

BIBLIOMETRIC: SOCIAL MEDIA MARKETING AND ADOPTION IN INDONESIA

Kezia Arum Sary^{1*}, Syarifah Hidayah², Zainal Abidin³, Yohanes Kuleh⁴

Faculty of Social Science and Political Science, Universitas Mulawarman,
Indonesia¹

Faculty of Economics and Business, Universitas Mulawarman, Indonesia^{2,3,4}

Email: kezia.arumsary@fisip.unmul.ac.id*

ARTICLE INFO

Date received : August 19,
2022
Revision date : September 10,
2022
Date received : September 20,
2022

Keywords:

*bibliometrics, social media,
marketing, Indonesia*

ABSTRACT

This study conducts a bibliometric analysis of social media marketing and adoption in tourism development by reviewing previous studies in the world and Indonesia published in the Scopus database. The data obtained were analyzed using a quantitative approach to provide a representative picture in line with the practicality of bibliometric analysis in assessing the output, organization, authorship, and characteristics of topics. The focus was placed on the articles published between 2012 and 2021 and the findings showed an increasing interest in the studies related to social media marketing and social media adoption as well as an evolution of related academic research.

INTRODUCTION

This study conducts a bibliometric analysis on social media marketing and adoption in tourism development using articles published on the Scopus database, specifically in Indonesia. This type of study requires using statistical and visualization methods to explore the structures and patterns of some specific disciplines (Moed et al., 1995; Tang et al., 2018). It is important to note that several studies with different methods of analysis were selected through some bibliometric indicators such as the citations published annually, individual citations, and clarity (Gallois, 2013). These articles often reflect the contributions of authors and institutions as well as their citations normally indicate quality and influence. The bibliometric analysis is considered essential for this study because it allows extracting information from each document and analyzing the data retrieved from a database (Gümüş et al., 2020; Zupic & Čater, 2015).

Social media merges different platforms to create a visible media convergence as observed from all social networking applications normally used as the main media to search for information as well as a place for social interaction, collaboration, entertainment, and creative expression (Abed et al., 2015). It was also defined by Boyd and Ellison (2007) and Cho et al. (2009) as a web-based platform for interaction, conversations, and distribution of information through text, photos, videos, and links. Appel et al. (2020) reported that social media has a significant cultural value because it has become part of life for the majority of the people by serving as the main domain to receive unlimited information and share different content at any time and place. The accuracy of the information on these platforms is sometimes questionable. Furthermore, there is a high tendency for a continuous change in the use of social media

considering the consistent innovation which allows the addition of more interesting features by the developers and the usage of these new functions by the users.

Social media is increasingly being used to market tourism activities due to the prevalence of information communication technology and the digital economy in the tourism industry (Sary et al., 2021). It is, however, important to note that tourism marketing involves communication and publication activities implemented to build the image of a destination, product, and tourist attraction site.

The data used in this study were based on the information collected from articles published on "Social Media Marketing" and "Social Media Adoption" on the Scopus Database which is the most comprehensive database consisting of different peer-reviewed scientific journals, literature papers, books, and international conference proceedings (Liao et al., 2019). It is, however, important to note that the focus of this study was only on Journal Articles, Conference Papers, Conference Reviews, and Review Articles published and indexed on Scopus.

The bibliometric methods such as co-citation analysis and aggregation involve using bibliographic data from databases to develop a structural picture of a scientific concept (Zupic & Čater, 2015). There are three components for this type of analysis and these include a) bibliometrics which is the main domain of bibliometric study and which is traditionally used as a methodology, b) scientific disciplines or information that focus on scientific-oriented studies and a very strong interest in such field of specialization, leading to the need to apply a quantitative method of retrieving data, and c) science policy and management which is a domain designed for the evaluation of different study topics (Galvez, 2016). Meanwhile, the co-word aspect is the co-occurrence analysis of words or keywords used to index two or more documents Diodato and Gellatly (2013) and is normally applied to analyze the content, patterns, and trends of a collection of documents by measuring the strength of a particular term (De Looze & Lemarié, 1997).

