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A PANORAMIC VIEW OF INTERNATIONAL ARTICLES ON ECOTOURISM WITH VISUAL MAPPING TECHNIQUE

Abstract:

The purpose of the research is to determine the trend and development of ecotourism over a 34-year period (1990-2024) in the international literature. For this purpose, the bibliometric analysis method, which is one of the quantitative research methods, has been used in the study. The data regarding the 9243 articles (as of 09.05.2024) that contain the concept of ecotourism in the titles, keywords, and abstracts, were retrieved from the Scopus database. In the analysis of the data, Biblioshiny, a web interface provider application and open source software design for Bibliometrics R-package (R-Studio software), bibliometrics library, and bibliometrics have been used in accordance with certain parameters. When some of the findings that came out as a consequence of the analysis have been analyzed, it can be observed that there are 9243 articles in 1756 different journals, the most of articles are multi-authored, the most articles were published in 2023, the journal that published the most articles is Journal Of Sustainable Tourism, the authors are Jiekuan Zhang and Yurong Zhang and the affiliation is Griffith University. Furthermore, in the author collaboration network analysis, it has been found that 8 different clusters have been formed. When the collaboration among countries has been considered in terms of the emergence of articles on ecotourism, it has been found that China, United Kingdom, USA, Canada are the ones that have the highest level of collaboration with other countries. It is thought that the results of this study are important in terms of visually mapping the development process of research on the international level and conveying it to the reader and shedding light on the studies to be conducted in the future on this subject.

Keywords:

Tourism; Ecotourism; Bibliometrics; Visual Mapping Technique; Scopus; R-Studio

JEL Classification: N54

1. Introduction

The tourism sector, which is considered one of the most important industries in the world in recent years, is developing politically, economically and technologically both in the world and in our country. Many factors such as the misuse of natural resources, the destruction of natural and coastal areas, and our inability to adequately protect our cultural heritage due to the mass tourism approach that was actively implemented from the 1960s to the 1990s, brought the search for alternative tourism to the agenda. Ecotourism, which includes tourism activities that people can do all year round and is more nature-oriented, is in opposition to mass tourism, especially in the summer months. Although the definition of ecotourism is made in different ways by many scientists, in 1996 the International Union for Conservation of Nature (IUCN) defined ecotourism as "environmentally sensitive travel and visits to relatively unspoiled natural areas to understand and enjoy the value of nature (past and present cultural richness) that benefits local people, ensures active socio-economic participation of the public, creates low-level negative visitor impact and improves conservation" (Ankaya et al. 2018). In recent years, with the increase in the level of tourist education, the perspective on tourism has changed, awareness about the environment and nature has increased, and tourism demands and desires have changed. There has been an increased interest in how to ensure sustainability in tourism in order to have a long-term tourism phenomenon and not lose this value, as tourism is not just about sea, sand and sun. With the importance of sustainability, which is defined as activities carried out to protect natural resources and leave a good environment for future generations while meeting today's needs, nature-based activities within tourism have increased and alternative tourism types that give importance to nature have emerged. One of these types of tourism is ecotourism, which is expressed by many different names such as ecological tourism, green tourism, rural tourism, nature-based tourism, special interest tourism, responsible tourism (Kasalak, 2015). In recent years, it has been observed that many academic studies have been conducted on ecotourism using different methods. Some of these studies are qualitative and some are quantitative. For example, Das & Chatterjee (2015) used the content analysis method in their review study. Wall (1997) discussed the sustainability of ecotourism using the literature review method he used in his study. It is seen that there are also bibliometric studies on ecotourism in the literature (Liu et al., 2020; Khanra et al., 2021; Dinç et al., 2023).

2. Literature Review

First introduced by Alan Pritchard in 1969, the concept of Bibliometrics has become almost – but not quite – universally accepted by librarians and information scientists in the space of about ten years, and the new term is in turn frequently cited (Wittig, 1978: 240). Pritchard (1969:348) defines bibliometrics as the application of statistical and mathematical methods to books and other communication media. These include, basically, books, monographs, reports, theses, articles in periodicals and periodicals, and nowadays also e-books and e-magazines and – in the broadest sense – the WEB (Glänzel, 2003:11). In bibliometrics, which is generally a quantitative analysis method, articles published in journals and citations made are analyzed statistically (Godin, 2006; De Nicola, 2009); although books, theses, reports and patents are counted as bibliometric analysis elements, scientific articles constitute the main element, and the number of

publications and authors and citations made to publications form the basis of bibliometric measurement (Karasözen, Bayram & Zan, 2009:6; Aylan, 2021).

