



Exposing the Digital Utilization in Communication and New Media from 2018 to 2022: A Bibliometric Analysis

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Abstract. This study's objective was to examine international research trends in communication and new media research that were reported in journals that were indexed by Scopus from 2018 to 2022 and were written by academics from all around the world. We examined publications in the Scopus database using bibliometric and content analysis. We only retrieved English-language articles. The VOSviewer program was used for content analysis. We discovered 1446 publications on communication and new media over the previous 5 years by following the study protocol. The study concentrated more on authors, nations, institutions, journals, documents, and keywords, as well as the annual scientific production (classification by subject area and document type). Future research on communication and new media is discussed as a result of the study.

Keywords: Communication, New Media, Scopus, VOSViewer

1 Introduction

The discourse of communication and new media is discussed in this essay. (Lee, 2020; Mifrah, 2020; Omoregbe et al., 2020; Saravanan & Dominic, 2014) When they talk about the incorporation of numerous frameworks and methodologies to study citations from scientific publications, they are referring to the discourse comprehension, which is inseparable from bibliometric analysis. Such an effort results in the establishment of several criteria to understand the intellectual underpinnings of a large academic discipline and to assess the significance of a specific topic of study (Akhavan et al., 2016; Putera et al., 2020).

The purpose of this essay was to offer pertinent information for comprehending worldwide trends in communication and new media publications. With the help of VOSviewer, this study analyzed the trends and bibliographic features of papers on communication and new media written by scholars from around the world and published in journals indexed by Scopus.

2 Method

In this study, we followed the research methods successfully employed by several researchers who performed bibliometric/bibliographic and content analyses of article in international database. For example, in 2022 Prospero et.al published a paper Environmentally Friendly Technologies for Wastewater Treatment in Food Processing Plants : A Bibliometric Analysis. In 2009 Kim and Chung published a paper presenting a Bibliographic and content analysis of physics papers from North Korea indexed in the Scopus from 2005 to 2018. In 2020, Nguyen et.al published a paper presenting Bibliographic and content analysis of articles on education form Vietnam indexed in Scopus from 2009 to 2018. We believed that a similar research approach would be useful in this study.

Since there were no human participants in this study, neither informed consent nor institutional review board permission were required. Based on a literature database, this study was a descriptive and bibliometric analysis. Scopus was used to do the document search because of its vast collection of peer-reviewed literature, high level of accessibility, and advanced processing capabilities. This study's title used the keywords "Communication" and "New Media" in order to get the required data. We discovered 1446 articles in this stage. The 1446 papers that had been sorted by relevancy were then retrieved from the scopus database and evaluated. The Csv dataset formatted metadata and revised Scopus result values were obtained for this study. To address difficulties such a lack of consistency in country names and keywords, the consistency and reliability of the data were examined prior to the bibliometric analysis. To maintain uniformity with regard to key words that occasionally appeared in the singular or plural, abbreviations, or other forms, the data were also standardised. Microsoft Excel was used to construct simple statistics after VOSviewer software was used to evaluate the data taken from the Scopus database.

3 Results

The 1446 unique papers with a combined 2717 authors make up the Scopus data collection that was used in the study. When the data set was looked at broadly, it was discovered that 4018 different keywords are used by 2717 authors to organize or categorize their works. Moreover, there are 3.673 citations for each article. This demonstrated the importance of the work and how frequently it is cited in these fields. There were 569 single writers when the distribution of authors in the data was looked at. (Table 1.).

Table 1. Main information about data

No	Description	Result	No	Description	Result
1	Timespan	2018:2022		Co-Authors per Doc	2.24
2	Sources (Journals, Books, etc)	887	14	International co-authorships %	10.79
3	Documents	1446		DOCUMENT TYPES	
4	Annual Growth Rate %	3.49	15	article	803
5	Document Average Age	2.9	16	Book	66
6	Average citations per doc	3.673	17	book chapter	149
7	References	59752	18	conference paper	334
	DOCUMENT CONTENTS		19	conference review	14
8	Keywords Plus (ID)	4018	20	editorial	11
9	Author's Keywords (DE)	4018	21	erratum	6
	AUTHORS		22	note	4
10	Authors	2717	23	retracted	2
11	Authors of single-authored docs	569	24	review	56
	AUTHORS COLLABORATION		25	short survey	1
12	Single-authored docs	635			

From 2020 to 2021, publications focusing on "Communication and New Media" are expected to rise. The results of a search using the term "Communication and New Media" revealed roughly 1446 documents. The most often found articles (30%) were classified as social science, followed by computer science (17%), arts and humanities (12%), engineering (10%), and business, management, and accounting (5%). Fig. 2 displays the whole distribution of Communication and New Media papers across academic categories.

