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GLOBAL TREND OF ETHNOSCIENCE RESEARCH: A BIBLIOMETRIC ANALYSIS USING SCOPUS DATABASE

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Abstract

This paper aims to provide a detailed overview of how to use a bibliometrics approach to study trends in ethnoscience research globally. This study was derived from 237 documents collected through the Scopus database from 1967 to 2022 using the keyword "ethnoscience" in the title, keyword, and abstract searches with Bibliometric. Ethnoscience research has grown and contributed to the academic community over the past 50 years, with Sumarang being the most applicable author and Universitas Negeri Semarang being the most relevant affiliation. American Anthropologist by Hunn in 1982 is one of the most often cited ethnology research papers. The result indicates that ethnoscience research is a varied and interdisciplinary field that continues to grow and contribute significantly to the academic community across disciplines. Consequently, this bibliometric analysis presents a summary and potential avenue for future research in ethnoscience, as indicated by the findings.

Keywords: Bibliometric, Bibliometric analysis, Ethnoscience, RStudio.

1. Introduction

Throughout the years, numerous studies have been published that discuss ethnoscience. By the study of ethnoscience, one can gain insight into the history, traditions, and knowledge of a people group in addition to gaining an understanding of how that people group interacts with its natural environment [1-4]. In addition to this, ethnoscience can also be used to gain a deeper understanding of nature on its own [1].

Ethnoscience is a relatively new field whose methods and objectives are continually evolving. The evolution of ethnography has been the subject of many scholarly works, including [5, 6]. Although neither of these articles particularly covers the history of ethnoscience, they nevertheless offer vital insights into the evolution of ethnography as a study. Haddon [5] examined the development of the theoretical study of culture and the enhancement of data collection procedures. In contrast, some researchers address the evolution, concepts, methodology, and objectives of ethnohistory [6]. Ethnoscience research has been reported in many articles [3, 7, 8]. Ethnoscience is important for sustainable development, while an overview of ethnoscience methods includes definitions and examples [3]. Teachers' knowledge of ethnoscience affects their instructional competencies [8]. Ethnoscience research has many uses, such as understanding and taking care of natural resources and making education better. Some studies used VosViewer [9, 10]. However, there have not been bibliometric analyses of papers about ethnoscience with Bibliometric.

The novelties of this bibliometric analysis study on ethnoscience are the utilization of the Scopus database, data from the beginning year to 2022. It does not restrict the categories of articles that are evaluated. This study aims to (i) figure out general patterns of publication output and journal performance, (ii) look at how well research is done by author, country, and affiliation, and (iii) figure out which words are used most often in an author's keywords.

2. Method

This research examines publication patterns in the field of ethnoscience by employing a method known as bibliometric analysis. The documents used in this investigation were found in the Scopus database on January 11, 2023. The results for these documents were published between 1967 and 2022. On the Scopus search page, the term "ethnoscience" is what is utilized to look for any publications that have these words somewhere in their title, abstract, or keyword list. The next step is to use *CSV file in Bibliometric to analyse the bibliographies and author keywords of 237 documents in the Scopus database. Many reports on bibliometrics explained how to do research and analyse data [11-31].

3. Results and Discussion

The result summarizes 237 ethnoscience documents from 1967 to 2022. Documents average 14.2 years old and expand by 5.17% per year. 9,730 references with an average of 11.6 imply notable works. The table displays document contents, including 894 Keywords Plus (ID) and 550 Author's Keywords (DE), and authors, including 99 single-authored and 107 co-authored works. Most documents are articles (140), followed by conference papers (52), book chapters (26), reviews

(14), and a few books, conference reviews, and editorials, with 2.59 co-authors per document and 8.017% international co-authorships [11].

Figure 1 shows how many articles about ethnoscience research were written each year from 1967 to 2022. Every year, a different number of articles are published. Some years there are no articles, but other years there are more. From the data, it's clear that the number of articles published has been going up since 2000, with a big jump in 2015. There is a significant increase in the number of articles published in 2020 and 2021, when there is 25 and 32, respectively.

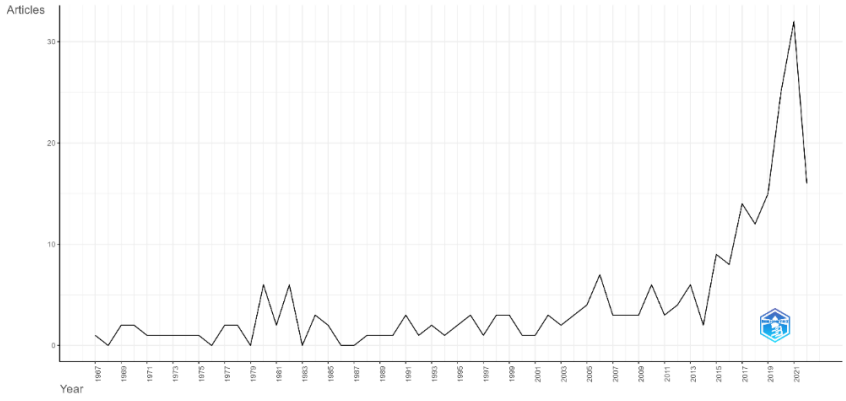

Fig. 1. Annual scientific production of ethnoscience research.