Gaps identified by bibliometric studies shed light on researchers who want to work on the relevant subject or field so that higher quality studies can be produced. Therefore, bibliometric studies are important for researchers to gain insight into certain topics (Hood ve Wilson, 2001). Based on scientific data and using quantitative methods, bibliometric mapping visually reveals the general distribution of knowledge belonging to a particular discipline and its relationship with other types of knowledge. This can help universities, governments, and private organizations make decisions, and can also help library directors and journal editors understand the relevance of their publications. Bibliometric mapping is also a bibliometric data that contains intensive information such as basic source, subject headings, publication years, authors and abstracts records (Van Eck, 2011; Dinç vd., 2023). When bibliometric studies on ecotourism are examined, it is seen that the data are evaluated with different parameters. Singh et al. (2022) identified the topic trends, collaborations, and intellectual and conceptual structures in the Journal of Ecotourism. Their results revealed that the Journal of Ecotourism has made significant progress in terms of citations and publications, and its articles have been cited in leading tourism-related journals. Liu and Li (2020) evaluated research trends in the field of ecotourism, which has attracted the attention of both policy makers and researchers as an important way to achieve sustainable tourism. Bibliometric analysis was conducted with 2,531 ecotourism-related publications published between 1990 and 2016, obtained by searching the SSCI, Index to Scientific & Technical Proceedings (ISTP), Science Citation Index (SCI) and Arts & Humanities Citation Index (A&HCI) databases. The top three countries for case studies were China, South Africa, and the United States, and the main methodologies were the use of geographic information systems and the contingent valuation method.

3. Methodology

The purpose of the research is to determine the trend and development of ecotourism over a 34-year period (1990-2024) in the international literature. For this purpose, the bibliometric analysis method, which is one of the quantitative research methods, has been used in the study. The data regarding the 9243 articles (as of 09.05.2024) that contain the concept of ecotourism in the titles, keywords, and abstracts, were retrieved from the Scopus database. In the analysis of the data, Biblioshiny, a web interface provider application and open source software design for Bibliometrics R-package (R-Studio software), bibliometrics library, and bibliometrics have been used in accordance with certain parameters. Visual mapping technique is actually one of the approaches and tools used by the science mapping discipline. Science mapping technique is a kind of bibliometric analysis which has different stages such as data acquisition, preprocessing, net extraction, normalization, mapping, analysis and visualization. At the end of this process, the analyst must interpret the results and derive some results from them (Cobo et al., 2011). Visual analysis needs scientific databases that enable the dissemination of science. The main sources most accepted by scientific circles are Web of Science, Scopus and PubMed. Data of the study consist of 9243 documents (articles) obtained by searching Scopus database. While documents were being searched, parameter TITLE-ABS-KEY () AND (LIMIT-TO (DOCTYPE , "ar") was used. Thus, a total of 9243 articles were reached by filtering the articles with ecotourism in the titles, abstracts and keywords. In addition to descriptive data analyzes were implemented to data.

Bibliometrix R-package (RStudio software) bibliometrix library and Biblioshiny were used in the implementation of the aforementioned analyzes. For the aim of study, the research questions below were tried to reply:

1. How is the distribution of the publication numbers of the articles published on ecotourism by years?
2. How is the single and multiple author distribution of the articles published on ecotourism?
3. Which journals are the most productive on ecotourism?
4. Which papers are the most cited on ecotourism?
5. What are the most frequently used words on the titles of articles?
6. Who are the most productive authors on ecotourism?
7. Which universities are the most productive on ecotourism?
8. How is the cooperation between the countries where the authors on ecotourism are located?

4. Results

Table 1. Main Information About Data

Description	Results
Timespan	1990:2024
Sources (Journals, Books, etc)	1756
Documents	9243
Annual Growth Rate %	18.01
Document Average Age	8.41
Average citations per doc	25.05
References	395723
DOCUMENT CONTENTS	
Keywords Plus (ID)	13521
Author's Keywords (DE)	19443
AUTHORS	
Authors	21177
Authors of single-authored docs	1426
AUTHORS COLLABORATION	
Single-authored docs	1740
Co-Authors per Doc	3.21
International co-authorships %	24.03

Table 1 shows that there have been 9243 articles on ecotourism published for 34 years (between 1990-2024) in 1756 different journals by 21177 authors. Average citations per document are 25,05. The number of articles with multiple authors ($n = 7503$) is considerably higher than the number of publications with single authored docs ($n = 1740$).