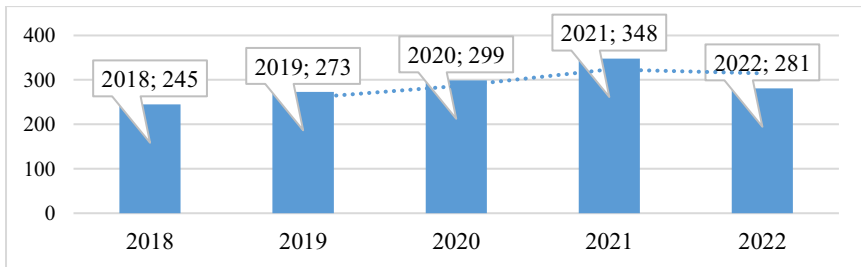


Fig. 1. Publication Trend "Communication and New Media"
Source: Processed by Author

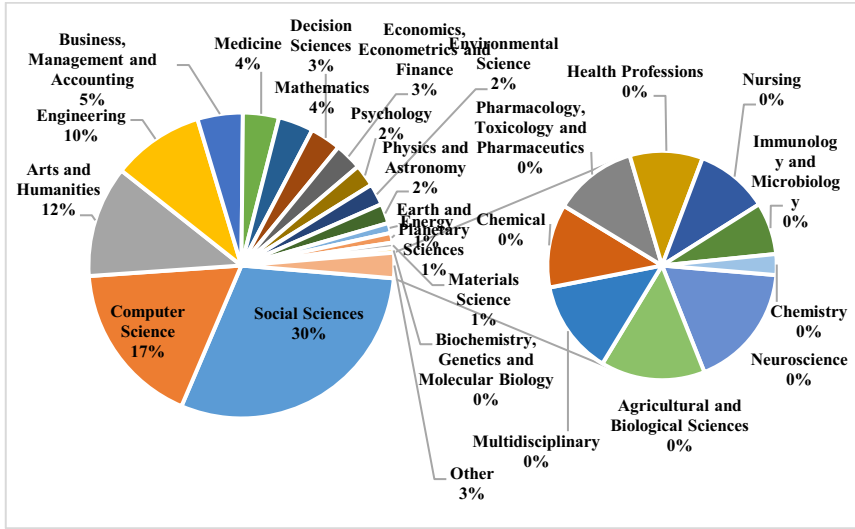


Fig. 2. Publication Trend “Communication and New Media” based on Subject Area
Source: Processed by Author

Table 2 lists the authors in order of their level of contribution to the subject. Despite the fact that there aren't many productive writers in the field of research, Wang Y has the most publications (11). Liu X is the primary author if the ranking is based on the ratio of citations to documents (about 49 citations per document). Moreover, there are 0.0062 authors on average each document. In conclusion, the field is seeing an increase in interest because research in it typically involves collaboration. Related Authors of Communication and New Media are displayed in Fig. 3. United States produced the most articles, followed by the United Kingdom and China.

Table 2. Authors with greater participant in studies on Communication and New Media

Ranking	Name	TD1	F2 (%)	TC3	TC/TD
1st	Wang Y	11	0.0076	15	1.3636
2nd	Wang X	11	0.0076	17	1.5455
3rd	Liu Y	10	0.0069	45	4.5000
4th	Zhang Y	10	0.0069	5	0.5000
5th	Liu Z	9	0.0062	5	0.5556
6th	Liu X	8	0.0055	49	6.1250
7th	Wang J	8	0.0055	45	5.6250
8th	Li J	8	0.0055	31	3.8750
9th	Wang L	7	0.0048	16	2.2857
10th	Zhang C	7	0.0048	11	1.5714

1TD : Total documents, 2F : Frequency : TD/1446 (documents retrieved) x 100, 3TC : Total Citations