Previous studies showed the ability of social media to provide opportunities for organizations to attract and reach more customers, increase customer satisfaction, efficiently communicate with stakeholders, and generate relevant market information. It was also reported that organizations, policymakers, and managers need the insight to understand the role of social media platforms in achieving sustainable performance (Kasper et al., 2012; Sivarajah et al., 2020; Ur Rahman et al., 2020). Another study by Sivarajah et al. (2020) showed that data and social media in a participatory web environment enable B2B organizations to be profitable and remain sustainable through strategic operations and marketing-related business activities. It is also important to note that these platforms are increasingly being used to market tourism through the provision of information to build the image of a destination, product, and tourist attraction site.

METHOD

This study uses data from international publications related to the instrumentation field from the Scopus database (www.scopus.com) which were obtained using keywords such as "Social Media Marketing" and "Social Media Adoption". It is important to note that the search process focused on the title, abstract, and keywords of articles published between 2012 and 2021. Moreover, the information was used to determine the number of publications per year, journals with articles related to the instrumentation field, authors and their origin, and subjects which were further analyzed using Microsoft Excel 2010. Meanwhile, the trends concerning international publications developed in the field of instrumentation were evaluated using VosViewer software.

RESULTS AND DISCUSSION

The first stage was to search for the previously identified keywords (Baeza-Yates & Ribeiro-Neto, 1999; Pendit, 2006) from the Scopus database search engine with a focus on the Article Title, Abstract, and Keyword (Falagas et al., 2008; Wang et al., 2020). This led to the discovery of a total of 694 articles published on social media marketing and adoption from 2018 to 2021. These were further filtered to obtain more specific results and concentrate more on achieving successful study outcomes. Therefore, this study used the review technique framework led by a set of inclusion and exclusion criteria to filter out irrelevant studies. Furthermore, the bibliometric analysis requires evaluating the suitability and consequences of the available databases compared to the others (Martínez, 1995; Sánchez et al., 2017).

The meaning of social media marketing and adoption was inductively examined by tracing the evolution of their trends and patterns in scientific production within the disciplines studied (Galvez, 2016; Serrano et al., 2019; Seuring, 2004). Meanwhile, the literature classification part was completed before an accurate or actual data analysis was conducted using a deductive approach (Fahimnia et al., 2015). This means this study combined both the inductive and deductive methods through triangulation and this allowed the usage of different data sources from different authors to analyze a particular concept (Gamache et al., 2015; Scheffler & Brunzel, 2020; Zupic & Čater, 2015). Data were analyzed using the bibliometric method and then the findings were summarized in the results and discussion section. Moreover, VosViewer was applied to classify the published literature and extensive network relationships due to its ability to function effectively with very large datasets, different visualizations, analyses, and breakthrough studies (Fahimnia et al., 2015; Van Eck & Waltman, 2013). Moreover, the bibliometric method expands the analysis to the health, information technology, education, monetary, economics, security, agriculture, property, land conditions, international relations, and social sciences aspects concerning tourism. The method has been previously confirmed to be efficient for the scientific mapping of journal articles because of its ability to apply graphic visuals and maps to present different perspectives of a concept (Stopar & Bartol, 2019; Wang et al., 2020).

The studies published were classified and examined using several variables including the citation matrices, articles, publication methods, country or region, study field, and identification patterns applied to develop knowledge-based theories. A similar approach was also used to analyze previous studies on tourism sustainability, goods and practices, and the development of new concepts for the future tourism industry. The bibliometric analysis was completed using two network visualizations through the application of a density map based on the occurrence of the keywords and another density map based on network data linked by the co-written objects. The keyword "co-occurrence" aspect usually reflects the number of times two terms appear together in a series of articles (Yuan & Sun, 2020). It is important to note that the density map is based on the occurrence of keywords used and the full-count method was used in this study, indicating each co-occurring link has the same weight. Meanwhile, the default "association strength method" was applied to normalize the event matrix with the default values of attraction and repulsion (Dehdarirad et al., 2019; Shah et al., 2019) after which co-authored network was used to determine the number of publications. The density vision also immediately provided an overview of the author's outline as well as those considered to be most influential in the field (Anneboina & Kumar, 2017). This simply shows that density maps are based on a data network linked to co-written objects and the accuracy of each point in the article was determined using natural colors such as blue, green, and yellow. The greater number of elements around the point and the weight of the neighboring features were determined based on the closeness of the dot color to gold (Francis et al., 2021).