Figure 1. Annual Scientific Production of Articles

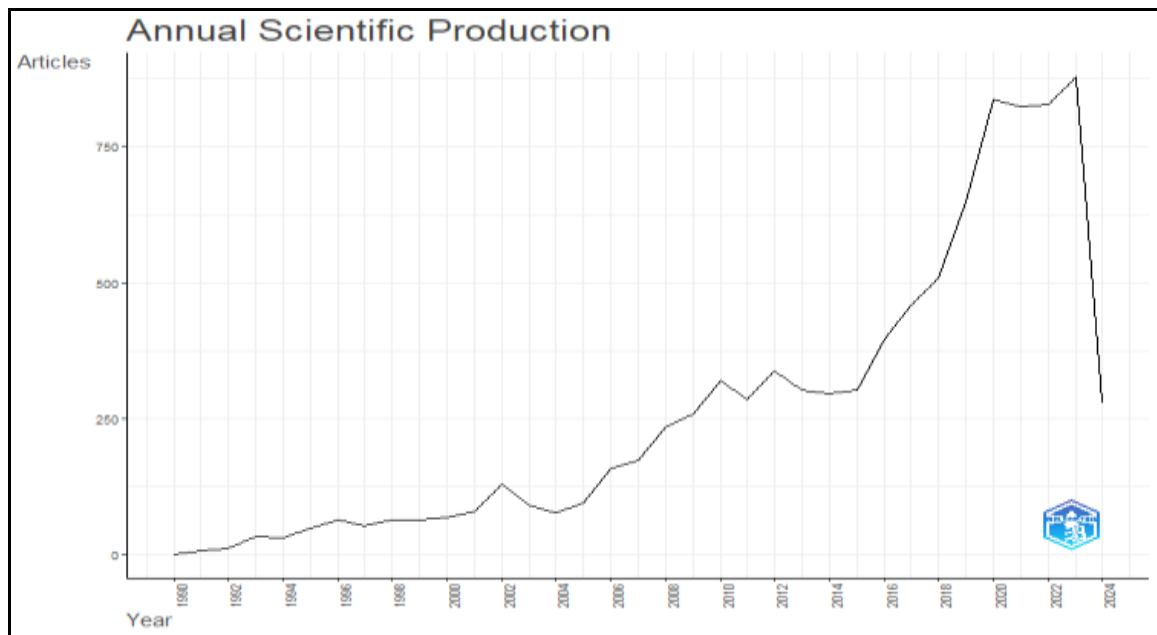


Figure 1 shows the publication numbers of the articles about ecotourism by the years. According to the figure, the first article themed ecotourism was published in 1990 (n:1). The second articles were published one year later in 1991 (n:8). The highest number of publications on ecotourism were published in 2023 (n = 878) (Figure 1).