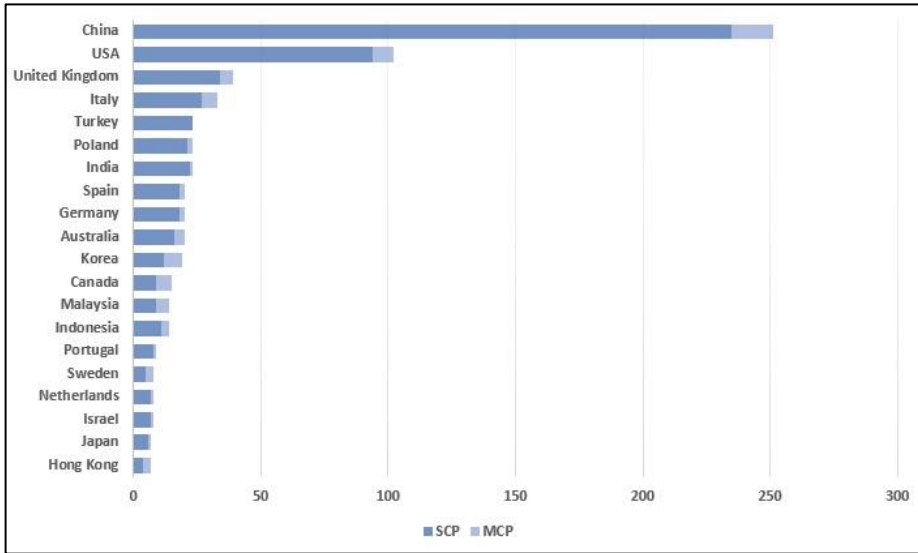


Fig. 3. Corresponding Authors
Source: Processed by Author

China had 380 papers published on communication and new media over the 2018–2022 period, followed by the United States with 235 articles. The Asian nations with the most publications in the fields of communication and new media were China, Malaysia, India, and Indonesia. These five Asian nations came in at 1, 7, 11, and 12. The top 15 nations are displayed in Fig. 4.

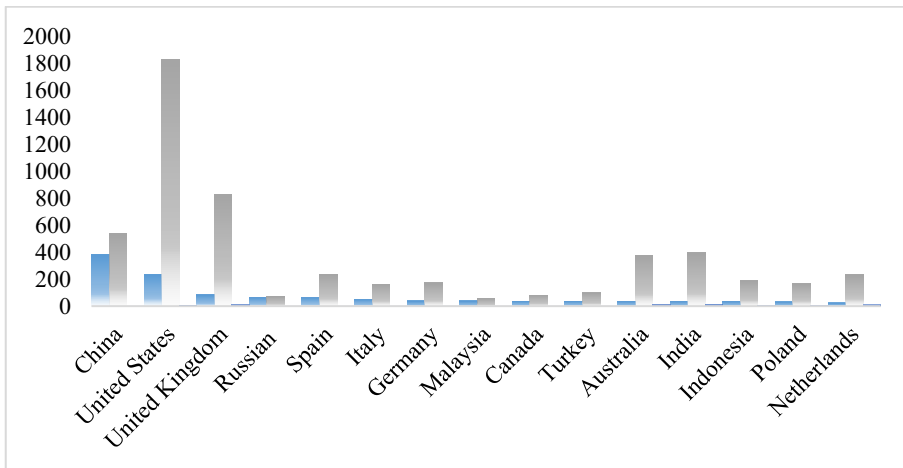


Fig. 4. Top 15 countries with publication of Communication and New Media
Source: Processed by Author

Table 3. Institutions with greater participation in studies on communication and new media

Rank	Affiliation	Country	TD	F (%)	TC	TC/TD
1st	Universiti Kebangsaan Malaysia	Malaysia	10	0.0069	13	1.30
2nd	Communication University of China	China	10	0.0069	10	1.00
3rd	Lomonosov Moscow State University	Russia	9	0.0062	18	2.00
4th	The University of Texas at Austin	United States	9	0.0062	54	6.00
5th	Universidad Carlos III de Madrid	Spain	8	0.0055	34	4.25
6th	Universidad Complutense de Madrid	Spain	8	0.0055	14	1.75
7th	Ariel University	Israel	8	0.0055	38	4.75
8th	City University of Hong Kong	Hong Kong	7	0.0048	30	4.29
9th	HSE University	Russia	7	0.0048	7	1.00
10th	University of Melbourne	Australia	7	0.0048	14	2.00

1TD : Total documents, 2F : Frequency : TD/1446 (documents retrieved) x 100, 3TC : Total Citations

The Mobile Information Systems Journal published the most papers (18), followed by New Media and Society (13), Jurnal Komunikasi Malaysian Journal Of Communication (n=12), Wireless Communications and Mobile Computing (12), and Convergence (n=10), according to VOSViewer. Table 4 lists the additional most active journals by number of publications.