Figure 2 shows ethnoscience research articles by source and frequency. Ethnoscience study appears to span several themes from various fields, according to various sources. Journal of Physics: Conference Series, with 39 articles, is the most cited source. American Anthropologist and AIP Conference Proceedings both feature six articles. The ethnoscience dataset includes five Indigenous Knowledge Systems and Development and Jurnal Pendidikan IPA Indonesia publications. Qualitative Health Research, the International Encyclopaedia of the Social and Behavioral Sciences: Second Edition, the Journal of Turkish Science Education, Agriculture, and Human Values, and the IOP Conference Series: Earth and Environmental Science contributed three or fewer articles to the ethnoscience research dataset.

Figure 3 shows the most relevant authors in publications about ethnoscience research, as well as how many articles each has written. Sumarni has had ten articles published in journals for ethnoscience research. Sudarmin is next with nine articles. Olson K. has written seven articles, while Sudarmin, Graffigna, Mursiti, Prahani, Sandu, Sarwi, and Warren have each written four articles.

Table 1 illustrates how often ethnoscience research articles list sources from each country. Indonesia contains 270 articles. The US ranks second with 87 articles and Canada third with 64. The three leading nations have several articles. Brazil ranks fourth with 42 articles, much below the top three. Romania, Malaysia, France, and Italy follow Brazil with 18 or fewer articles. Bangladesh and Germany, with seven and six articles, complete the top ten.

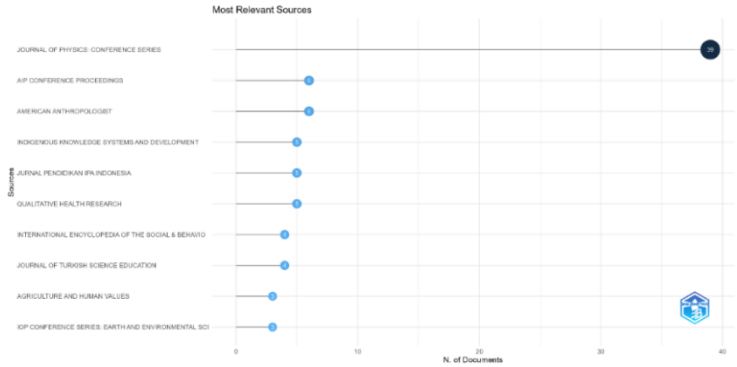

Fig. 2. Most relevant sources of ethnoscience research.

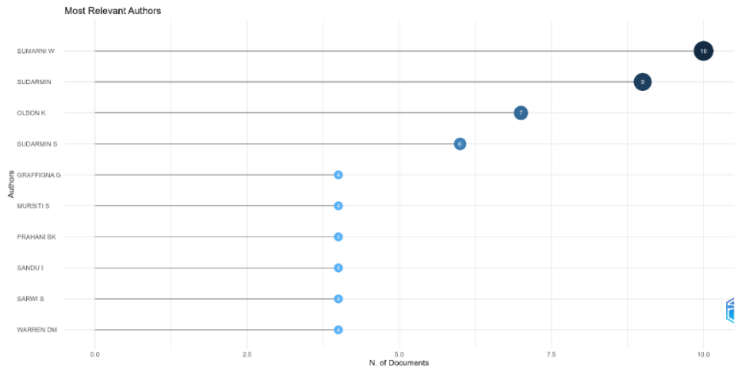

Fig. 3. Most relevant authors of ethnoscience research.

Table 1. Top ten most productive countries of ethnoscience research.

Country	Frequency
Indonesia	270
USA	87
Canada	64
Brazil	42
Romania	18
Malaysia	11
France	10
Italy	10
Bangladesh	7
Germany	6

Figure 4 shows the names of the affiliations of ethnoscience research articles in the collection from the Scopus database. Universitas Negeri Semarang has the most articles of any affiliation, with fifty. The University of Alberta has published 25 publications, whilst Universitas Negeri Surabaya has published 16 articles. The information illustrates that the collection is comprised of a variety of affiliations, including Indonesian and foreign colleges. Numerous Indonesian universities, notably Jambi University and Universitas Bengkulu, contributed 11 and 10 articles, respectively, to the compilation. There is also an international presence, with 8 pieces contributed by the University of California and 7 by the Alexandru Ioan Cuza University of Iasi. This variety of affiliations shows that the collection draws on a wide range of ethnoscience perspectives and research interests.