Figure 2. Most Relevant Sources

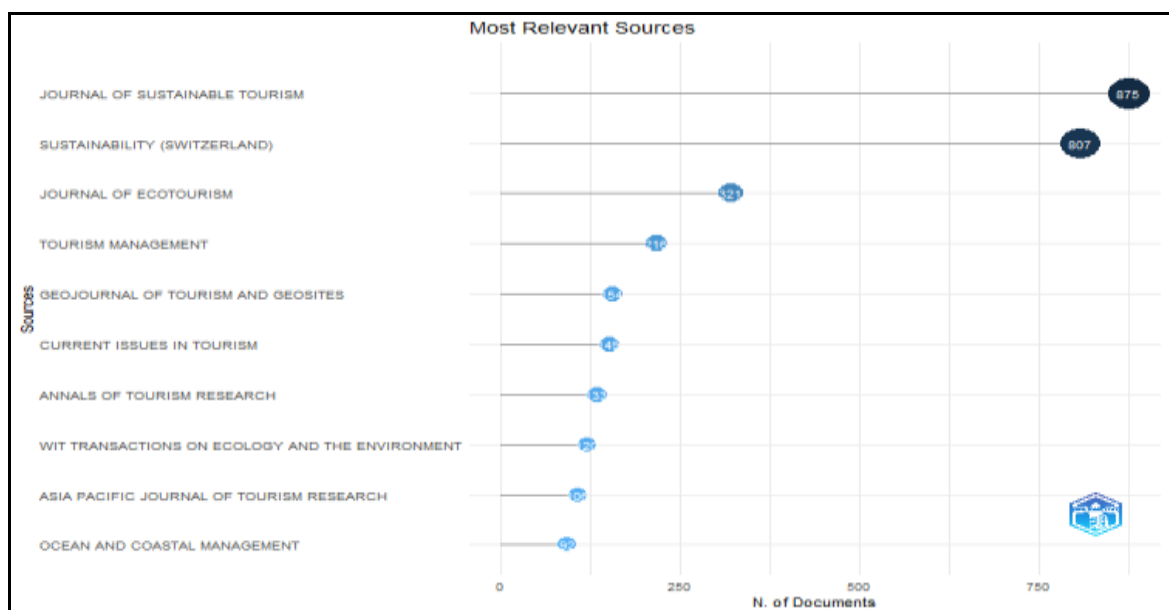


Figure 2 shows the most productive journals about ecotourism. According to the figure, Journal of Sustainable tourism is the most productive journal with its 875 document among all journals. The second one is Sustainability (n:807) and the third journal, has most citation on ecotourism, is Journal of Ecotourism (n:321). Then, the other most productive journals are respectively Tourism Management (n:216), Geojournal Of Tourism And Geosites (n:154),

Current Issues in Tourism (n:149), Annals of Tourism Research (n:133), Wit Transactions On Ecology And The Environment (n:120), Asia Pacific Journal Of Tourism Research (n:106).

Figure 3. Most Relevant Authors

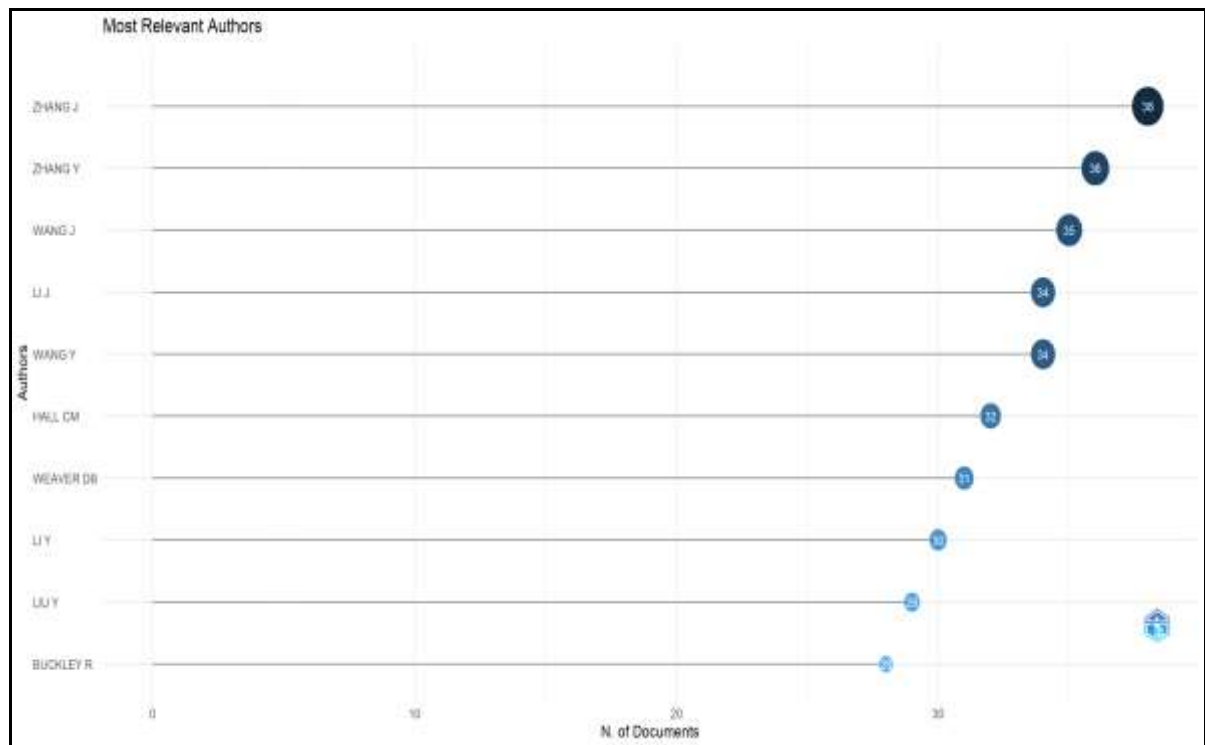


Figure 3 shows the top 10 authors, publish the highest articles on ecotourism. As seen in Figure 3, Jiekuan Zhang is the most productive author, has 38 articles. The second author is Yurong Zhang with 36 articles. J. Wang is the third author with 35 articles. Then, the other most productive authors are respectively J. Li (n:34), Y. Wang (n:34), CM. Hall (n:32).

