

Analysis of a Decade of Sustainable Tourism in Indonesia: Bibliometric Approach 2012 to 2022

Indra Ratna Sari^{1*}

^{1*} Pengelolaan Perhotelan, Politeknik eLBajo Commodus, Labuan Bajo, Indonesia,
indraratnasari160@gmail.com

Abstract

This journal reviews bibliometric analysis of sustainable tourism in Indonesia. I wrote this article because more and more tourist destinations in Indonesia are adopting the concept of sustainable tourism. The main aim of this journal is to identify developments in sustainable tourism research in Indonesia through bibliographic analysis. Bibliometric analysis in this journal includes document type, document source, document publication year, total citations for each document, and keyword network mapping using Vos Viewer software. The results show that the year with the highest total publications is 2021 and articles are the documents that dominate the data on this topic. The country with the most total publications is Indonesia because this journal focuses more on sustainable tourism in Indonesia.

Keywords: Bibliometric Analysis, Scientometrics, Sustainable Tourism in Indonesia, VoS Viewer

Abstrak

Jurnal ini mengulas analisis bibliometrik pariwisata berkelanjutan di Indonesia. Artikel ini saya tulis karena semakin banyak destinasi wisata di Indonesia yang mengadopsi konsep pariwisata berkelanjutan. Tujuan utama jurnal ini adalah mengidentifikasi perkembangan penelitian pariwisata berkelanjutan di Indonesia melalui analisis bibliografi. Analisis bibliometrik dalam jurnal ini meliputi jenis dokumen, sumber dokumen, tahun terbit dokumen, jumlah sitasi tiap dokumen, dan pemetaan jaringan kata kunci menggunakan perangkat lunak Vos Viewer. Hasil penelitian menunjukkan bahwa tahun dengan jumlah publikasi terbanyak adalah tahun 2021 dan artikel merupakan dokumen yang mendominasi data pada topik ini. Negara dengan jumlah publikasi terbanyak adalah Indonesia karena jurnal ini lebih berfokus pada pariwisata berkelanjutan di Indonesia.

Kata kunci: Analisis Bibliometrik; Scientometrik; Pariwisata Berkelanjutan di Indonesia; VoS Viewer

INTRODUCTION

Humans have their own way of seeking pleasure and getting away from all their daily routine activities. Tourism is the right answer to all the complaints that tourists have. The presence of tourism itself has a positive impact on all economic sectors in a country so it is not surprising that many countries are competing to develop this sector. However, with all the beautiful dreams that are built and created from this sector, it also has negative impacts and the main problem is related to the environment. This environmental problem arises because mass tourism only tries to gain profits in the economic aspect by bringing in large numbers of tourists without thinking about sustainability aspects. Issues that demand sustainable tourism and tourism development originate from increasing population density, excessive environmental development, Becoming increasingly dependent on tourism as a source of local income, leading to

increased use, resulting in resource pollution, degradation, or even destruction of nature, as well as competition and tensions. Dodds, R. (2007).

The sustainable function aims to preserve and protect space in line with the concepts and principles of sustainable management conservation and education and knowledge aimed at the community to support sustainable development and environmental protection programs where the community usually responds positively to developments and anything involving the economy them or Various researchers have conducted studies on sustainable tourism. First researcher by López, M. R. (2022).

which resulted in the need to improve coordination and collaboration between those responsible for heritage assets and to implement strategic management and communications plans Çadraku, H. (2022). The second research was carried out by Lusetyowati, T. (2015) taking the research location on the Musi River in Palembang which resulted in that. The third research conducted by Trček, D. (2022) resulted that Tourism is a clear candidate for such conservation efforts because of the organic relationship it has with cultural heritage, and can support further development in the domain of heritage conservation. The fourth research was conducted by Wenying, Z., & Qiongying, L. (2022) with the results that it aroused tourist interest, showcased regional attractions, improved tourists' travel experience, and supported the tourism industry, especially in Chengdu, China. Hsu, F.C., Zhang, S., Zhang, Y., and Lee, T.J. (2022) conducted the fifth study and found that decisions in sustainable tourism development related to intangible cultural heritage are different from those related to tangible cultural heritage.

The impact of the decision is considered from two perspectives, including altruistic benefits. The works mentioned above focused on Sustainable Tourism in many aspects, unfortunately less of works found of the bibliometrics analysis on Sustainable Tourism. This research is unique because, in contrast to previous studies, We use VoS Viewer as a tool for analysis. The structure of this article is structured as follows: Part 2 discusses bibliographic analysis, sustainable tourism, as well as the concept of Google Scholar as a source of research data. The methodology we use is described in Section 3. Our research findings are presented in Section 4, followed by an in-depth discussion. Finally, Section 5 concludes the results of this study and provides a perspective on future research directions. In detail, this document is organized as follows: Section 2 introduces Google Scholar as a data source for bibliographic analysis and sustainable tourism research. Section 3 describes the methodology we apply. Section 4 presents the findings obtained, accompanied by a comprehensive discussion. Finally, Section 5 summarizes this research and identifies potential future research.

LITERATURE REVIEW

Sustainable Tourism

Mass tourism was indeed one of the favorites before the pandemic with its economic role in the percentage of around 10% of GDP, However, at the same time, this concept can have a negative impact on the environment and society. There are three main factors causing overtourism, namely travel agents,

technology and the tourism industry, each of which contributed 5% Wang, S., Cao, W., Du, J., Tang, P., Fu, H., Tang, Z., & Li, J. (2021) and Gössling, S., & Buckley, R. (2016). In another that have to 8% of CO2 emissions in 2013, United-Nations (UN) (2020) and Gössling S (2002) as well as the influence of power. Koens, K., Postma, A., & Papp, B. (2018), this can be seen from the orientation of these two types of tourism. Mass tourism does not pay attention to environmental problems and tries to reap as many profits as possible, this is the role of sustainable tourism where its presence will try to analyze and look for gaps in how a tourism system can run well even though it has to increase the focus that will be managed Erol, I., Neuhofer, I. O., Dogru, T., Oztel, A., Searcy, C., & Yorulmaz, A. C. (2022), Dwyer, L. (2005), Rosato, P. F., Caputo, A., Valente, D., & Pizzi, S. (2021) and Wu, K. J., Zhu, Y., Chen, Q., & Tseng, M. L. (2019).



