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Wulansari, Lusiana; Ahmar, Ansari Saleh; Rochmat, Agus; Nurmawati; and Iskandar, Akbar, "The most-cited articles in Data in Brief Journal: A bibliometric analysis using Scopus data" (2020). *Library Philosophy and Practice (e-journal)*. 4566.

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The most-cited articles in Data in Brief Journal: A bibliometric analysis using Scopus data

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Abstract

Bibliometric analysis is one of the research approaches that utilizes quantitative and mathematical data to address problems posed in the context of visualization to see patterns in the field of science. In fact, bibliometric analysis may also include a wider overview of the names of the most influential writers in the area of science. This data analysis would discuss the most-cited articles in Data in Brief Journal including the countries, authors. The data was collected on 31st May 2020 of Scopus database. The literature review was conducted using the keyword: *ISSN (2352-3409)*. The bibliometric analysis is visualized utilizing the VosViewer software.

Keywords: Most-cited; Data in Brief; Bibliometric Analysis; Scopus.

1. Introduction

The data is one of the important things in a study. A research can be carried out and achieved if the data already exists. Without data, a study will be imperfect because data is a record of collections of facts. So that, it is natural that research “requires” data. One of the journals that discusses data is Data in Brief journal.

Data in Brief journal is an open access journal and multidisciplinary subject category that describes data from all research areas. This journal was formed as tools for researchers to share and use data from another researchers, which will open new collaborations in the future. This journal is discussed in this study because this journal is a multidisciplinary journal and discusses data - is an important part of a study -.

The data contained in the journal Data in Brief (DIB) must be a collection of information obtained / collected by scientific methods. The data presented must also be accurate, reusable, reproducible, replicable and of value to the research community.

Data on DIB is recommended to use primary data, for example, obtained through practicum, surveys/questionnaires, simulations, and others. Secondary data are used in DIB if it is for meta-analysis research purposes.

Bibliometric studies are a systematic method used to analyze scientific publications. Bibliometric analysis is one of the research approaches that utilizes quantitative and mathematical data to address problems posed in the context of visualization to see patterns in the field of science (Iskandar, et.al, 2020). The aim of this study is to see the most cited articles and the most topics/keywords. Another aim of this study is to see whether the keyword/topics of “COVID-19”, “Social Economy”, and “Education” are top keyword/topics or not. The keyword/topic “COVID-19” is one of the pandemics and a hot issue in the world (Ahmar & Boj, 2020; Ali & Sani, 2021) and “Social Economy” and “Education” are keywords that is closely related to “COVID-19” (Osman, 2020; Tripathi, et.al., 2021; Elgimati, et.al., 2021).

2. Methods

The bibliometric method used in this analysis. The data was collected on 31st May 2020 of Scopus database. The literature review was conducted using the keyword: *ISSN (2352-3409)*. The bibliometric analysis is visualized utilizing the VosViewer software. Type of analysis using co-authorship with unit of analysis are authors, and countries; counting method is full counting; the maximum number of authors per document is 100; minimum number of documents of an author is 2; and minimum number of citations of an author is 0.

Some other statistical analysis can be applied based on the research aim of the researchers, see (Okagbue, et.al., 2018; Obregón, et.al., 2019; Yadava, et.al., 2019; Singh, et.al., 2020) for details.

3. Results and Discussion

Bibliometrics is an area of research that examines the quality and dissemination of scientific articles in a variety of scientific areas. Out of the findings of the Scopus search, 5638 documents are composed of 6 document types as can be seen in Table 1.

Table 1 Document types of Data in Brief

Type	No. of Documents	Percentage (%)
Data Paper	5613	99,56
Erratum	14	0,25
Letter	5	0,09
Article	3	0,05
Editorial	2	0,04
Note	1	0,02
Total	5638	100,00

Table 1 showed that the number of DIB documents in Scopus with data papers are 5613 (99,56%). And as many as 14 articles have been erratum. All of documents in DIB is open access documents, it meaning that all documents in DIB available online free of charge and as free of technological and legal obstacles as possible and to make research and academic articles and information widely available to all Internet users-that is, to make them