Figure 4. Most Relevant Affiliations

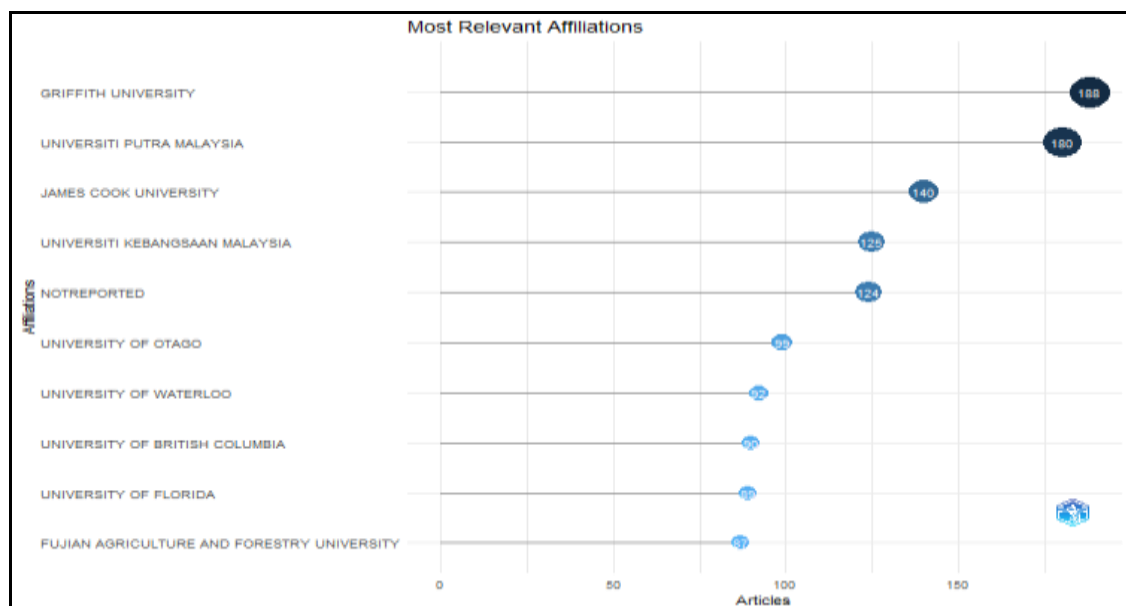


Figure 4 shows the most relevant 10 affiliations on ecotourism. According to the figure, Griffith University, has 188 papers, is the most relevant school on ecotourism. Then, University Putra Malaysia is the second affiliation (n:180). The third one is James Cook University (n:140).