Figure 1. Sustainable Tourism Concept

Source: Data Processing, 2023

This type of tourism will also provide education to tourists with the hope that this type of tourism will continue to be a phenomenon that is beneficial for human survival and provides a glimmer of hope for a better tourism future and can make the earth greener amidst the many environmental problems caused by it. from the man himself. Of course, this development requires the role and continuity of all stakeholders so that this system can move forward. In this type of tourism, the role of the community is non-negotiable because with the presence of the community, tourism at the location where this tourist attraction is located is better maintained and ensures that there are no conflicts between interests.

Scopus acts as a reserch data provider

Scopus is a database that stores thousands of high-quality and competitive literature. The options provided by Scopus add value to the database by making it easier for researchers to carry out their research, especially on the use of data mining and bibliometric analysis. Scopus is a reliable and adequate database as a source of comprehensive bibliographic data and has proven itself to be reliable in several respects, so Scopus was chosen as a data source in data mining analysis on tourism Wenying, Z., & Qiongying, L. (2022).

Analysis Bibliometrics

Bibliometric analysis is a method that is the basis for conducting research analysis, from the field of library and information science León-Gómez, A., Ruiz-Palomo, D., Fernández-Gámez, M. A., & García-Revilla, M. R. (2021). Research

analyzed using bibliometric methods generally takes the form of analysis of big data that has been collected by means of data mining. After going through the data mining process, The data that has been filtered is then analyzed using the bibliographic analysis method. The use of bibliographic analysis in the field of education helps to includes work from the field of Education on Bibliometric Studies based on the Scopus Database on Philosophy of Education and Its Development Setiawan, M. A. (2021). In another study related to bibliometric analysis which contains the theme of Covid-19 in the Socio-Cultural Sector, we also found that several authors have used bibliographic analysis to research and re-develop existing discovery gaps such as the observations presented by Fuad (2019), where this bibliometric analysis is used as an assessment in international publications regarding radicalism and terrorism in Indonesia Hamidah, I., Sriyono, S., & Hudha, M. N. (2020). In bibliometric analysis on this topic, there are several parts, namely comparison of data matrices before and after restoration, narrative statistics of publications, documents by subject, type, by document source, 20 publications that have the most citations, data visualization via Vos Viewer, the total publications for each country, as well as the research domains used in each country. So that big data analysis that has been processed using a data mining process and using bibliometric analysis will produce solid output.

VoS Viewer functions as a research tool

The software used to carry out this bibliographic analysis is Vos Viewer. The software used in bibliometric analysis is Vos Viewer. By analyzing data with VOSviewer, it will produce a joint citation visualization of cited references and cited authors Ding, X., & Yang, Z. (2020). Apart from that, Vos Viewer also produces Network Visualization, Overlay Visualization, and Density Visualization to make analysis of visualization data easier.

METHOD

This article applies a bibliographic analysis method which involves five steps, namely: determining search keywords, starting the search process, filtering search results, generating initial data statistics, and analyzing the data obtained.

Determination of keywords

In this research, the term used is "sustainable tourism in Indonesia." The search was conducted by title on November 18, 2022. We used Scopus and Harzing's Publish or Perish databases as tools to calculate citation metrics. The Scopus database was chosen because it is currently proven to be an accurate, precise and reliable database in searching for articles relevant to keywords. Scopus was chosen because it is one of the largest scientific databases in the world and can be accessed easily.

Search Results Starting from

A keyword search was conducted without restriction to articles, yielding 511 references, including articles, reviews, books, book chapters, editorials, memos, and conference proceedings. Search results from the Scopus database are then stored in the research information system "RIS", with important information about each paper retrieved, such as author name, title, year of publication, publication

source, publisher, references cited, average annual number of citations, and ranking.

Search Results Improvements

Of the 511 articles found through searching the Scopus database, 360 articles that were relevant to the selected title were successfully filtered. This analysis ensures that no titles related to a particular topic are missed. The results of data correction are saved in RIS and CSV file formats, which makes the further analysis process easier.

Preparation of Initial Data Statistics

Previously updated and filtered data, including information such as publication year, source, title, publisher, edition, volume, pages, article compiler, and journal or review, have been reanalyzed to ensure completeness.

Data analysis

This analysis process ensures that no titles relevant to the topic are missed. The corrected data is saved in RIS and CSV formats, which makes further analysis easier. Vos Viewer software is used because it allows efficient utilization of data from Scopus, and supports two-dimensional analysis and visualization quickly and accurately. Vos Viewer can also generate publication maps, author maps, and journal maps based on co-citation networks, as well as keyword maps based on networks. Figure 2 below depicts the study flow used in this article.