The results showed that studies concerning social media adoption are current and relatively few compared to other themes as indicated in Figure 1.

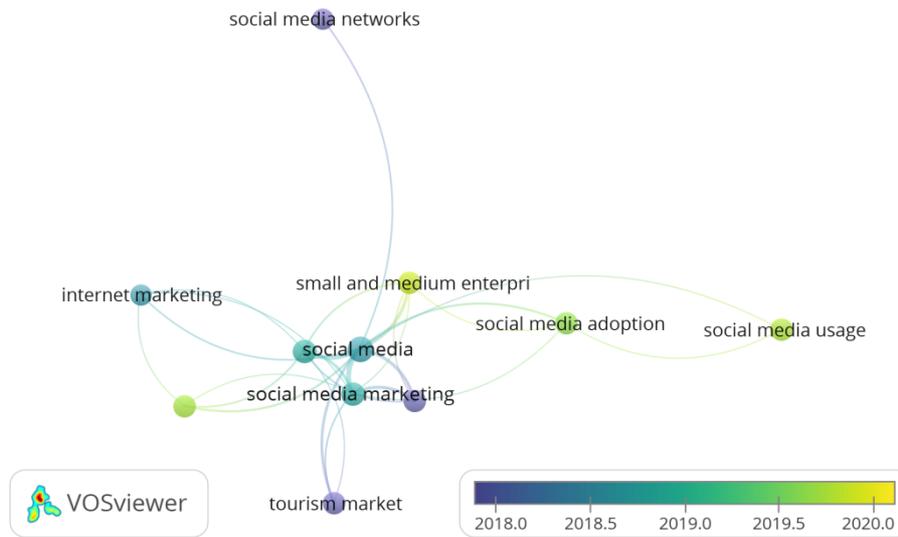


Figure 1. Co-Occurrence Network of Keywords
Source: Scopus, Author Calculation

Numerical data was used to determine the difference in the number of papers written per year in comparison with the previous year. The results showed that the documents published from 2012 to 2021 increased annually as indicated in Figure 1. This means the interests and attention of researchers, academics, and experts on social media marketing and social media adoption increased over the years, indicating steady growth in the articles published on Scopus.

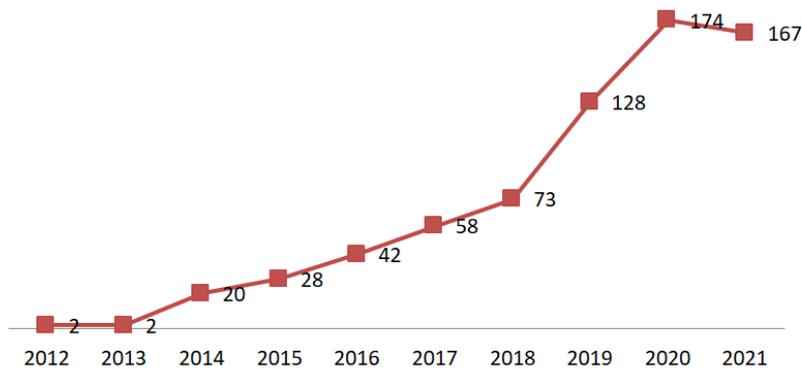


Figure 2. Number of Published Articles
Source: Scopus, Author Calculation

Figure 2 shows that the publication of articles on social media marketing and adoption started in 2012 and increased from 2014 to 2021 with the most significant increment recorded between 2018 and 2019 as indicated by 73 and 128, respectively.