Figure 5. Most Cited Documents

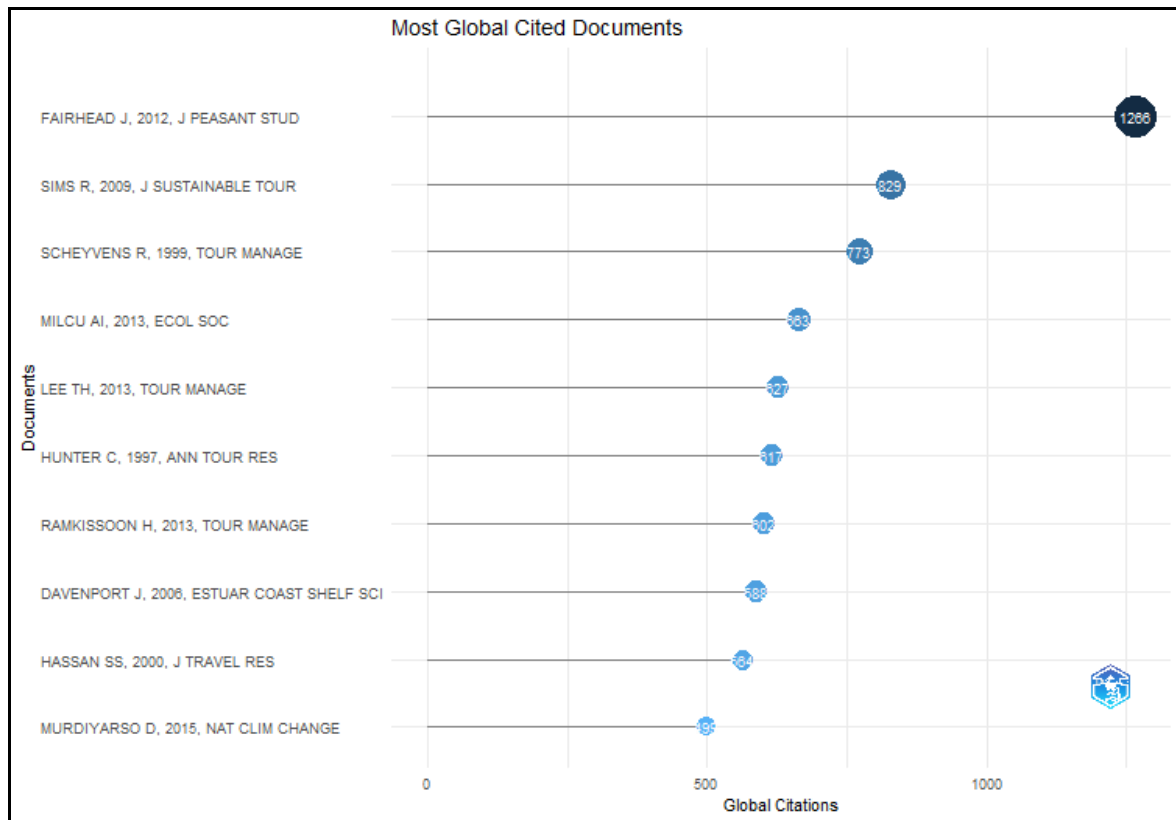


Figure 5 shows the most cited articles on ecotourism. As seen Figure 5, the most cited paper about ecotourism is “Green Grabbing: a new appropriation of nature” (n:1266) was written by James Fairhead, Melissa Leach & Ian Scoones and published in The Journal of Peasant Studies. The second most cited paper is “Food, place and authenticity: local food and the sustainable tourism experience” (n:829), was written by Rebecca Sims in Journal Of Sustainable Tourism. The third most cited paper is “Ecotourism and the empowerment of local communities?” (n:773) was written by Regina Scheyvens in Tourism Management.

Figure 6. Number of Words Used in Articles Titles Themed Ecotourism

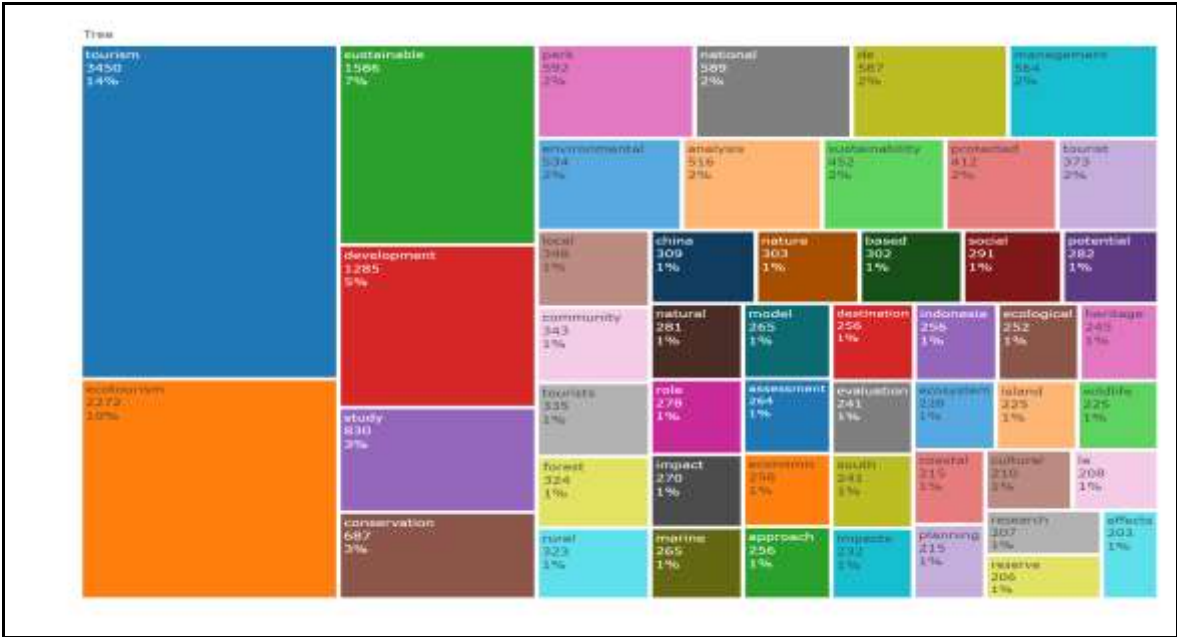


Figure 6 shows the most frequently used words on the titles of papers themed ecotourism. When the figure is viewed, it can be seen that, words used most frequently are tourism (3450 times) and ecotourism (2272 times). Then sustainable (1586 times), development (1285 times), study (830 times), conservation (687 times) are other most used keywords.