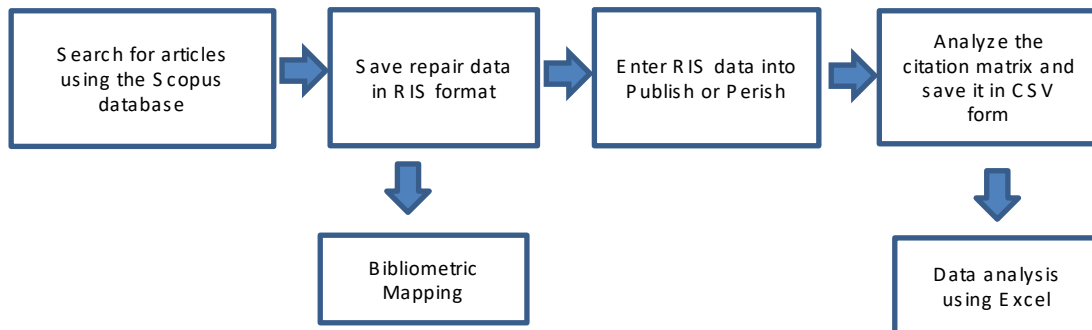


Figure 2. Flow chart of the proposed method

Source: Data Processing, 2023

RESULTS AND DISCUSSION

Publications and Citations

To analyze the comparison of citation matrices based on data obtained through Scopus, researchers can calculate various indicators, such as number of articles, total citations, annual citations, number of authors per year, as well as H Index, G Index, regular hI, and annual hI, both at the beginning search or after the results are modified. The data comparison matrix between initial search results and after modification is presented in Table 1.

Table 1. Comparison Matrix

Data	Initial Search Results	Search Results Repair
Database	Scopus	Scopus
Year of publication	(2012-2022)	(2012-2022)
Year quote	10	10
Number of Articles	511	360
Total quotes	2291	1839
Average annual citations	229.10	183.90
Annual writer average	3.40	3.16
H index	22	21
G index	35	34
Normal	14	14
Average HAI per year	1.40	1.40

Source: Data Processing, 2023

From the matrix comparison table above, it can be seen that after data correction was carried out on 511 documents, 360 documents were obtained whose titles were relevant to the theme of this journal. The number of citation The annual number of citations was 229.10 before the revision and 183.90 after the revision. The average number of authors per year was 3.40 before the revision and 3.16 after the revision. Publications have an index that is used to measure the productivity and impact of articles published by authors, researchers and scientists, known as the h index. The h-index in the citation matrix is 22 before correction and 21 after improvement, so it can be said that the comparison of authors before improvement and after improvement is not very visible.

The g-index calculation is the overall average number of citations, after sorting them to the number g (Aulianto et al, 2019). Based on the matrix above, it can be said that before the repair, the g index was 35, while after the repair the g index was 34. So it can be concluded that the g index before the repair and after the repair was not much different. Table 2 below presents statistics explaining the publications published each year.

Table 2. Statistics explaining the publications released

Year	TP	% (N=360)	NCP	TC	C/P	C/CP
2012	4	0.00	3	55	8.10	10.80
2013	3	0.01	3	148	49.33	49.33
2014	4	0.01	3	292	73.00	97.33
2015	10	0.03	8	115	11.50	14.38
2016	24	0.07	20	250	10.42	12.50
2017	20	0.06	17	201	10.05	11.82
2018	44	0.12	29	159	3.61	5.48
2019	42	0.12	29	204	4.86	7.03
2020	69	0.19	45	233	3.38	5.18
2021	92	0.26	40	130	1.41	3.25
2022	44	0.12	15	42	0.95	2.80

360	100%
-----	------

Source: Data Processing, 2023

Notes:

TP = number of publications. NCP = number of documents cited. TC = total number of quotations.

C/P = average number of citations per publication. C/CP = average number of citations per cited document.

Table 2 above displays statistics from 360 journals used as references in writing this article. 2021 was the year with the highest writing activity using the keyword "sustainable tourism," In total there were 92 articles, which contributed 26%. 2020 followed with 69 articles and a contribution of 19%, while 2018 continued to last quite a long time. In 2022, the number of articles published ranked third with the same number, namely 44 articles or the equivalent of 12%. The table above also shows the number of papers cited in a particular year, represented by the acronym NCP (Number of Cited Publications). It can be seen that 2020 was the year with the most articles cited with an accumulation of 45 journals, which was then followed by 2021 with 20 articles. , Furthermore, in 2018 and 2019 29 articles were published each, so that both were included in the top three.

Figure 5 below shows a bar graph of publications and citations:

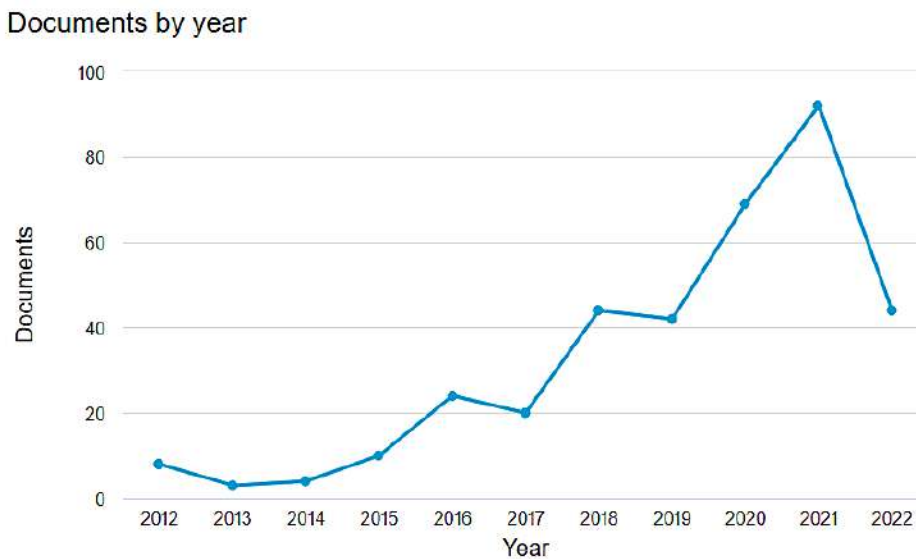


Figure 5. Publication from 2012-2022

Source: Data Processing, 2023

The annual publication graph in the image above shows that 2021 will be the year with the highest number of sustainable tourism document publications in Indonesia. Meanwhile, the lowest publication was in 2013 with a total publication of 3 documents. There was a quite drastic decline in 2021 – 2022 with the document difference reaching 48 documents. Meanwhile, in 2012 – 2013, 2016 – 2017, and 2018 – 2019 there was a decrease in documents, but it was not too significant.