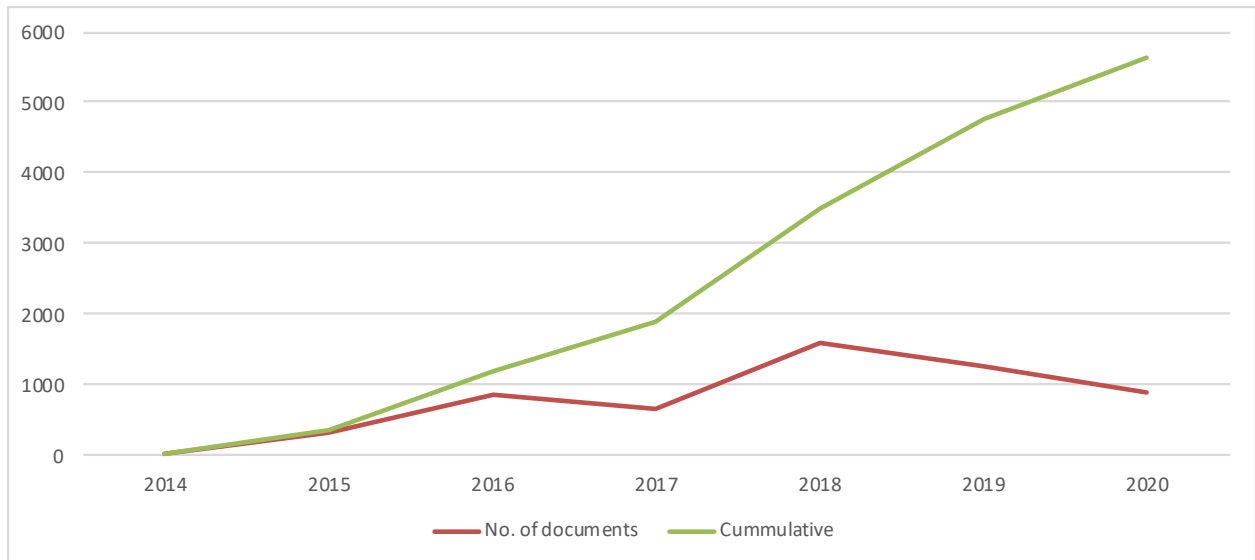


Figure 1 Number and cumulative number of documents published in each year

Figure 1 indicates that DIB journal have been 7 years exist in Scopus and average number of published documents per year is approximately 1000 documents from 2018 until now.

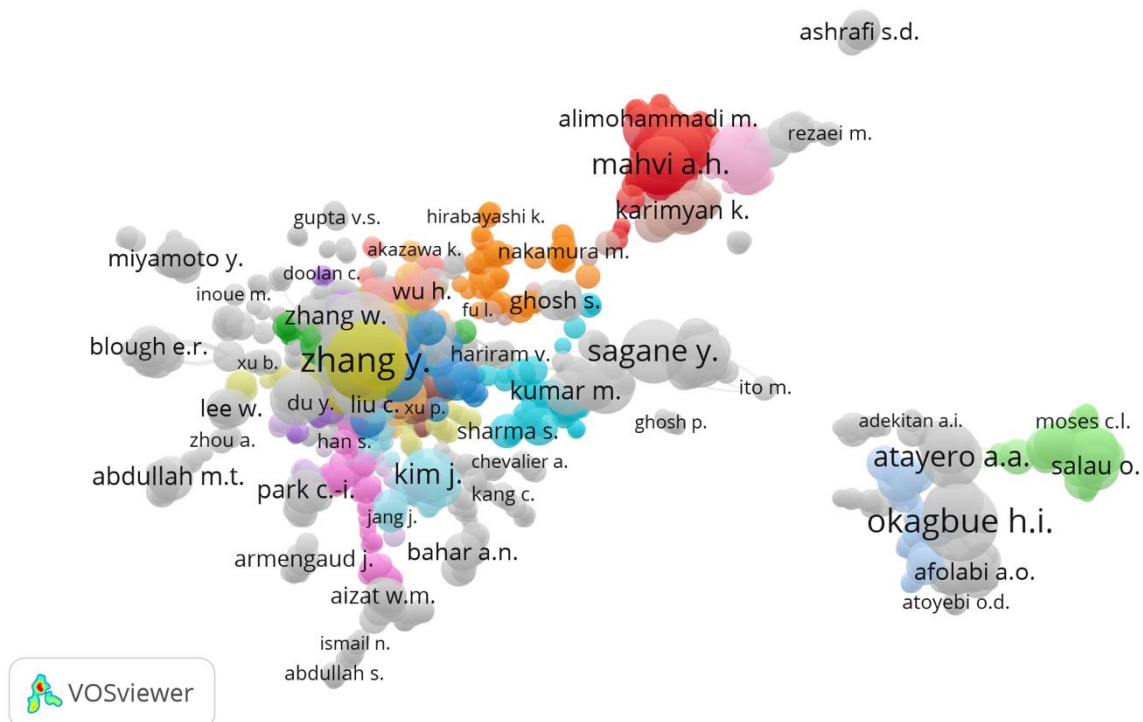


Figure 1 Network Visualization of Co-authorship (Authors unit analysis)

Figure 1 shown that the relationship between authorship and the color variations indicate the number of cluster researchers formed. Cluster analysis of the research co-authorship network shows that the network contains 50 clusters in various colors. Based on bibliometric analytics, there are 50 clusters of authorship. The summary of the clusters can be seen in table 2 and in detail the cluster can be seen in appendix 1.