Figure 7. Author Collaboration Network of Articles Themed Ecotourism

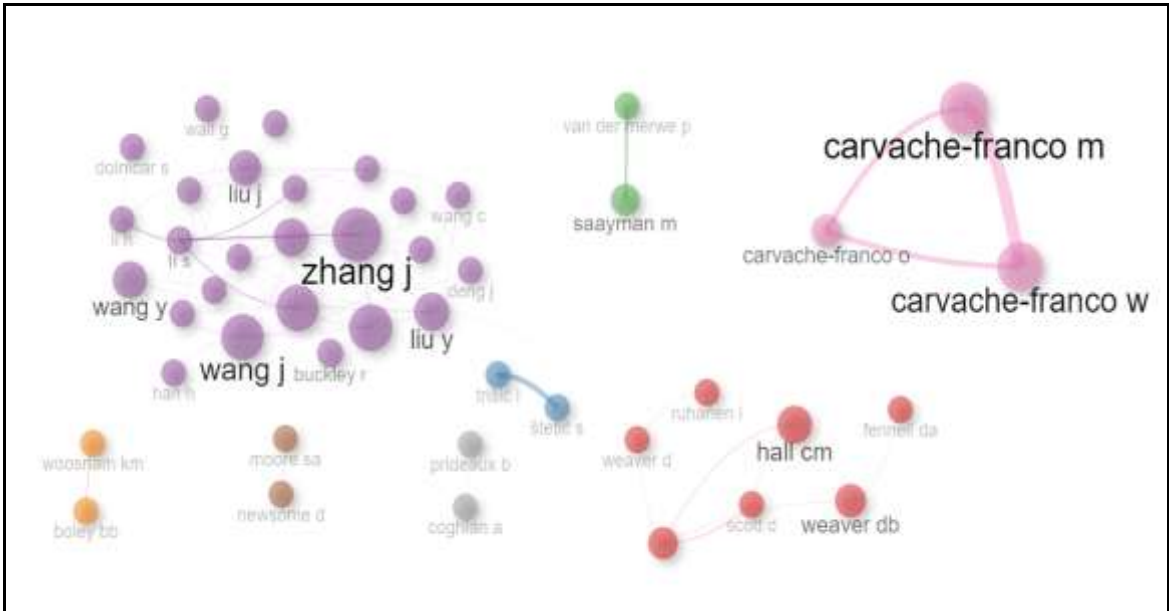


Figure 7 shows the collaboration network for groups of authors collaborating on ecotourism. When the figure is viewed, it is seen that there are 8 different collaboration clusters. The purple and pink colored clusters have the most common collaboration. In the purple cluster, it

is seen that J. Zhang, J. Wang, Y. Wang, Y. Liu and Liu wrote joint articles. In the pink cluster, it is seen that M. Carvache-Franco, W. Carvache-Franco and O. Carvache-Franco have jointly published articles on ecotourism.