Documents by subject area

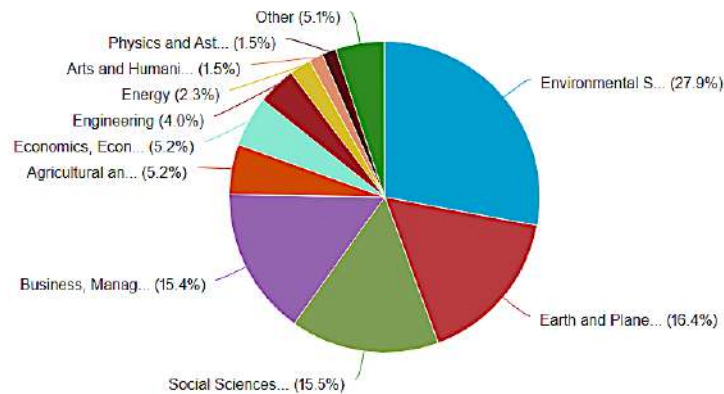


Figure 6. Documents by subject area form 2012-2022

Source: Data Processing, 2023

If you look at Figure 6 above, it can be said that there are 4 documents based on subjects that have quite a big role. There is environmental science with a total of 209 publications or 27.9% of all documents. Earth and Planetary Science with a total of 123 documents or the equivalent of 16.4%. Social Science with a total of 116 documents or 15.5% of all documents. A total of 115 documents related to business management, management and accounting contributed 15.4%. The remaining sections of the four documents based on the nominated subjects are filled by Agricultural and Biological Science at 5.2%, Economics, Econometrics and Finance at 5.2%, Engineering at 4%, Energy at 2.3%, Arts and Humanities at 1.5%, Physics and Astronomy at 1.5% and others by 5.1%.

Documents by type

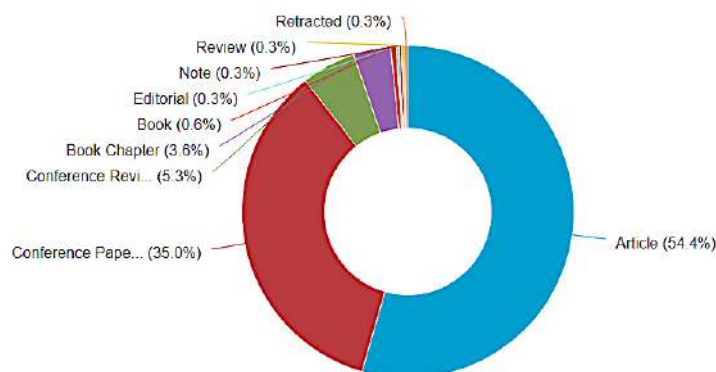


Figure 7. Documents by type area form 2012-2022

Source: Data Processing, 2023

In Figure 7 above, it can be seen that there are two types of documents that dominate the data. The first type is derivative articles, with a total of 196 articles or 54.4%. The second main type of document is meeting materials, which amount to 126 documents or 35% of the total data. The remainder consists of meeting minutes totaling 19 documents or 5.3%, Book Chapter with a total of 13 documents or 3.6%, book 2 documents or the equivalent of 0.6%, then Editorial, Note, Review, and Retracted with each document of 0.3%.

Table 3. Type of document

Type	Amount	%
Journal	196	0.50
Module spiece	13	0.02
Conference book	126	0.25
Module	2	0.03
Review	1	0.10
Editorial	1	0.00
Retracted	1	0.00
Note	1	0.00
Conference Review	19	0.05
	360	100%

Source: Data Processing, 2023

Table 3 above shows the types of sources used in writing this journal. Of the total 360 documents used, articles are in 1st place with a contribution of 54% or a cumulative figure of 196. The document type "Meeting Report" was ranked second with a total of 126 public documents, which contributed 35%, followed by the document type "Meeting Minutes" in third place with a total of 19 public documents or a contribution of 5%.

Table 4 as follow describes the type sources of publication.

Table 4: kinds of a type source

Kinds of a type	amount	%
article	199	0.25
module	8	0.06
Conference Proceeding	144	0.20
Module stories	9	0.01
	360	80%

Source: Data Processing, 2023

Table 4 above shows the types of sources used in writing this article, with a total of four sources recorded. The first rank is occupied by journals, In total there were 199 publications or 55% of contributions, followed by conference papers with 144 publications or 40%. The information source "book series" is in third place with 9 publications, which is 3%. Another source, namely the "book series" type, has 8 publications or contributions that also reach 3%.

Table 5 displays a list of the 20 most cited papers in related fields.

Table 5. 20 most frequently cited articles on the topic of sustainable tourism.

No	Cites	Authors	Title	year	Journal Name	Publisher
1	165	L.C. Unsworth, Nordland, Paddock, S. Baker, L.J. McKenzie, and R.K. F.	is considered ineligible in the context of the study of global seagrass beds functioning as interconnected socio-ecological systems, with implications for human welfare	2014	discussed in the Bulletin of Marine Pollution	Elsevier Ltd
2	113	S. Gulashi	examines the development of collaboration and partnerships to support sustainable tourism	2013	Tourism Geography	Taylor and Francis
3	99	Saufi, D. O'Brien, and H.	Wilkins researched the challenges in involving community participation in sustainable tourism	2014	in the Journal of Sustainable Tourism	Routledge

			development in developing countries, as published			
4	55	A. Rowe, T. de Lacey, and G. Lipman	examine the transition to a green economy in the tourism sector in Bali, Indonesia	2016	published in the Journal of Cleaner Production	Elsevier Ltd
5	49	J. Ponting and D. O'Brien	highlight the challenges of sustainability in an increasingly regulated tourism industry, particularly in the surf tourism sector	2015	In Management Sport Review	Elsevier Ltd
6	47	F. Ahmad, M.U. Draz, L. Su, and A. Rauf	discuss the relationship between tourism and environmental degradation in low- and middle-income countries in Southeast Asia	2019	Journal of Cleaner Production	Elsevier Ltd
7	38	F. Kurniawan, L. Adrianto, D.G. Bengen, and L.B.	Small Islands evaluates the management of small island tourist destinations in Indonesia,	2019	which is discussed in the Tourism Outlook	Elsevier B.V.
8	36	A. Lasso and H. Dahles	explore tourism development and economic change on Komodo Island, Indonesia, and their impact on sustainable livelihoods	2018	In the Asia Pacific Journal of Tourism Research	Routledge
9	33	A. Phelan, L. Ruhanen, and J. Mair	developed an ecosystem services-based approach for community-based ecotourism oriented towards a fair and sustainable blue economy	2020	as published in Sustainable Tourism	Routledge
10	33	P.L.K. Mustika, A. Birtles, Y. Everingham, and H. Marsh	research the human dimensions of wildlife tourism in developing countries, specifically in the case study of dolphin watching in Lovina, Bali,	2013	discussed in the Journal of Sustainable Tourism	Taylor and Francis
11	32	M. De Brauwer, E.S. Harvey, J.L. McIlwain, J. Hobbs, J. Jompa, and M. Burton	analyze the economic contribution of the muck diving industry to tourism in Southeast Asia	2017	published in Marine Policy	Elsevier Ltd
12	31	Partelow and K. Nelson	develop social networks, collective action, and governance for sustainable tourism in the Gili Islands, Indonesia	2020	as discussed in Marine Policy	Elsevier Ltd
13	31	RJY Perryman, SK Venables, RF Tapilatu, AD Marshall, C. Brown, Marshall, C. Brown,	and team examine coral reef diversity and social preferences in manta ray populations on coral reefs,	2016	in Behavioral Ecology and Sociobiology	Elsevier B.V.
14	28	DW Franks	Social preferences and network structure in a population of reef manta rays	2019	Behavioral Ecology and Sociobiology	Springer Verlag
15	28	NM Ernawati, D. Sanders, and R. Dowling	examine the goal orientation of hosts and guests in community-based tourism in Bali,	2017	discussed in the International	John Wiley and Sons Ltd

				Indonesia, as well as the influence of literature and film on tourism studies		Journal of Tourism Research	
16	28	N. O'Connor, S. Kim.	S.	Photography and Prose: The Impact of Tourism in Literature and Film	2014	Journal of Tourism and Cultural	Routledge
17	26	K.L. Chong.		Negative Impacts of Mass Tourism: Balinese People's Perspective	2020	Transformation Asia-Pacific Tourism	Routledge
18	26	N. Towner.		Managing the Perfect Wave: Case Study in the Mentawai Islands, Indonesia in Surfing Tourism Management	2016	Research Journal Ocean and Coastal Management	Elsevier Ltd
19	25	A. Bhati, Upadhyaya, Sharma.	A. A.	National Disaster Management in ASEAN-5: Analysis of Tourism Sector Resilience.	2016	Tourism Journal. Review	Emerald Group Publishing Ltd.
20	23	WL Chin, Haddock MP.	J. Fraser,	Competitiveness of Hampton Destinations: Empirical Evidence from Bali.	2017	Current Issues in Tourism.	Routledge

Source: Data Processing, 2023

In table 5 above, there are the 20 most cited articles. The first, most significant article is entitled "The World's Seagrass as a Socio-Ecological System: Impact on Human Well-Being," written by LM McKenzie, and R.K.F., published by Elsevier in 2014 and has been cited 165 times. The second article is "Developing Collaboration and Partnerships for Sustainable Tourism," by S. Graci published by Taylor & Francis in 2013, with a total of 113 citations. In third position, there is an article entitled Here is a paraphrase of the text you provided: The study on *Barriers to Community Participation in Sustainable Tourism Development in Developing Countries* written by A. Saufi, D. O'Brien, and H. Wilkins, published by Routledge in 2014, has received 99 citations. Apart from that, we would also like to introduce an article entitled *Transition to a Green Economy: A Case Study of Tourism in Bali, Indonesia* written by T. De Lacy, G. Lipman, and M. Jiang, which was published by Elsevier in 2016 and has been cited 55 times.

Fifth position is taken by an article with the title "Regulatory Nirvana: Sustainable Surf Tourism in an Increasingly Regulated Environment" by J. Ponting and D. O'Brien, successfully quoted in 49 publications by Elsevier

Table 6. Five leading publishers in each field

No	Publisher	Number of Papers	Percentage
1	ASERS Publishing House	16	0.11
2	Elsevier	24	0.17
3	Emerald Group Publishing Ltd.	16	0.11
4	Physics Institute Publishing	69	0.48
5	Jumper	18	0.13
		143	100%

Source: Data Processing, 2023

Table 6 above shows the top five publishers that play a major role in publishing articles with the keyword "sustainable tourism." Of the total of 143 articles listed in this table, the Institute of Physics Publishing published 69 articles, accounting

The image above is the result of data visualization using overlay visualization. This mapping was carried out to show trends in keywords used from year to year related to this research (Hamidah et al, 2020). In this mapping, circles with a dark color have an earlier year, while circles with a lighter color have a later year.

"Sustainable Development", "Tourism Development", and "Sustainable Tourism" are keywords with green and yellow circles, indicating that research with these keywords was conducted in the years between 2019 - 2022. Meanwhile, the keywords "Economics", "Marine Tourism". "Scuba Diving" has a purplish circle indicating that the keyword was used in writing between 2018 – 2019.