The influential sources (i.e. journals) are shown in Table 5 based on citations. SAGE Open (n=111), Information Communication and Society (n=76), Health Communication (n=73), and International Journal of Environment Research and Public Health (n=64) were the next four most important journals, with New Media and Society (n=568) leading the pack. Four journals came from the United Kingdom, three from the United States, two from Switzerland, and one from Portugal.

Most "Communication and New Media" articles are published in journals with Scopus quartiles Q1 (up to 90% or 9 journals). This shows that the essay "Communication and New Media," which was published in a reputable journal, is a topic of interest (Q1).

Table 4. The most production journals based on the number of publications

Rank	Source	Pub- lica- tion	Country	Publisher	H- In- dex	Qua rtile s
1st	Mobile Information Systems	18	Egypt	Hindawi Limited	37	Q2
2nd	New Media and Society	13	United Kingdom	SAGE Publication Ltd	124	Q1
3rd	Jurnal Komunikasi Malaysia Malaysian Journal of Communication	12	Malaysia	Universiti Kebangsaan Malaysia Press	10	Q3
4th	Wireless Communications and Mobile Computing	12	Egypt	Hindawi Limited	69	Q2
5th	Convergence	10	United States	SAGE Publication Ltd	44	Q1
6th	Profesional De La Informacion	10	Spain	El Profesional de la Informacion	33	Q1
7th	Sage Open	8	United States	SAGE Publication Ltd	41	Q2
8th	Frontiers in Psychology	7	Switzerland	Frontiers Media S.A.	133	Q1
9th	Information Communication and Society	7	United Kingdom	Routledge	89	Q1
10th	International Journal of Communication	7	United States	USC Annenberg School for Communication & Journalism	45	Q1

Source: Processed by Author

Table 5. The Most Influential Source and Countries Based on Citation Analysis

Rank	Source	Cited by	Country	Quartile
1st	New Media and Society	568	United Kingdom	Q1
2nd	SAGE Open	111	United States	Q2
3rd	Information Communication and Society	76	United Kingdom	Q1
4th	Health Communication	73	United Kingdom	Q1
5th	International Journal of Environment Research and Public Health	64	Switzerland	Q1
6th	Environmental Communication	63	United Kingdom	Q1
7th	Convergence	54	United States	Q1
8th	International Journal of Communication	54	United States	Q1
9th	Sustainability	46	Switzerland	Q1
10th	Media and Communication	39	Portugal	Q1

Source: Processed by Author

Based on citation statistics from the Scopus database, Table 6 displays the authors who have had the most impact. The most significant writings were Infrastructure studies meet platform studies in the age of Google and Facebook, with 450 citations, followed Science audiences, misinformation, and fake news (n=343), An Efficient Algorithm for Media-based Surveillance System (EAMSuS) in IoT Smart City Framework (n=209), Media use and acute psychological outcomes during COVID-19 outbreak in China (n=140), and How Many People Live in Political Bubbles on Social Media? Evidence From Linked Survey and Twitter Data (n=87).

Table 6. The Most Influential Documents Based on Citation Analysis

Rank	Title	Source title	Cited by
1st	Infrastructure studies meet platform studies in the age of Google and Facebook {Formatting Citation}	New Media and Society	450
2nd	Science audiences, misinformation, and fake news (Scheufele & Krause, 2019)	Proceedings of the National Academy of Sciences of the United States of America	343
3rd	An Efficient Algorithm for Media-based Surveillance System (EAMSuS) in IoT Smart City Framework (Memos et al., 2018)	Future Generation Computer Systems	209
4th	Media use and acute psychological outcomes during COVID-19 outbreak in China (Chao et al., 2020)	Journal of Anxiety Disorders	140
5th	How Many People Live in Political Bubbles on Social Media? Evidence From Linked Survey and Twitter Data (Eady et al., 2019)	SAGE Open	87
6th	The use of verbal irony: Cues and constraints	Metaphor: Implications and Applications	69
7th	Using social media to promote academic research: Identifying the benefits of twitter for sharing academic work (Klar et al., 2020)	PLoS ONE	60
8th	Populism and social media: a global perspective (Postill, 2018)	Media, Culture and Society	53
9th	Rethinking Social Amplification of Risk: Social Media and Zika in Three Languages (Wirz et al., 2018)	Risk Analysis	51
10th	Social Media Techno-Discursive Design, Affective Communication and Contemporary Politics (KhosraviNik, 2018)	Fudan Journal of the Humanities and Social Sciences	46

Source: Processed by Author

The 1446 publications, which were organized by relevance, were subjected to a content analysis. Then, we used VOSviewer's "all keyword" analysis unit and "full counting" method to do a co-occurrence study. Out of 7155 keywords, VOSviewer detected

351 that met the cutoff when we limited the frequency of keyword occurrence to 5 times. In Fig. 5, the findings of this investigation are displayed.