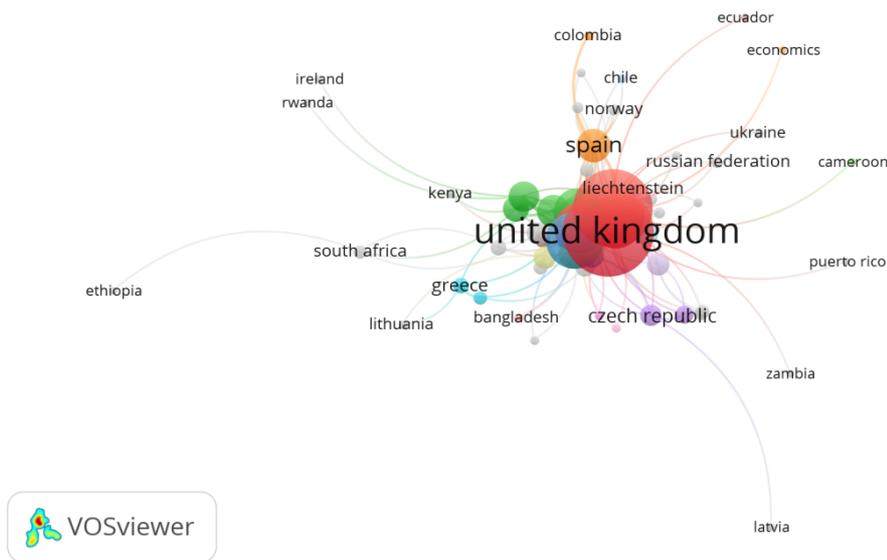


Figure 3. Contributing Countries
Source: Scopus, Author Calculation

The country observed to have discussed these topics more was the United States with 107 articles as indicated in Figure 3 while the platform best used was journal articles.

Table 1
Top 10 Publishers' Contribution to Social Media Marketing and Adoption

No.	Publisher	Record
1.	Industrial Marketing Management	36
2.	Sustainability (Switzerland)	17
3.	Journal of Business and Industrial Marketing	16
4.	Journal of Research in Interactive Marketing	9
5.	International Journal of Information Management	8
6.	Journal of Business Research	7
7.	Journal of Science and Technology Policy Management	6
8.	Journal of Business-To-Business Marketing	6
9.	Journal of Marketing Education	5
10.	Advances in Intelligent Systems and Computing	5

Source: Scopus, Author Calculation

Table 1 shows the top 10 indexed journal publishers of articles concerning Social Media Marketing and Adoption on Scopus with the highest found to be related to management and business. These findings showed the flow of previous studies on these topics while the bibliometric method used the VosViewer to determine the influence of the author, organization, place, some citations, keywords, and relationships between words, variations, as well as the frequency of the study on these concepts. This is in line with the application of the method in different other fields (Zahra et al., 2021) such as environment (Hermans et al., 2014) and economics (Han et al., 2017).

Table 2
Top 10 Authors

No.	Author	Total
1.	Dwivedy Y. K.	11
2.	Rana N. P.	8
3.	Eze S. C.	6
4.	Kumar P.	5
5.	Erkan I	4
6.	Ismagilova E.	4
7.	Ahmad N.	4
8.	Ahmad S. Z.	4
9.	Kasemsap K.	4
10.	Bello A. O.	4

Source: Scopus, Author Calculation

Table 2 shows the 10 most important authors who published articles on "Social Media Marketing" and "Social Media Adoption" as indicated by the analysis conducted on the number of critical authors and co-authors, written documents, and the overall intensity of the relationship. Moreover, the existence of multiple manuscripts was observed not to imply that the other authors frequently quoted the text or have a close relationship. There is a citation engagement with another person in each document without any relationship as indicated in the following figure:

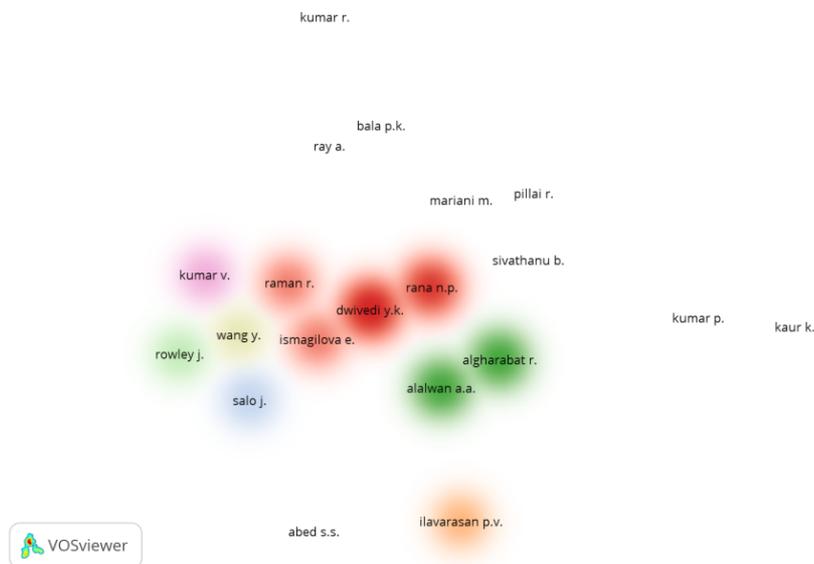


Figure 4. Citation Network

Source: Scopus, Author Calculation

Figure 4 shows the highest citation in each document but the correlation between all the citations was not proven. This means there is no relationship between all the articles published on Social Media Marketing and Social Media Adoption in the database analyzed. It is, however, important to note that they were published from different countries as indicated in Table 3.

Table 3
Top 10 Countries with the Number of Documents and Number of Citations

No.	Country	Number of Documents	Number of Citations
1	United States	107	1410
2	United Kingdom	85	1854
3	Malaysia	57	451
4	India	50	443
5	China	45	531
6	Indonesia	41	82
7	Spain	38	242
8	Australia	37	867
9	Italy	30	276
10	Finland	21	296

Source: Scopus, Author Calculation

Indonesia was placed in the 6th position out of 10 countries with 41 articles and also have a very minimal number of citations compared to other countries as indicated in Table 3. Meanwhile, a previous study showed the importance of comparing the success of studies conducted in line with the process used (Herawati, 2015) and this led to the analysis of the contribution of these articles as indicated in Figure 5.



Figure 5. Organizational Contribution to Social Media Marketing and Adoption

Source: Scopus, Author Calculation

CONCLUSION

A critical analysis of the concepts of Social Media Marketing and Adoption through systematic exploration showed that previous studies were conducted on these topics including conference and workshop proceedings. The findings showed that the research trend was increasing between 2012 and 2021 with the authors discovered to be using different methodologies and disciplines. Moreover, the most productive academic articles were observed to be focused on the interdisciplinary importance of these concepts. Finally, interesting theories concerning new developments in this field were found, specifically in relation to the development and utilization of social media as a marketing channel. It is important to note that there was no correlation between the author's citations and the provision of support for the adoption of social media.

Bibliometrics analysis was used to retrieve 694 documents Scopus database using "Social Media Marketing and Adoption" as the keywords and later analyzed using the VosViewer tool. The findings showed that there is a positive relationship between Asian and European countries in the conduct of studies regarding these topics and this is considered important to

achieve changes. It is, therefore, recommended that studies related to these topics need to be increased to enhance the tourism development in Indonesia