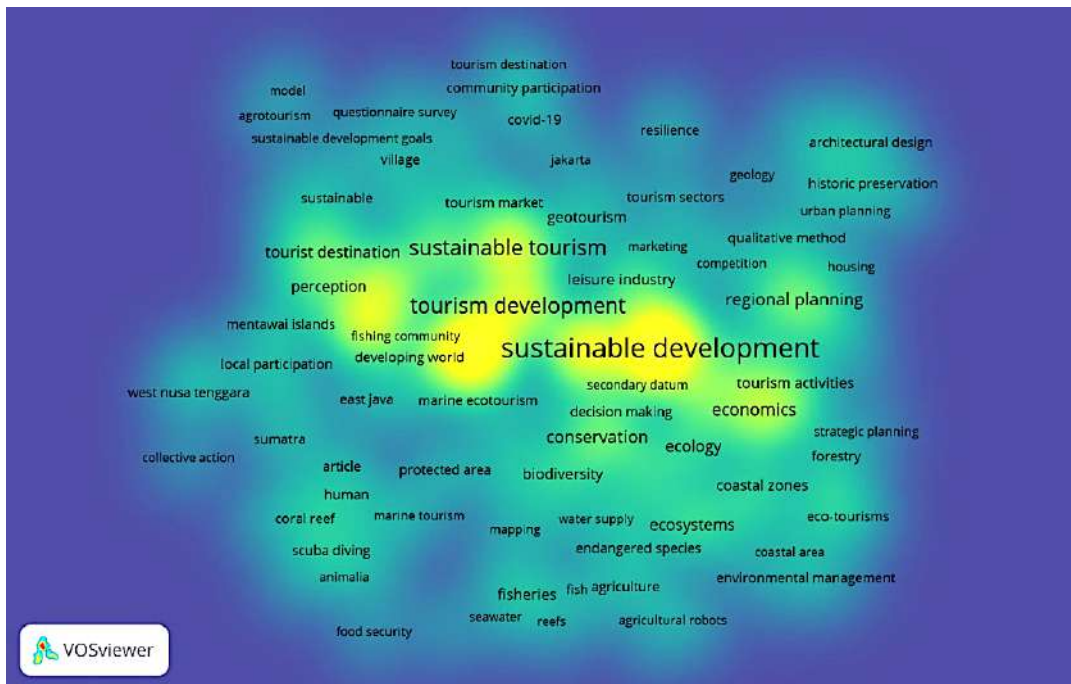


Figure 10. Visualization topic a rea using density visualization

Source: Data Processing, 2023

Figure 10 is a visualization result based on density level. Density visualization can also be used to describe research intensity. The brighter the color appears, the more often the keyword is used in research, while keywords that do not show bright colors tend to be rarely used (Hamidah et al., 2020). One of the keywords seen was "Covid-19", "Geology", "Water Supply", and "Geotourism" are rarely used in the research study "Sustainable Tourism in Indonesia". This is because the colors in these keywords do not show a thick color but rather a faded color.

Relationship between Author and Co-Author

Figure 10 below displays an overlay visualization of the relationship between authors and co-authors produced using VoS Viewer.

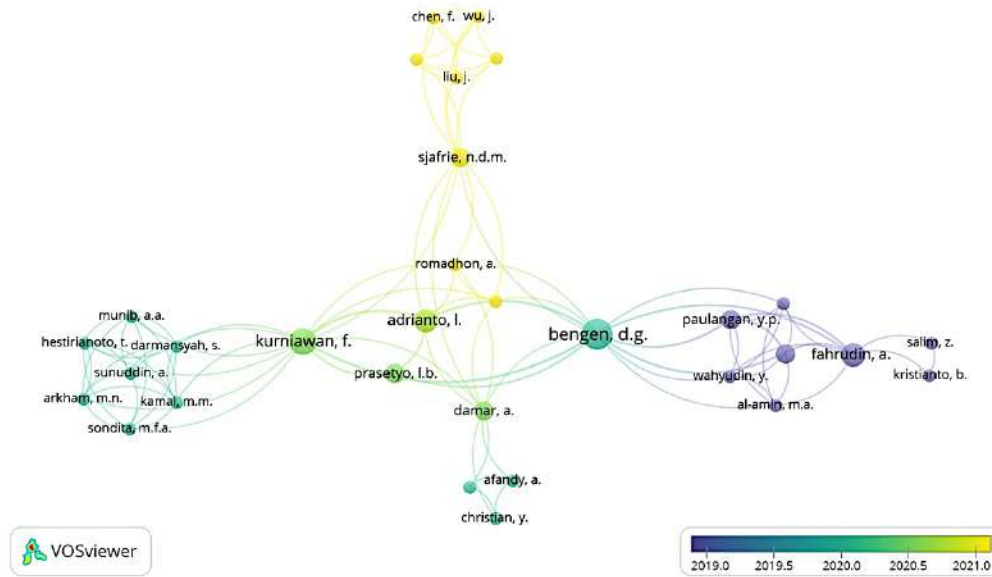


Figure 11. Visualization of the author and co-author overlay
 Source: Data Processing, 2023

In the author's visualization, based on the visualization overlay, it can be seen that there are 4 different colors. This shows that writers who have purple colors such as Fahrudin, Paulangan, and Wahyudin have average publications in 2019, then writers who have cyan colors such as Bengen, Munib, Afandy, and Christian have average publications in 2020. Meanwhile, writers with bright green colors such as Adrianto, Kurniawan, Damar, and Prasetyo had average publications at the end of 2020 and the last ones were writers with yellow colors such as Chen, Romadhon, Sjafrie, Liu, and Wu have average publications in 2021 – 2022.

Location and Study Area

Location and Study Area:

Figure 11 below shows the countries of origin of the authors.