The top three keywords were new media (428), social media (186), and communication (108) in that order. In addition, five clusters were discovered in this research. These keywords are grouped into 5 clusters in Fig. 5, each of which has a different amount of keywords and is represented by a distinct color.

The first cluster (red, 174 terms) concentrated on e-learning, visual communication, big data, new media, and new media technologies. The second cluster (green, 71 keywords) focused on Journalism, Political Communication, Digital Media, Social Media, and Political Communication. The third cluster (blue, 64 keywords) includes topics like education, interpersonal communication, human interaction, and Covid-19.

The fourth cluster (yellow, 40 terms) was concerned with discourse, social change, media usage, and educational technology. The two keywords in the five-cluster purple analysis were algorithm and digital technology.

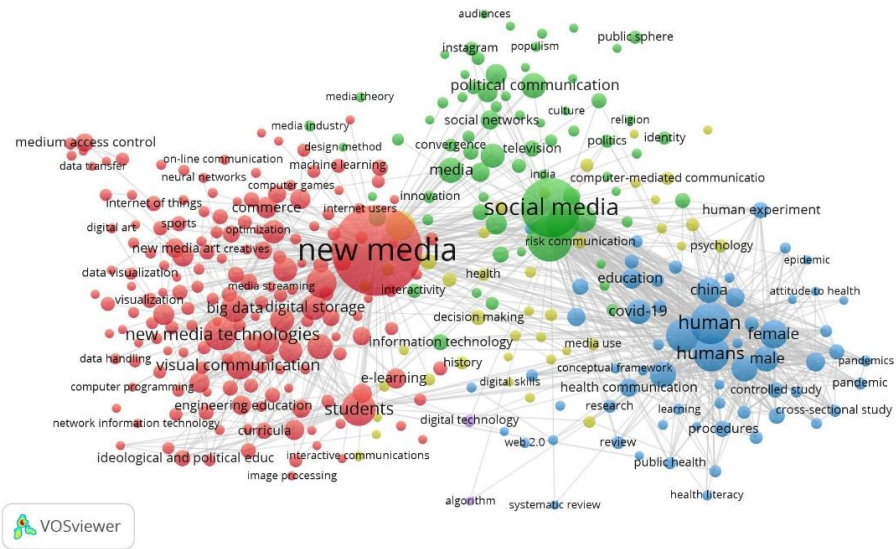


Fig. 5. Network Visualization of Global Communication and New Media Articles
Source: Processed by Author

in the fields of communication and new media were China, Malaysia, India, and Indonesia. According to the citations, Liu X (n=49) and *New Media and Society* (n=568) were the most significant authors and journals. Five groups were established by the research keywords for communication and new media (e.g. New media, Social Media, and Communication).

Globally speaking, there has been a huge rise in communication and new media research during the past five years. These were publications in European-published journals. The current study has several limitations because Web of Science, Crossref, and PubMed Central were not used; instead, we solely retrieved studies from Scopus. Last but not least, we didn't employ any of the additional VOSviewer analyses, including co-citation or co-authorship. Hence, in order to present a more comprehensive picture of the problem, we anticipate that bibliometric research on this subject will grow in terms of the databases used, the subject areas, and the analyses performed.

5 Conclusion

Global research on communication and new media has grown dramatically during the last five years. The majority of documents are published in prestigious journals, which is further sign of the caliber of the research. Future discussions might find the research topic of "Communication and New Media Related to Education and Technology Integrated Social Sciences Education" fascinating. In social science publications, there are also chances to promote conversation around communication and social media. Lastly, Europe led this sector in terms of publications, whereas Asia's research on this subject is still scarce, necessitating additional study.

Acknowledgements. Author delivered many thanks to Prof. Dr. Rina Indriastuti, S.E., M.SIE as Rector of Universitas Padjadjaran, Indonesia and the Directorate of Research and Community Service (DRPM).

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