Figure 8. Collaboration Network Between Countries in Ecotourism Articles

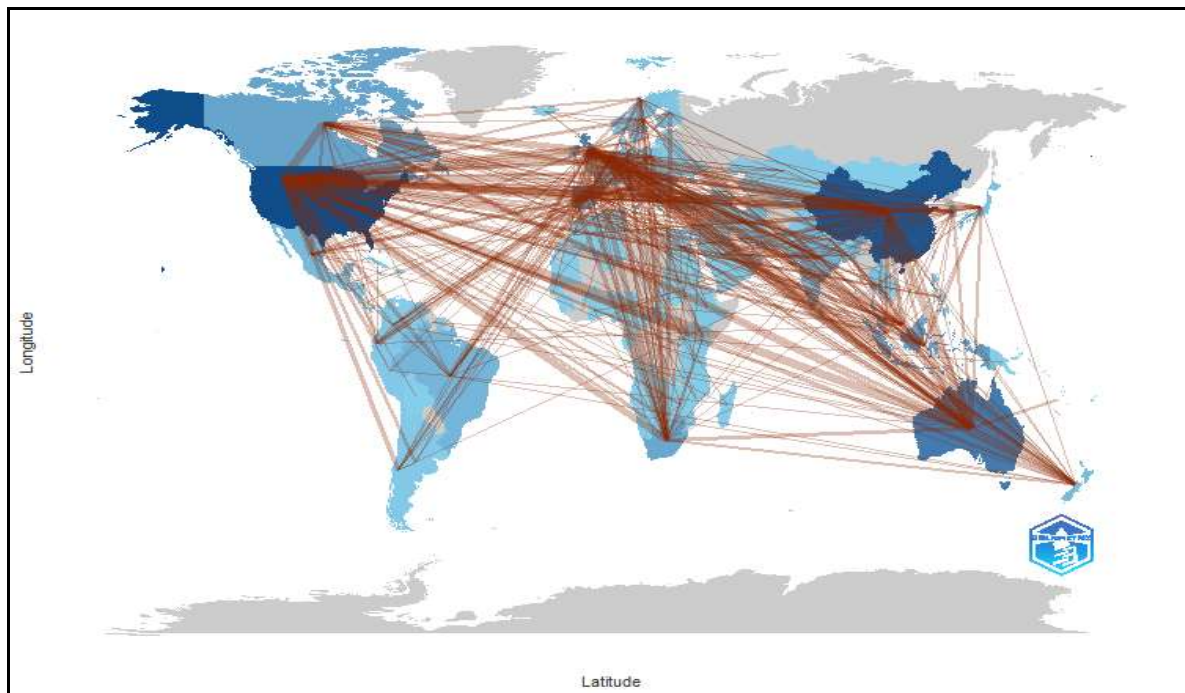


Figure 8 shows the international collaboration emerged in the preparation of articles on ecotourism. According to figure, the most collaborationist countries are USA, United Kingdom and Australia. USA has totally 794 collaborations with other countries. She has 82 collaborations with United Kingdom, 68 collaborations with Australia, 60 collaborations with Canada and 56 collaborations with South Africa. As second most collaborationist country, United Kingdom has totally 490 collaborations with other countries. United Kingdom has 36 collaborations with south Africa, 35 collaborations with Canada, 24 collaborations with New Zealand. Australia has 378 collaborations with other countries as the third most collaborationist countries. She has 50 collaborations with United Kingdom, 30 collaborations with New Zealand and 24 collaborations with Indonesia.

5. Conclusion

Publications such as scientific articles, books, and papers presented at scientific meetings are discussed in bibliometric researches, which provide detailed information about the development, trend and current status of a science field or discipline. The study area can be discussed in depth in bibliometric researches, within the scope of different parameters such as the number of publications by years of the studies in the subject area, Journals, institutions, collaborations between countries, the most frequently used words in the titles of the studies. Thus, new ideas are presented to researchers who will work on that field in the future. Accordingly, the purpose of the research is to reveal the trend and development of the articles on "ecotourism" in the Scopus database for the last 34 years (1990-2024).

Bibliometric analysis was carried out using different parameters on the international articles published on "ecotourism" between the mentioned years in line with the purpose of study. As a result of the bibliometric analysis, it was seen that the first article about ecotourism was published in 1990, and there were 9243 articles in 1756 journals in total. It has been determined that multi-authored papers are more than single authored papers. Journal of Sustainable Tourism is the most relevant journal on ecotourism. Griffith University is the affiliation, published the highest articles on ecotourism. The most cited document on ecotourism is "Green Grabbing: a new appropriation of nature", was written by James Fairhead, Melissa Leach & Ian Scoones and published in The Journal of Peasant Studies.

The terms "tourism" and "ecotourism" are the most frequently used words on the title of documents about ecotourism. When the collaboration among countries has been considered in terms of the emergence of articles on ecotourism, it has been found that USA, United Kingdom, Australia are the ones that have the highest level of collaboration with other countries. As a result, in the study, the academic development process of the ecotourism field was tried to be revealed. The inclusion of the countries, universities and author information in this field will enable the authors who will work on this subject to cooperate internationally. In this direction, the study is a roadmap for authors who want to do research on this issue. This study is limited only to articles on ecotourism in the Scopus database. Bibliometric analyzes can be made not only for articles but also for other scientific publications such as books and papers in different databases for the further researches on ecotourism.

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