Documents by country or territory

Compare the document counts for up to 15 countries/territories.

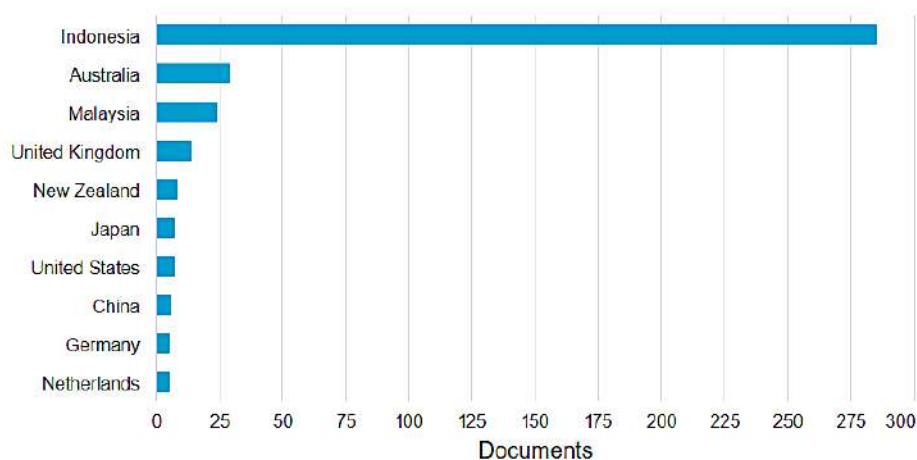


Figure 12. Country of origin
 Source: Data Processing, 2023

The graph above shows the total publication of documents in each country. Based on the graph above, Indonesia has the highest total publications with 285 documents. This is because the topic focus on bibliometric analysis is only in Indonesia. However, this hall does not cover the possibility that there are other countries that are researching "Sustainable Tourism in Indonesia". So the graph above also shows several countries discussing related topics. An explanation of the total publications in the graph above will be explained in table 9.

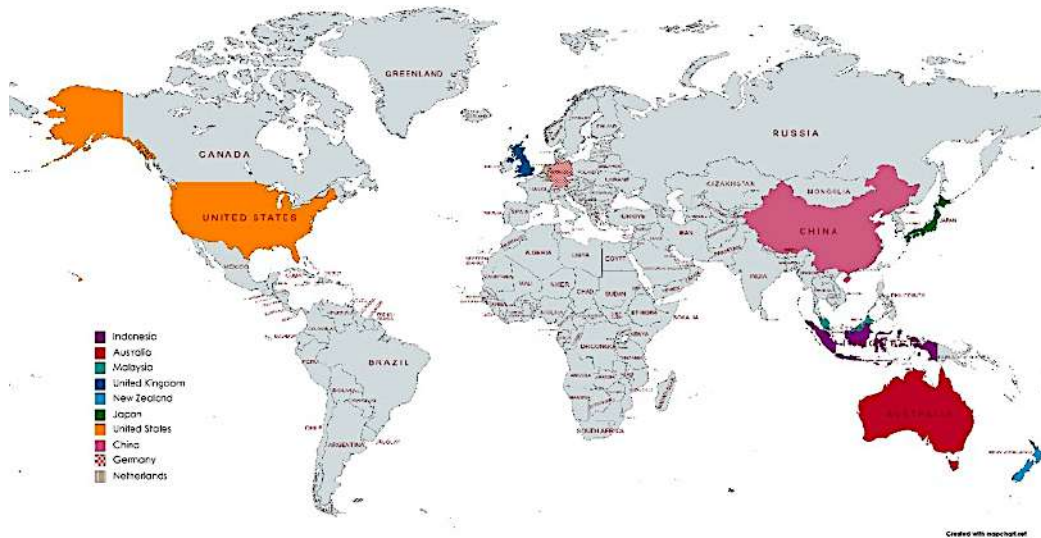


Figure 13. Map of Country of Origin (Can be accessed via <https://mapchart.net/>)

Source: Data Processing, 2023

Table 9 below presents a list of countries where research was conducted along with their respective research domains.

Table 9. Top 15 Country of location research and research domain

No	Country	Number of Articles	Research domain
1	Indonesia	285	Sustainable development, Indonesia, tourism, sustainable tourism, tourism development, ecotourism, conservation, sustainability
2	Australia	29	Indonesia, sustainability, tourism development, Bali, ecotourism, sustainable development, developing world
3	Malaysia	24	Sustainable development, Indonesia, sustainable tourism, tourism, tourism development, ecotourism, sustainability
4	United Kingdom	14	Sustainable tourism, Indonesia, sustainable, tourism development, tourism management
5	New Zealand	8	Mentawai islands, surfing tourism, Indonesia, ecotourism, sustainable tourism development
6	Japan	7	Sustainable tourism, sustainable, Indonesia, tourism development, ecotourism
7	United States	7	Indonesia, conservation, conservation management, sustainability, area based management
8	China	6	Sustainability, tourism development, ecotourism, conservation
9	Germany	5	Indonesia, ecotourism, perception, sustainability, tourism
10	Netherlands	5	Sustainable development, tourism, sustainability, Indonesia, ecotourism

Source: Data Processing, 2023

Table 9 above shows the 15 country locations that are most often used as

research locations. In the first position is occupied by Indonesia, which has been used as a research location 285 times using research domains including sustainable development, tourism, sustainable tourism, ecotourism, conservation, sustainability. Australia is in second place by being used as a research location 29 times using research domains including; sustainability, tourism development, , ecotourism, sustainable development. Malaysia is in third place with 24 reference articles using research domains including; Sustainable development, sustainable tourism, tourism, tourism development, ecotourism, sustainability.

