

# Community Radio Research Trends in Communication Science: A Co-Authorship Bibliometric Analysis

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## Abstract

The lack of research on community radio is one of the obstacles to gaining an in-depth understanding of the relevant development and dynamics. Collaborative research is believed to be the alternative solution as a wider research range increases interest in the study. Further, increased interest can generate a greater contribution to community radio. Using Bibliometrics, this study analyzed the development trend of co-authorship-based community radio research from 1999 to March 2024. It found several significant findings. Firstly, there are indications that the topic of community radio is of less interest in scientific literature due to the limited number of publications, only 75 articles. Secondly, there is a drastic downward trend in the number of publications on community radio over some time, from 2017 to 2024. Thirdly, from the analysis of researcher networks (co-authorship), there is no overall centralized pattern of researcher relationships. While there are some partial relationships among researchers, there must be a consistent or centralized pattern in the community radio research network. Research on community radio requires methodological renewal by investigating new and innovative approaches and collaborations that allow for the expansion of research networks.

**Keywords:** collaboration; community radio; consistency; research trends; research network

## Abstrak

Minimnya penelitian tentang radio komunitas menjadi salah satu rintangan untuk mendapatkan pemahaman yang mendalam tentang perkembangan dan dinamika radio komunitas. Hal ini dapat diatasi salah satunya dengan melakukan kolaborasi penelitian, karena semakin luas jangkauan penelitian maka semakin tinggi ketertarikan untuk melakukan penelitian. Dalam hal ini, apabila ketertarikan melakukan penelitian telah meningkat maka tidak menutup kemungkinan kontribusi terhadap radio komunitas juga meningkat. Penelitian ini bertujuan untuk menganalisis tren perkembangan penelitian radio komunitas berbasis co-authorship. Analisis bibliometrik terhadap penelitian radio komunitas di bidang ilmu komunikasi dari tahun 1999 hingga Maret 2024 menunjukkan beberapa temuan. Hasil penelitian menemukan beberapa temuan signifikan. Pertama, ada indikasi bahwa topik radio komunitas kurang diminati dalam literatur ilmiah. Hal ini ditunjukkan dengan jumlah publikasi yang hanya ada 75 dokumen saja. Kedua, ada tren penurunan drastis dalam jumlah publikasi tentang radio komunitas dalam kurun waktu tertentu, yaitu pada 2017 hingga 2024. Ketiga, dari analisis jaringan peneliti (co-authorship), tidak ada pola hubungan peneliti yang terpusat secara keseluruhan. Meskipun ada beberapa hubungan parsial antara peneliti, tidak ada pola yang konsisten atau terpusat dalam jaringan penelitian radio komunitas secara keseluruhan. Penelitian tentang radio komunitas memerlukan pembaruan metodologis dengan menyelidiki pendekatan baru dan inovatif serta melakukan kolaborasi yang memungkinkan untuk perluasan jaringan penelitian.

**Kata kunci:** jaringan riset; kolaborasi; konsistensi; radio komunitas; tren penelitian

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## INTRODUCTION

Communication is an essential need for humans as social beings. Through communication, humans can convey information and ideas to others and maintain their position in the social structure of society. The 1945 Constitution has guaranteed everyone's freedom to communicate, access, and obtain information as stated in Article 28F, which affirms the right of every individual to communicate and receive information for personal development and their social environment. The article also guarantees the right of individuals to seek, receive, own, store, process, and share information through various available channels (Setyawan, 2021, p. 537). The critical role of information in society is evident in the exchange of values, needs, and expectations that advance aspects of life. With the increasing level of education and knowledge, the need for information has become increasingly important, so it is inseparable from daily life. Mass media, such as radio, television, and newspapers, have been the backbone of information dissemination. However, the shift to a commercial industry sometimes limits access to relevant information, which impacts people's right to obtain and share information.

Aminuddin and Hasfi (2020) outlines technological transformation in human communication and modern media business in metamorphosis. This concept inspires the potential impact of new media on traditional media such as newspapers, magazines, television, and radio. Radio, one of the oldest electronic mass media (Syafiq et al., 2019, p. 104), remains the leading choice because it combines music and words and has a broad reach (Dominica et al., 2021, p. 270). With its personal and portable character, broadcast radio is a loyal friend of its listeners wherever and whenever (Sugiana & Setiaman, 2019). Radio's ability to stimulate the imagination and provide vivid descriptions of live events can effectively convey information to listeners (Schaefer, 2022, p. 2). Radio is divided into different types according to its role and function, one of which is community radio.

Community radio in Indonesia has developed significantly as an instrument or media for disseminating information to the public. The development is a manifestation of improving local community social relations. However, the community has faced some challenges, such as complicated establishment permit requirements, high operational costs, and channel restrictions imposed by the government. Challenges also arise from the internal scope, such as inadequate human resources and the lack of group participation in community radio development. It requires more attention and better regulation to increase the network of community radio cooperation.