REFERENCES

- Abed, S. S., Dwivedi, Y. K., & Williams, M. D. (2015). Social media as a bridge to e-commerce adoption in SMEs: A systematic literature review. *The Marketing Review*, 15(1), 39–57. [Google Scholar](#)
- Anneboina, L. R., & Kumar, K. S. K. (2017). Economic analysis of mangrove and marine fishery linkages in India. *Ecosystem Services*, 24, 114–123. [Scopus](#)
- Appel, G., Grewal, L., Hadi, R., & Stephen, A. T. (2020). The future of social media in marketing. *Journal of the Academy of Marketing Science*, 48(1), 79–95. [Google Scholar](#)
- Baeza-Yates, R., & Ribeiro-Neto, B. (1999). *Modern information retrieval Addison*. Wesley Longman Publishing Co., Inc., Boston. [Google Scholar](#)
- Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-mediated Communication*, 13(1), 210–230. [Google Scholar](#)
- Cho, C. H., Phillips, J. R., Hageman, A. M., & Patten, D. M. (2009). Media richness, user trust, and perceptions of corporate social responsibility: An experimental investigation of visual web site disclosures. *Accounting, Auditing & Accountability Journal*. [Google Scholar](#)
- De Looze, M.-A., & Lemarié, J. (1997). Corpus relevance through co-word analysis: An application to plant proteints. *Scientometrics*, 39(3), 267–280. [Google Scholar](#)
- Dehdarirad, T., Sotudeh, H., & Freer, J. (2019). Bibliometric mapping of microbiology research topics (2012–16): a comparison by socioeconomic development and infectious disease vulnerability values. *FEMS Microbiology Letters*, 366(2), fnz004. [Google Scholar](#)
- Diodato, V. P., & Gellatly, P. (2013). *Dictionary of bibliometrics*. Routledge. [Google Scholar](#)
- Fahimnia, B., Sarkis, J., & Davarzani, H. (2015). Green supply chain management: A review and bibliometric analysis. *International Journal of Production Economics*, 162, 101–114. [Scopus](#)
- Falagas, M. E., Pitsouni, E. I., Malietzis, G. A., & Pappas, G. (2008). Comparison of PubMed, Scopus, web of science, and Google scholar: strengths and weaknesses. *The FASEB Journal*, 22(2), 338–342. [Google Scholar](#)
- Francis, B. R., bin Ahmad, R., & binti Abdullah, S. M. (2021). *A Bibliometric Analysis on Performance Appraisal*. [Google Scholar](#)
- Gallois, N. (2013). Les conséquences des nouveaux critères d'évaluation des chercheurs en science économique. *L'Économie Politique*, 3, 98–112. [Google Scholar](#)
- Galvez, C. (2016). Visualizing Research Lines in Public Health: An analysis Based on Bibliometric Maps Applied to the Revista Espanola de Salud Publica (2006-2015). *Revista Espanola de Salud Publica*, 90, e1–e10. [Google Scholar](#)
- Gamache, D. L., McNamara, G., Mannor, M. J., & Johnson, R. E. (2015). Motivated to acquire?

- The impact of CEO regulatory focus on firm acquisitions. *Academy of Management Journal*, 58(4), 1261–1282. [Google Scholar](#)
- Garrigos-Simon, S. (2012). Social networks and Web 3.0: Their impact on the management and marketing of organizations. *Management Decision*, 3, 1880–1890. [Google Scholar](#)
- Gümüş, S., Bellibaş, M. Ş., Gümüş, E., & Hallinger, P. (2020). Science mapping research on educational leadership and management in Turkey: a bibliometric review of international publications. *School Leadership & Management*, 40(1), 23–44. [Google Scholar](#)
- Han, J., Kim, Y. J., & Kim, H. (2017). An integrative model of information security policy compliance with psychological contract: Examining a bilateral perspective. *Computers & Security*, 66, 52–65. [Scopus](#)
- Hawkins, K., & Vel, P. (2013). Attitudinal loyalty, behavioural loyalty and social media: An introspection. *The Marketing Review*, 13(2), 125–141. [Google Scholar](#)
- Herawati, N. T. (2015). Kontribusi pembelajaran di perguruan tinggi dan literasi keuangan terhadap perilaku keuangan mahasiswa. *Jurnal Pendidikan Dan Pengajaran*, 48(1–3). [Google Scholar](#)
- Hermans, L., Cunningham, S., & Slinger, J. (2014). The usefulness of game theory as a method for policy evaluation. *Evaluation*, 20(1), 10–25. [Google Scholar](#)
- Kasper, H., Koleva, I., & Kett, H. (2012). Social media matrix matching corporate goals with external social media activities. *Extended Semantic Web Conference*, 233–244. [Google Scholar](#)
- Liao, H., Tang, M., Li, Z., & Lev, B. (2019). Bibliometric analysis for highly cited papers in operations research and management science from 2008 to 2017 based on Essential Science Indicators. *Omega*, 88, 223–236. [Scopus](#)
- Martínez, T. L. (1995). Líneas de investigación y bases de datos para la investigación. *Investigaciones Europeas de Dirección y Economía de La Empresa*, 1(2), 35–50. [Google Scholar](#)
- Moed, H., De Bruin, R., & Van Leeuwen, T. H. (1995). New bibliometric tools for the assessment of national research performance: Database description, overview of indicators and first applications. *Scientometrics*, 33(3), 381–422. [Google Scholar](#)
- Pendit, P. L. (2006). *Ragam teori informasi*. [Google Scholar](#)
- Sánchez, A. D., Del Río, M. de la C., & García, J. Á. (2017). Bibliometric analysis of publications on wine tourism in the databases Scopus and WoS. *European Research on Management and Business Economics*, 23(1), 8–15. [Scopus](#)
- Sary, K. A., Purwanti, S., & Juwita, R. (2021). Implementation of Smart Tourism in Kedang Ipil Village. *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*, 4(3), 4862–4872. [Google Scholar](#)
- Scheffler, M., & Brunzel, J. (2020). Destructive leadership in organizational research: a bibliometric approach. *Scientometrics*, 125(1), 755–775. [Google Scholar](#)
- Serrano, L., Sianes, A., & Ariza-Montes, A. (2019). Using bibliometric methods to shed light on the concept of sustainable tourism. *Sustainability*, 11(24), 6964. [Google Scholar](#)