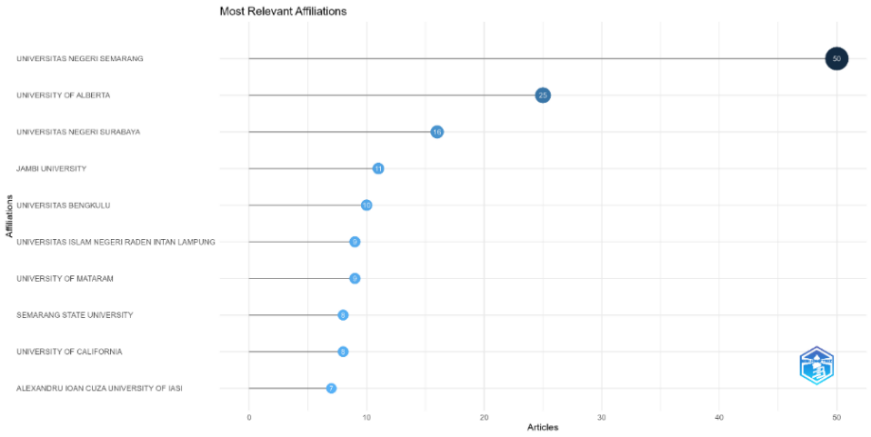

Fig. 4. Most relevant affiliations of ethnoscience research.

Table 2 lists the 10 most-cited ethnoscience research papers worldwide. *"The utilitarian factor in folk biological classification"* has the most citations with 270. *"Sources of practice knowledge among nurses"* is the second-most-cited paper with 155 citations, followed by *"Speculations on the growth of ethnobotanical nomenclature"* with 149 citations. *"Beliefs related to breast health practices: The perceptions of South Asian women living in Canada"* and *"Insights and applications local soil knowledge: A tool for sustainable land "management"* rank fourth and fifth, respectively, with 107 and 99 total citations. The following publications have between 97 and 60 total citations, reflecting their significance on ethnoscience research. Figure 5 shows the ethnoscience author's keyword frequency. "Ethnoscience" appears 71 times. "Indigenous knowledge" appears eight times. "Ethnobotany," "Ethnobiology," and "Ethnography" appear 6 times. Six times "culture" appears. Five "fatigue"s appear. Four times. Note that "ethnoscience" is a spelling variation.

Table 2. Top ten most global cited documents of ethnoscience research.

Reference	Cites
"The utilitarian factor in folk biological classification"	270
"Sources of practice knowledge among nurses"	155
"Speculations on the growth of ethnobotanical nomenclature"	149
"Beliefs related to breast health practices: The perceptions of South Asian women living in Canada"	107
"Insights and applications local soil knowledge: A tool for sustainable land "management"	99
"Medicinal plants of the Popoluca, México: organoleptic properties as indigenous selection criteria"	97
"Gender, ecology, and the science of survival: Stories and lessons from Kenya"	72
"Field study: A sourcebook for experimental learning"	72
"A common base for quality control criteria in quantitative and qualitative research"	67
"Long-term retrospection on mangrove development using transdisciplinary approaches: A review"	60

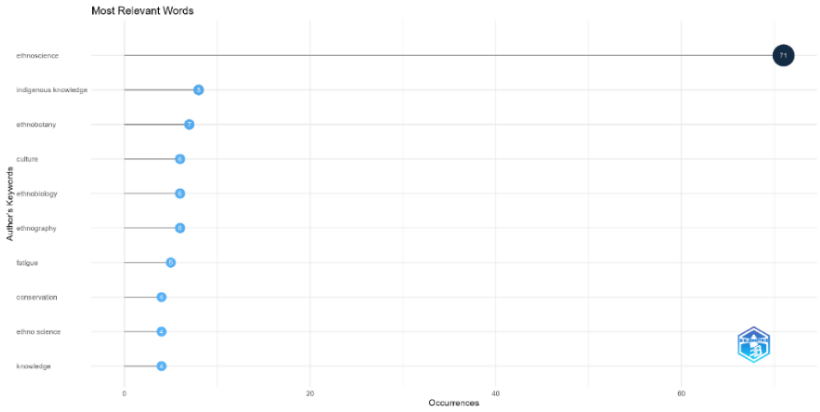

Fig. 5. Most relevant words using author's keywords of ethnoscience research.

4. Conclusions

Based on the result and the discussion, we may be able to say that ethnoscience research was done from 1967 to 2022. With 9,730 references, a summary of 237 documents from a variety of sources covers a wide range of themes (5.17% increase). Sumarni is the most applicable author, and Indonesia is the most productive nation for ethnoscience study. Universitas Negeri Semarang is the most relevant affiliation for ethnoscience research. American Anthropologist by Hunn in 1982 is one of the most often cited ethnology research papers. Overall, the result indicates that ethnoscience research is a varied and interdisciplinary field that continues to grow and contribute significantly to the academic community across disciplines.

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