Community radio provides benefits to the community, especially those directly involved. However, the need for more research on community radio is one barrier that prevents non-community members from understanding what happens in community radio organizations. A lack of research on community radio means a lack of understanding of community radio's contributions, problems, and prospects. Therefore, it is necessary to increase research, by not only increasing the number but also broadening its scope to provide greater insight for readers.

To expand the research reach, co-authorship, and collaborative networks could be the option. Co-authorship can result in new knowledge, especially regarding the development of issues in the community radio environment. Through research collaboration, authors can discuss community radio from different perspectives – from communication and sociology to the medical complex. The collaborative research network also affects the quality and credibility of the findings. Research written by multiple researchers from different backgrounds and institutions is usually more widely viewed and frequently cited, so it has a broader impact (Thelwall et al., 2023, pp. 804–808). It is required by community radio to explain its contributions and challenges. The more research published, the greater the opportunity to campaign for community radio in supporting social communication, especially for those

requiring access to specific local information. Rogers et al. (2019) in diffusion of innovation theory states that a higher amount of data available leads to the greater likelihood of the issue attracting public attention and increasing interest in the role and contribution of community radio in social progress.

Research on bibliometric analysis has been previously conducted, especially in authorship collaboration patterns. Husna et al. (2024) suggested that bibliometric analysis in academic studies goes beyond simply calculating influence through citations. It revealed deep insights into the dynamics of knowledge creation, distribution, and evolution in Kiryoku journals. This research confirms that co-authorship analysis can encourage broader and more sustainable collaborative networks among researchers. Besides, Priyana et al. (2024) conducted a bibliometric analysis of research collaboration networks in the mental health field. The results revealed the evolution of research trends from a basic understanding of mental disorders to an emphasis on community- and professional-focused mental health practices, as well as responses to global health emergency events such as the COVID-19 pandemic. The findings inspire the structure of research collaborations and potential future research directions, including the relationships between mental health and other factors such as unemployment, the long-term impact of the pandemic, the role of schools in supporting mental health, connections with nature and physical activity, gender differences, stigma, and quality of life.

This study addressed this gap, especially as community radio in Indonesia faces various challenges, including the threat of extinction. We utilized bibliometric analysis from the Google Scholar database to identify research patterns related to community radio. It documents the number of publications and examines co-authorship patterns to reveal collaborative research networks and trends in the field. As a result, the review provides a comprehensive overview of the development of community radio research and highlights current trends in collaborative endeavors. The findings of this bibliometric review are expected to contribute to the existing literature about the development potential of community radio from academic and practical perspectives. This review is expected to add to the existing literature and offer new insights into the development potential of community radio from academic and practical perspectives.

## RESEARCH METHOD

Bibliometrics is document research or specialized investigation of library and information science tools (González-Alcaide, 2021, p. 6842). This research begins by measuring aspects of a study within the scope of a particular topic and then evaluating the results; through the evaluation process, a pattern can be generated as the result of a study (Kasemodel et al., 2016, p. 74). According to Ball (2017), bibliometrics studies publication patterns through mathematical and statistical data; the pattern is one form of information distribution. Ball says bibliometrics can be used to ensure objective publication data and is often used as a reference for other work or research. Methodologically, bibliometric techniques use reference lists cited from other documents and then apply statistical models to analyze the flow of scientific communication. This approach has a favorable impact on various aspects related to scientific literature. Overall, the use of bibliometrics allows us to compare the type, form, and completeness of documents cited in the bibliography, as well as produce findings that reveal the level of use of information sources (currency) (Zupic & Čater, 2015, pp. 431–433). Bibliometrics helps provide datasets that can be utilized by policymakers, academics, and other stakeholders to improve the quality of research (Hamidah et al., 2020). Bibliometric methods/studies are also a comprehensive and reliable way to study, map the field of science, evaluate the results of scientific publications, and trace to understand certain developments (Baharuddin et al., 2022; Nafi'ah et al., 2021;

Wallin, 2005).

In bibliometric analysis, two main categories are used to map the development of a research field: performance analysis and science mapping (Cherappurath et al., 2024, p. 2). Performance analysis evaluates the contributions of various research constituents, such as authors, institutions, or journals (Larson et al., 2023, p. 278). In other words, these analyses measure how much contribution different parties make to a particular research topic. Science mapping, on the other hand, focuses on the relationships between these various research constituents to visualize the patterns of relationships between different research elements, such as authors, affiliations, or research topics. Science mapping clarifies research collaboration networks and how knowledge flows are dispersed within a field (Larson et al., 2023, p. 279). In this study, we focus more on science mapping, which allows us to identify relationships between authors and trending topics in community radio research.

This study only focused on science mapping and did not include author attributes such as affiliated institutions or countries to simplify the analysis and ensure that the focus remained on track. Co-authorship analysis helps examine the social relationships or interactions between authors and their affiliations and their impact on the development of the research field. However, this study focused on understanding the networks of collaboration between authors and how these impacted the direction and trends of research in the field of community radio. Instead of focusing on the authors' characteristics, this study mapped the relationships between different interconnected elements of the research, which included the authors, the topics discussed, and the emerging trends. Understanding these relationships is essential for clarifying the dynamics of collaboration and knowledge development in community radio, and it also helps identify emerging topics in this field of research.

This research used quantitative descriptive bibliometric analysis, where data collection was carried out using Harzing's Publish or Perish (PoP) application (version 8.12.4612.8838-2024.03.12.1321). The application provides accessible metadata access services in CrossRef, Google Scholar, Google Scholar Profiles, Microsoft Academic, PubMed, Scopus, and WoS (Karim, 2022, p. 26). Publish or Perish (PoP) is a free tool that facilitates article searches by organizing them neatly and connecting them with various publication sites. This eases users to find published articles (Wiener et al., 2018, p. 26). The mining included publication data related to community radio from 1999 to 2024 (March), using the keyword communication science, a maximum of 200 documents (including citations and patents), and data collection was carried out by searching for publications indexed in Google Scholar. Google Scholar was chosen because it allowed beginners to develop their research into high-quality scientific work. Moreover, Google Scholar is easy to access with adequate information required. The limitations of this data collection are detailed in Table 1 to narrow the search in the communication science domain related to the topic or title of research on community radio.

**Table 1.** Data Harvesting Limitations

Element	Content
Title	Community Radio
Keywords	Communication Science
Range	1999 - 2024
Source	Google Scholar
Publication	Journal
Maximum Results	200

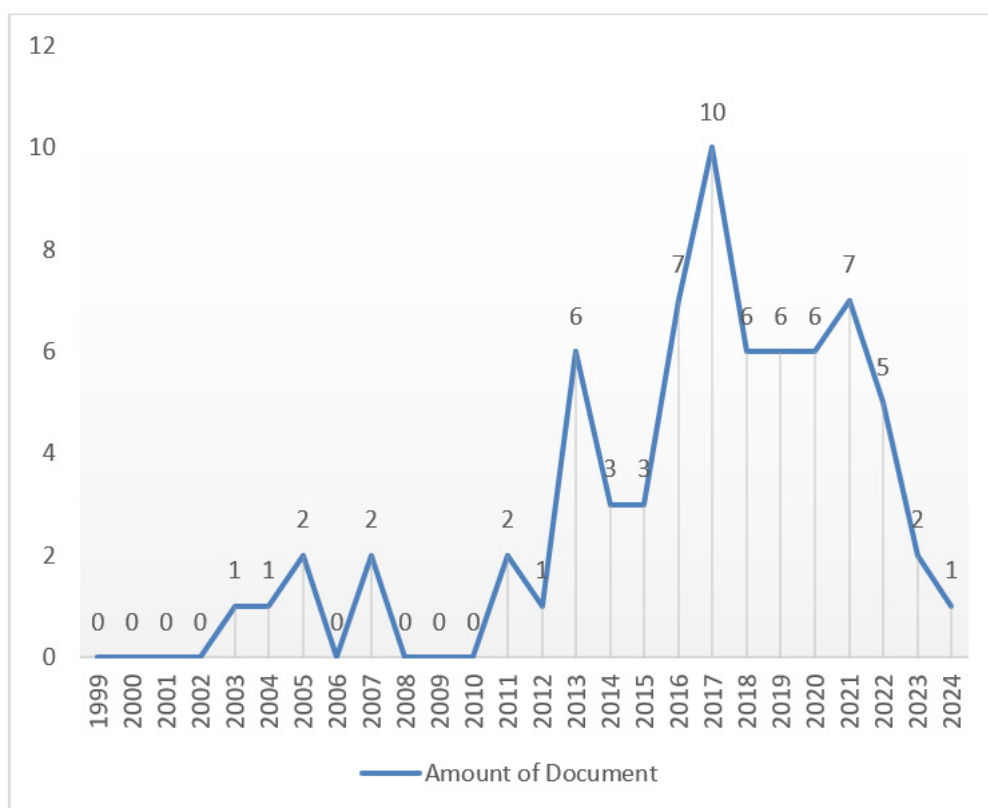
Source: Publish or Perish (2024)

After the data was obtained and saved in RIS (Research Information Systems) file format, the next step was to import the file into VosViewer software (version 1.6.20). VosViewer is a computer software for visualizing and analyzing bibliometric data. The clusters generated by VosViewer are automatically colored in a visual map. The clustering algorithm can be set with a specific parameter ( $\gamma$ ) to generate more or fewer clusters. Cluster density and color can be viewed using VosViewer (van Eck & Waltman, 2014). Vos Viewer is used to obtain the network patterns required in the visualization of this research (Zakiyyah et al., 2022, p. 48).

## RESULTS AND DISCUSSION

Research publication trends in community radio were scrutinized using the Google Scholar database. In 2004, Google Scholar was introduced by its parent company, Google. This platform offers a database of scientific publications that includes online journal search services from domestic and international sources (Rafika et al., 2017). Google Scholar provides valuable information, including free PDF documents. In general, students often use Google Scholar to find references in making their scientific work.

The process of harvesting research publication data used PoP software on the Google Scholar database with the title ‘community radio’ using the keyword ‘communication science’ in the year range ‘1999-2024 (March)’ with the type of publication name ‘journal’. It obtained as many as 75 papers (documents) and only 71 documents were completed with publication year. This figure shows very few research topics or titles on community radio. The highest development trend was found in 2017, which reached ten publication documents (14%). In the range of 1999-2024, there were 8 years without publications, in 1999, 2000, 2001, 2002,



**Figure 1.** Development of “Community Radio” Publications in Communication Science (Google Scholar)

Source: Researcher Data Analysis (2024)

2006, 2008, 2009, and 2010 (0%). Some studies or publications addressing community radio might not have met the requirements for inclusion in a bibliometric search, such as not being published in peer-reviewed academic journals or not meeting the quality standards recognized by large databases. Thus, even if the articles were relevant, they might not have been included in the search if they were not indexed in accredited or verified scientific journals.

Based on Figure 1, publications on “community radio” began to emerge in 2003 after the recognition of community radio in Law Number 32 of 2002 concerning Post-Reform Broadcasting, and began to show an increase in 2005, then disappeared again in 2006. In 2008-2010, there were no publications. Community radio research increased again in 2011 and peaked in 2017 with ten publications, after which it showed a drastic decline. This trend shows that community radio research is unpopular, even though in 2024 (until March), only one publication was indexed by Google Scholar. Some factors influencing this fluctuation are the role of the government which might have enforced complex regulations regarding community radio and the lack of funding for research in this field. In addition, the shift in academic interest and the decreasing relevance of the topic due to the threat of extinction from community radio make this research no more attractive than other digital media. This phenomenon aligns with what Thomas Kuhn put forward in his book “The Structure of Scientific Revolutions.” Kuhn (2020) stated, “The transition from a paradigm in crisis to a new one from which a new tradition of normal science can emerge is far from a cumulative process, one achieved by an articulation or extension of the old paradigm.” In the context of this research, research on community radio developed after the ratification of the Broadcasting Law until it reached its peak in 2017, then experienced a decline in the number of publications because this topic was considered irrelevant and replaced by the development of new media such as digital media and social media. In addition, technological developments influenced by dynamic socio-economic and political conditions have made the development of community radio greatly influenced by the needs of community radio itself in society. Therefore, it is necessary to increase the use of community radio in society in order to revive the research trend related to community radio. The process of media convergence also influences the decline in this research trend; Jenkins stated that advances in information technology and media can change how people view and communicate with each other, thus affecting the relevance of media. Although community radio plays a vital role at the local level, the emergence of new media has attracted public attention and shifted researchers to focus more on more popular digital platforms.

### **Development of Community Radio Research Publications in Communication Science by Co-authorship**

Bibliometric methods are quantitative, but they are used to make statements about qualitative characteristics, which is the primary goal of many bibliometric exercises. It transforms something challenging to measure (scientific quality) into something that can be measured. Compared to peer review, which is limited to a research field, bibliometric methods allow the examination of an unlimited number of publications. This gives us a tool that can be applied on small and large scales, from the institutional to the global level. However, regarding convincing scientific evidence, there is still a lack of knowledge about the relationship between the quantitative objectives of bibliometrics and their statements about research quality. This is paradoxical given the widespread and sometimes uncritical use of bibliometric indicators for various purposes of assessment and resource allocation, despite repeated warnings from the bibliometric expert literature (Wallin, 2005).

After saving the dataset with PoP metadata, the next step was to analyze the dataset using the Vosviewer application by selecting the “create map based on bibliographic data” option.

The method used to calculate the dataset was the total count method, calculated according to previous studies that took the topic of community radio. The minimum number of documents set for each author was 1, and the visualized mapping only included researchers with links to other researchers.

Data obtained from the harvesting process using PoP and bibliometric analysis using VosViewer software showed that CNAP Sinaga was the author with the most citations (68 citations), followed by C. Juditha (17 citations), A Atika, DP Lubis, and PA Rangkuti (15 citations), U Hakam (13 citations), R Panuju (12 citations), NS Hasandinata (12 citations), DW Sjachro, ULS Khadijah, MSD Hardian (11 citations), and then less than 11 citations. In addition to author and citation data, data was also obtained regarding publishers regarding the number of publications on “community radio.” *ejournal.unisba.ac.id* and *ejournal.undwi.ac.id* are ranked at the top with four publications, followed by *journal.kominfo.go.id*, *journal.alhikmah.ac.id*, and *ejournal.skpm.ipb.ac.id* with three publications, and *journalaspikom.org*, *jurnal.unpad.ac.id*, and *ejournal.uin-suka.ac.id* with two publications each. In this case, Horta and Santos (2016) explained a significant difference between the number of publications of one journal and another influenced by the visibility factor and its impact on the development of science; more researchers choose journals with a broader readership based on specific topics.