- Seuring, S. (2004). Integrated chain management and supply chain management comparative analysis and illustrative cases. *Journal of Cleaner Production*, 12(8–10), 1059–1071. [Scopus](#)
- Shah, S. H. H., Lei, S., Ali, M., Doronin, D., & Hussain, S. T. (2019). Prosumption: bibliometric analysis using HistCite and VOSviewer. *Kybernetes*. [Google Scholar](#)
- Sivarajah, U., Irani, Z., Gupta, S., & Mahroof, K. (2020). Role of big data and social media analytics for business to business sustainability: A participatory web context. *Industrial Marketing Management*, 86, 163–179. [Scopus](#)
- Stopar, K., & Bartol, T. (2019). Digital competences, computer skills and information literacy in secondary education: mapping and visualization of trends and concepts. *Scientometrics*, 118(2), 479–498. [Google Scholar](#)
- Tang, M., Liao, H., Wan, Z., Herrera-Viedma, E., & Rosen, M. A. (2018). Ten years of sustainability (2009 to 2018): A bibliometric overview. *Sustainability*, 10(5), 1655. [Google Scholar](#)
- Ur Rahman, R., Ali Shah, S. M., El-Gohary, H., Abbas, M., Haider Khalil, S., Al Altheeb, S., & Sultan, F. (2020). Social media adoption and financial sustainability: Learned lessons from developing countries. *Sustainability*, 12(24), 10616. [Google Scholar](#)
- Van Eck, N. J., & Waltman, L. (2013). VOSviewer manual. *Leiden: Univeriteit Leiden*, 1(1), 1–53. [Google Scholar](#)
- Wang, X., Xu, Z., & Škare, M. (2020). A bibliometric analysis of Economic Research-Ekonomiska Istra zivanja (2007–2019). *Economic Research-Ekonomiska Istra zivanja*, 33(1), 865–886. [Google Scholar](#)
- Yuan, B. Z., & Sun, J. (2020). Mapping the scientific research on maize or corn: a bibliometric analysis of top papers during 2008–2018. *Maydica*, 65(2), 9. [Google Scholar](#)
- Zahra, A. A., Nurmandi, A., Tenario, C. B., Rahayu, R., Benectitos, S. H., Mina, F. L. P., & Haictin, K. M. (2021). Bibliometric Analysis of Trends in Theory-related Policy Publications. *Emerging Science Journal*, 5(1), 96–110. [Google Scholar](#)
- Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational Research Methods*, 18(3), 429–472. [Google Scholar](#)

Copyright holder:

Kezia Arum Sary, Syarifah Hidayah, Zainal Abidin, Yohanes Kuleh (2022)

First publication right:

Journal of Social Science

This article is licensed under:

