? In conference proceeding of the 6th conference on Designing Interactive systems – the DIS '06. University Park, PA, USA, 2006, pp. 90-98, ISBN 1-59593-367-0.

Weaver, D.B. Asymmetrical dialectics of sustainable tourism toward enlightened mass tourism. *Journal of Travel Research*, Vol. 53, 2014, No 2, pp. 131-140, ISSN 1552-6763.

Zupic, I.; Čater, T. Bibliometric methods in management and organization. *Organizational Research Methods*, Vol. 18, No. 3, 2015, pp. 429–472. ISSN 1094-4281

Zhong, S.; Geng, Y.; Liu, W.; Gao, C.; Chen, W. A bibliometric review on natural resource accounting during 1995–2014. *Journal of Cleaner Production*, Vol. 139, 2016, pp.122-132, ISSN 0959-6526.

ⁱ VOSviewer is a software tool for constructing and visualizing bibliometric networks. These networks may for instance include journals, researchers, or individual publications, and they can be constructed based on citation, bibliographic coupling, co-citation, or co-authorship relations. VOSviewer also offers text mining functionality that can be used to construct and visualize co-occurrence networks of important terms extracted from a body of scientific literature (Source: <http://www.vosviewer.com/>).

Article info: Received 14/08/18. Accepted 22/11/18. Refereed anonymously.