Publication pattern analysis allows for dividing publications into various types, such as research papers, books, book chapters, etc. It allows for comparisons between institutions in terms of how international their publication patterns are, how often they publish in publications published through a quality control process, and how often they publish in leading journals in their fields. Publication pattern studies are mainly used in the humanities and social sciences (Kulczycki et al., 2018, p. 470; Pajić et al., 2019, p. 81), where the expected types of documents are more diverse compared to medical research.

Further analysis found data related to author productivity. Of the 71 publications from data collection using PoP and VosViewer software, 102 authors were recorded. Warnaen was the author with the most documents (5), followed by Fachrul, af (3 documents), Atika (2 documents), and so on (see Table 2).

**Table 2.** Authors Based on Number of Documents

No.	Author	Documents	No.	Author	Documents	No.	Author	Documents
1	warnaen, a	5	35	sabdaningtyas, l	1	69	putri, df	1
2	fachrul, af	3	36	saefullah, u	1	70	qur'aini, ef	1
3	atika, a	2	37	saleh, a	1	71	rusli, ti	1
4	anggraeni, d	2	38	sarwoprasodjo, s	1	72	sanjaya, ar	1
5	hadiyanto, h	2	39	sjuchro, dw	1	73	setyowati, ri	1
6	subekti, p	2	40	susilowati, s	1	74	sey, mds	1
7	chaerowati, dl	2	41	suwatah, s	1	75	sudaryanto, e	1
8	rachmiatie, a	2	42	wahyudin, a	1	76	sukmarini, av	1
9	hasandinata, ns	2	43	zahra, e	1	77	swaryputri, igal	1
10	nasution, f	2	44	zuhri, s	1	78	vinurani, dak	1
11	novayanti, nma	2	45	alfandi, m	1	79	wahyuni, hi	1
12	nur, e	2	46	anggiany, rw	1	80	wardiana, d	1
13	panuju, r	2	47	aryawan, iw	1	81	yuliati, n	1
14	tripambudi, s	2	48	dwiana, r	1	82	yuniati, y	1
15	anwar, rk	1	49	fadilah, e	1	83	anwari, a	1

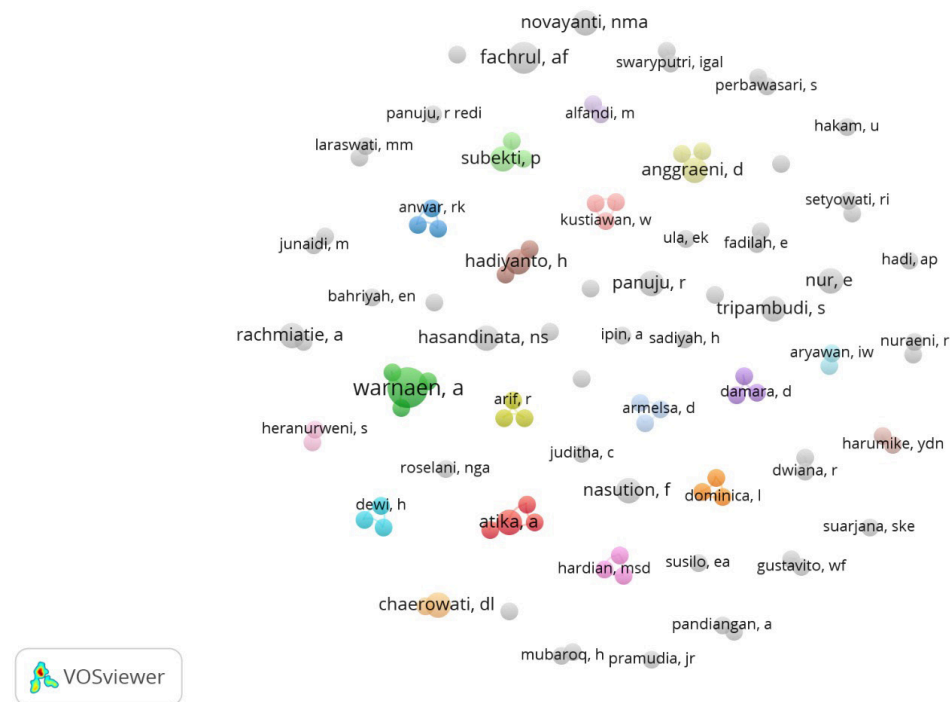
(continued on next page)

**Table 2** (continued)

16	arif, r	1	50	gustavito, wf	1	84	bahriyah, en	1
17	armelsa, d	1	51	harumike, ydn	1	85	chairiawaty, c	1
18	besthari, b	1	52	heranurweni, s	1	86	eddyono, as	1
19	damara, d	1	53	hilmi, m	1	87	hadi, ap	1
20	damayani, na	1	54	huda, am	1	88	hakam, u	1
21	dewi, h	1	55	junaidi, m	1	89	ipin, a	1
22	dominica, l	1	56	kridasaksana, d	1	90	juditha, c	1
23	fauziah, l	1	57	laraswati, mm	1	91	masduki, m	1
24	hardian, msd	1	58	maryam, s	1	92	panuju, r redi	1
25	hasyim, a	1	59	minarti, w	1	93	pramudia, jr	1
26	khadijah, uls	1	60	mubaroq, h	1	94	roselani, nga	1
27	komariah, k	1	61	nasdian, ft	1	95	sadiyah, h	1
28	kustiawan, w	1	62	nuraeni, r	1	96	saputro, dr	1
29	lesmana, cs	1	63	nurlail, n	1	97	setiawan, ld	1
30	lubis, dp	1	64	nurlaili, n	1	98	sinaga, cnap	1
31	novianti, e	1	65	octaviani, f	1	99	suarjana, ske	1
32	pramesti, ai	1	66	pandiang, a	1	100	susilo, ea	1
33	rangkuti, pa	1	67	pavitasari, sp	1	101	ula, ek	1
34	risyan, f	1	68	perbawasari, s	1	102	winnetou, t	1

Source: Researcher Data Analysis (2024)

In addition to the number of publications for each author, this research also studied the total link power that represents the relationship between authors or researchers and explains the correlation or relationship between researchers in the field of community radio research.



**Figure 2.** Network Visualization (Relationships among Authors)

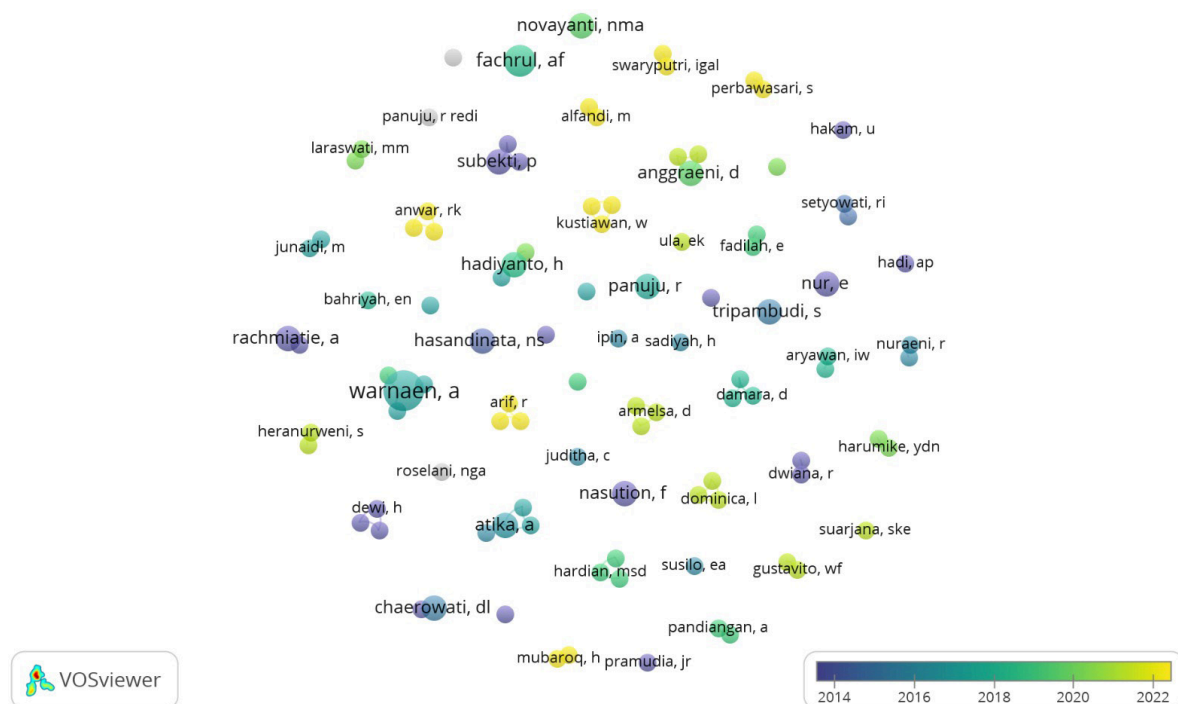
Source: Researcher Data Analysis (2024)

Warnaen, A. and Atika, A. have the most muscular total link power (3), as seen in the Network visualization in Figure 2.

Figure 2 shows a visualization of the co-authorship network, where nodes represent authors or researchers, and edges represent relationships among those authors or researchers. The set of nodes connected by edges indicates the correlation or relationship among researchers in community radio research. The relationship is grouped based on clusters. The mapping analysis on the VosViewer application obtains 102 authors with 57 clusters, 56 of which have relationships. Figure 2 shows that the authors of community radio publications as a whole are not centrally connected, or the relationship is partial (fragmented), for example, authors Rusli Ti, Lubis Dp, and Rangkuti Pa are connected to Atika but not to Warnaen who is the center of authors Sukmarini Av, Nurlail N, and Nurlaili N, as well as author Anggraeni D, who is the center of the relationship between authors Saleh A, and Sarwoprasodjo S. These relationships are related to various theories, including the collaboration network theory proposed by Borner, Chen, and Boyack and the Strength of Weak Ties theory from Granovetter.

The collaboration network theory states that in scientific research, collaboration among researchers tends to generate a fragmented network. The fragmentation depends on the interests and specific research focus. In the context of this study, community radio researchers tend to connect based on special interests in certain parts of community radio, which causes separate silos or clusters. Meanwhile, the strength of time ties theory states that a fragmented collaboration is caused by weak ties between one researcher and another. It refers to individual relationships that only provide access to certain information. Even though there is a collaboration between authors within a cluster, collaboration outside the cluster is still limited, which leads to stagnant knowledge development.

Figure 3 shows an overlay visualization that illustrates the historical trajectory of authors in community radio research. The visualization is marked by nodes and edges of various colors



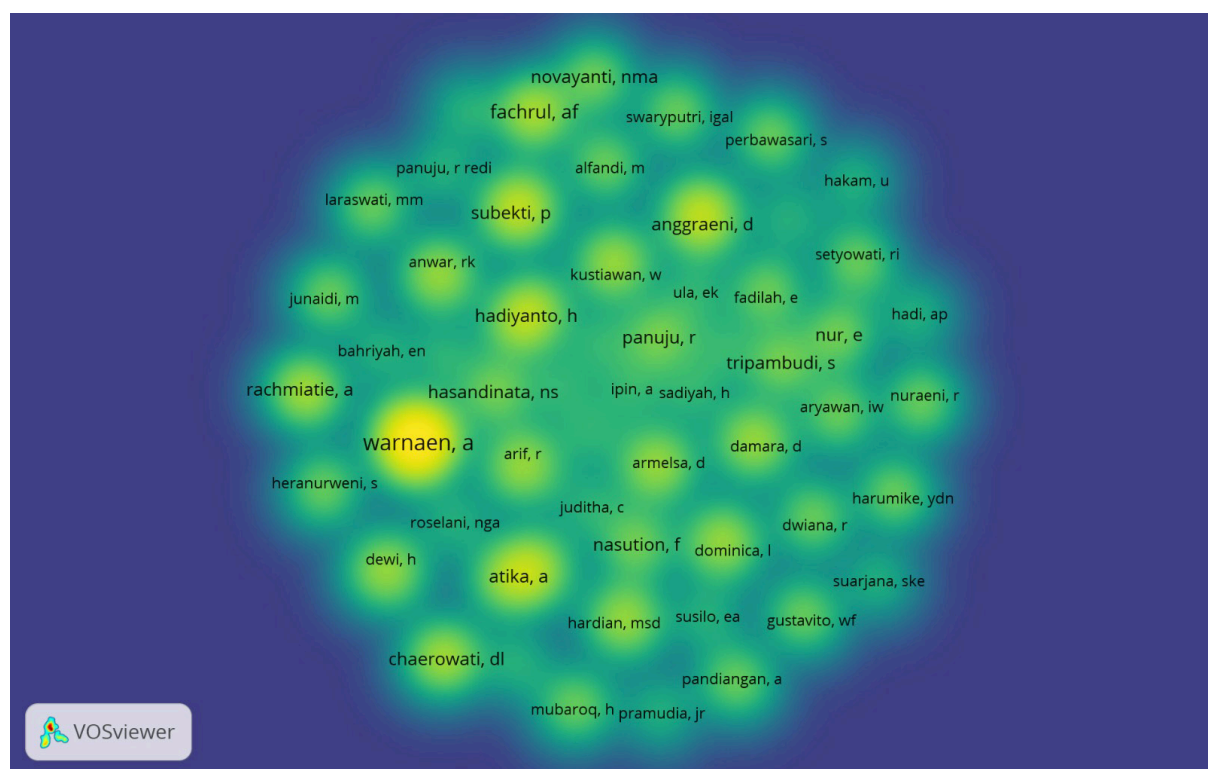
**Figure 3.** Overlay Visualization (Author's Trace)

Source: Researcher Data Analysis (2024)

that connect one author to another. The darker-colored nodes indicate research that has been conducted in the specified period. For example, in the figure, the darkest colored node (purple) represents the oldest year (publication), and the lightest colored node (yellow) represents the most recent year (publication). For example, the author Hadi, AP is the darkest color (purple) because it was published in 2003, while Anwar, RK is yellow because it was published in 2024.

From the results of the density visualization in Figure 4, there is clustering or node focus, which shows that groups of researchers active in community radio research are interconnected. In addition, the density of nodes in the density visualization is reflected in the number of studies that connect or cite the author. For example, in the study by Warnaen, the brightest node density indicates that the author has conducted research by referring to several other studies, thus suggesting collaborative research in the field of community radio, so as with Atika a, Anggraeni d, Hadiyanto h, and Subekti p.

This phenomenon also shows that greater collaboration between institutions and scientists can lead to more publications of higher caliber and quantity. Suber's (2019) popularization of the "open science" theory highlights the need for international and institutional collaboration in expanding access to high-caliber scientific research and conclusions. This idea is in line with research showing that, in the context of community radio, international cooperation can increase the opportunities for researchers to get resources, broaden the scope of their work, and enhance the caliber of more in-depth, empirically supported research. Furthermore, the social network theory developed by Wellman (1983) is crucial. According to this theory, the network map illustrates how research collaboration promotes innovation and improves knowledge spread. According to this study, the community radio research network has to be expanded further to significantly impact the advancement of communication and broadcasting science, even though there are linked groups of authors.



**Figure 4.** Density Visualization  
 Source: Researcher Data Analysis (2024)

Based on the findings of the study, which indicate significant variations in publications concerning community radio, a noticeable decline in research interest following a peak in 2017, and fragmentation in collaborative efforts among researchers, several strategies can be proposed to reinvigorate scholarly engagement in the realm of community radio. One prominent factor contributing to this decline in research activity is the need for adequate funding and political support. To address this issue, it is crucial to advocate for governmental bodies and research institutions to implement policies that actively promote the integration of community radio into the societal framework. Such policies should focus on enhancing the role of community radio in fortifying local communities and democratizing communication channels. By establishing a supportive environment for community radio, researchers may find a renewed impetus to explore its various dimensions.

Furthermore, fostering interdisciplinary collaboration is essential for expanding the scope and depth of community radio research. Encouraging partnerships between scholars across diverse fields—such as sociology, communication studies, information technology, and media studies—can lead to the development of innovative approaches and methodologies. These collaborations could yield fresh insights and broaden the understanding of community radio's impact on society. In light of technological advancements and the rising prominence of social media platforms, community radio often finds itself positioned as less competitive than traditional mass media outlets. However, this sentiment presents a unique opportunity to explore the intersection of community radio with contemporary digital communication trends. Research endeavors could evaluate how community radio can effectively integrate with digital technologies, allowing for a comprehensive analysis of its role in strengthening communities. Additionally, studies could investigate how community radio enhances communication among residents, preserves and promotes local culture, and serves as an alternative media source in the broader democratization process. By linking community radio to current issues in digital engagement and social media, researchers may uncover pathways that reintegrate these vital community resources into the evolving media landscape, ultimately enhancing their relevance and impact on local societies.

## CONCLUSION

Significant findings were found based on bibliometric analysis using the Google Scholar database of community radio research trends in communication science from 1999 to 2024 (March). In terms of the researcher network (co-authorship), there is no overall centralized pattern of researcher relationships. There are some partial relationships between researchers, yet no consistent or centralized pattern is found in the overall community radio research network. In this study, community radio researchers tend to connect based on special interests in certain parts of community radio, which leads to separate silos or clusters. Meanwhile, the strength of time ties theory states that weak relationships between one researcher and another lead to fragmented collaboration, which refers to individual relationships that only provide access to certain information. The results of the density visualization reveal clusters or focal points, indicating that groups of researchers engaged in community radio research are interconnected. This finding suggests that increased collaboration among institutions and scientists can lead to a greater volume and higher quality of publications. Furthermore, this aligns with research indicating that in the context of community radio, international cooperation enhances researchers' access to resources, broadens the scope of their work, and improves the quality of more in-depth, empirically supported research.

This study suggests measures to improve research interest and understanding of

community radio in communication science, including active promotion and education to increase awareness of community radio research. Relevant stakeholders can integrate materials on community radio into higher education curricula in the field of communication science. There is also a need for collaboration between researchers interested in the topic of community radio to increase the number and quality of studies, which will broaden researchers' horizons, resources, and networks to meet the complex challenges of the field. Research on community radio requires a methodological update by investigating new and innovative approaches. It is necessary to address the utilization of more sophisticated data analysis methodologies and techniques, such as social network analysis and text analysis, which can offer more profound insights. Also, community radio research should be supported by research institutions and universities in terms of funding and technological facilities. This research enriches our comprehension of the academic evolution of this problem. It presents a coherent and pragmatic perspective on the field's studies. Furthermore, the bibliometric approach does not explore the social or local context of community radio research, which can differ significantly depending on the nation or location, even though it offers publication patterns statistics. To comprehend the social dynamics underpinning current publications, these constraints present the opportunity for future studies to broaden the reach of the data by utilizing different databases.

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