CONCLUSION

This study is based on data from various different scientific disciplines and analyzes them to find out the relationship between one another. These data were processed using Vos Viewer software to configure and visualize the systematic distribution of literature and analyze it using a bibliometric approach. The bibliometric analysis approach is very useful for conducting further research because in bibliometric analysis you can find several keywords that are rarely used in conducting research on related topics. So by carrying out bibliometric analysis it can help further research related to "Sustainable Tourism in Indonesia".

Further research can make connections between keywords that are rarely used and the main keywords in the research. Like the network formed by Network Visualization (Figure 8), the keywords "Sustainable Tourism" and "Tourist Destination" are close to each other and are related to each other from the main key words, namely "Sustainable Development" and "Sustainable Tourism". With this phenomenon, it is not impossible that the topic of Sustainable Tourism is becoming increasingly popular and could become a topic that continues to be discussed and implemented.

REFERENCES

- Andereck, L.K., Vogt, A.C. (2000). The relationship between residents attitudes toward tourism and tourism development options. *Journal of Travel Research*, 39, 27-36
- Çadraku, H. (2022). The Sustainable, tourism and economic values of Mount Blinaja, Kosovo. *Revista Turismo & Desenvolvimento*, 39, 363-373.
- Ding, X., & Yang, Z. (2020). Knowledge mapping of platform research: a visual analysis using VOSviewer and CiteSpace. *Electronic Commerce Research*, 1-23.
- Dodds, R. (2007). Sustainable tourism and policy implementation: Lessons from the case of Calvia, Spain. *Current Issues in Tourism*, 10(4), 296-322.

- Duangkrayom, J., Jintasakul, P., Songtham, W., Kruainok, P., Naksri, W., Thongdee, N., & Meepoka, R. (2022). Geodiversity in Khorat Geopark, Thailand: Approaches to geoconservation and sustainable development. *International Journal of GeoSustainable and Parks*, 10(4), 569-596.
- Dwyer, L. (2005). Relevance of triple bottom line reporting to achievement of Sustainable tourism: A scoping study. *Tourism Review International*, 9(1), 79–938.
- Erol, I., Neuhofer, I. O., Dogru, T., Oztel, A., Searcy, C., & Yorulmaz, A. C. (2022). Improving sustainability in the tourism industry through blockchain technology: Challenges and opportunities. *Tourism Management*, 93, 104628.
- Fuad, M. (2019). International publications on radicalism and terrorism in Indonesia: A bibliometric assessment. *Wawasan: Jurnal Ilmiah Agama Dan Sosial Budaya*, Vol. 5 No. 1 (2020).
- Gössling S (2002) Global environmental consequences of tourism. *Glob Environ Change* 12(4):283–302
- Hamidah, I., Sriyono, S., & Hudha, M. N. (2020). A Bibliometric analysis of Covid-19 research using VOSviewer. *Indonesian Journal of Science and Technology*, 34-41.
- Hsu, F. C., Zhang, S., Zhang, Y., & Lee, T. J. (2022). Decision-making behavior in the sustainable development of intangible cultural Sustainable tourism. *International Journal of Tourism Research*, 24(6), 800-812.
- Koens, K., Postma, A., & Papp, B. (2018). Is overtourism overused? Understanding the impact of tourism in a city context. *Sustainability*, 10(12), 4384.
- León-Gómez, A., Ruiz-Palomo, D., Fernández-Gámez, M. A., & García-Revilla, M. R. (2021). Sustainable tourism development and economic growth: Bibliometric review and analysis. *Sustainability*, 13(4), 2270.
- López, M. R. (2022). ¿ Cómo podemos mejorar la comunicación del patrimonio? Soluciones y futuro del sector. VISUAL REVIEW. *International Visual Culture Review/Revista Internacional de Cultura Visual*, 9(Monográfico), 1-8.
- Lusetyowati, T. (2015). Preservation and conservation through cultural Sustainable tourism. Case study: Musi Riverside Palembang. *Procedia-Social and Behavioral Sciences*, 184, 401-406.
- Pranckutė, R. (2021). Web of Science (WoS) and Scopus: The titans of bibliographic information in today's academic world. *Publications*, 9(1), 12.

- Rodríguez-Rojas, A., Ospina, A. A., Rodríguez-Vélez, P., & Arana-Florez, R. (2019). ¿ What is the new about food packaging material? A bibliometric review during 1996– 2016. *Trends in food science & technology*, 85, 252-261.
- Rosato, P. F., Caputo, A., Valente, D., & Pizzi, S. (2021). 2030 agenda and sustainable business models in tourism: A bibliometric analysis. *Ecological Indicators*, 121, Article 106978. <https://doi.org/10.1016/J.ECOLIND.2020.106978>
- Setiawan, M. A. (2021). Filsafat Pendidikan dan Perkembangannya: Kajian Bibliometrik berdasarkan Database Scopus. *Belantika Pendidikan*, 4(2), 44–56.
- Trček, D. (2022). Cultural Sustainable preservation by using blockchain technologies. *Sustainable Science*, 10(1), 1-11
- United-Nations (UN) (2020) The sustainable development goals report 2020. *Oxford University Press, New York*
- Wang, S., Cao, W., Du, J., Tang, P., Fu, H., Tang, Z., & Li, J. (2021). Assessing the environmental impact of China's tourism activities: a tourism heat footprint method. *Environmental Science and Pollution Research*, 28(43), 61176-61188.
- Wenying, Z., & Qiongying, L. (2022). Protection and Tourism Development of Cultural Sustainable of Place Names in Chengdu, China. *Journal of Resources and Ecology*, 13(6), 1109-1115
- Wu, K. J., Zhu, Y., Chen, Q., & Tseng, M. L. (2019). Building sustainable tourism hierarchical framework: Coordinated triple bottom line approach in linguistic preferences. *Journal of Cleaner Production*, 229, 157–168. <https://doi.org/10.1016/J.JCLEPRO.2019.04.212>