Table 2 Summary of the clusters of Researchers

Cluster	No. of Documents	No. of Authors	No. of Citations
1	355	73	3687
2	254	70	329
3	280	70	249
4	285	68	333
5	232	62	298
6	160	53	180
7	132	52	323
8	165	52	230
9	136	51	171
10	157	48	183
11	235	47	528
12	170	46	803
13	117	43	240
14	118	42	145
15	148	42	121
16	177	42	339
17	152	38	460
18	139	35	1103
19	80	35	67
20	110	33	157
21	110	30	505
22	116	27	142
23	124	27	267
24	76	26	195
25	72	26	65
26	149	26	189
27	112	25	844
28	80	23	78
29	67	23	66
30	85	23	138
31	141	23	221
32	69	19	154
33	52	18	71
34	61	17	241
35	85	15	203

Cluster	No. of Documents	No. of Authors	No. of Citations
36	107	14	796
37	30	12	59
38	47	12	248
39	40	11	57
40	34	10	70
41	28	10	106
42	30	10	42
43	45	10	5
44	26	9	97
45	48	7	128
46	26	7	42
47	16	7	42
48	13	6	11
49	11	5	9
50	31	5	40

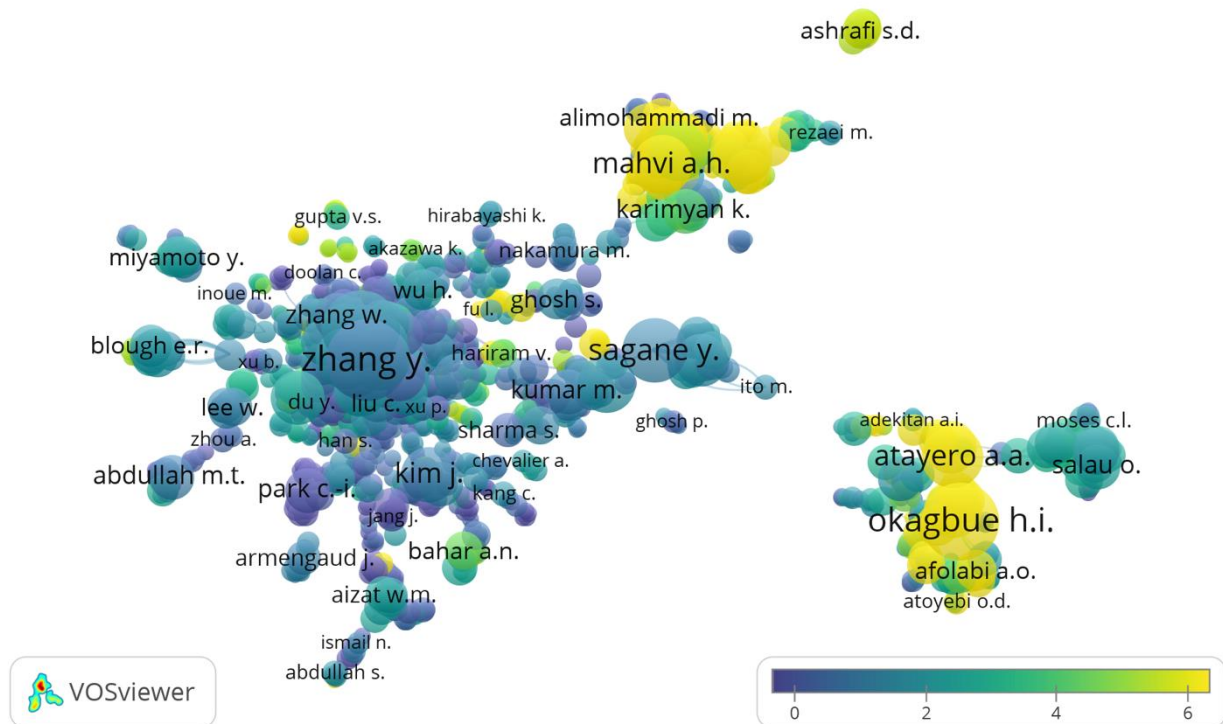


Figure 2 Overlay visualization of citations of Co-authorship (Authors unit analysis)

Figure 2 shown a visualization of the number of citations from each author. The most citation is Cluster of Mahvi A.H. (1st cluster); Cluster of Okagbue H.I. (36th cluster); Cluster of Atayero A. A. (27th cluster) and the most productive authors can be seen in table 3.

Table 3 The most productive authors

Authors	Cluster	No. of Documents	No. of Citation
Zhang Y.	4	40	36
Okagbue H.I.	36	36	253
Wang Y.	45	36	60
Li Y.	16	25	45
Sagane Y.	31	25	31
Atayero A.A.	27	23	202
Liu Y.	26	23	38
Mahvi A.H.	1	21	322
Ramavandi B.	18	21	133
Radfard M.	1	21	109
Li C.	26	21	17
Yousefi M.	1	20	463
Oguntunde P.E.	36	20	160
Kumar A.	23	20	34

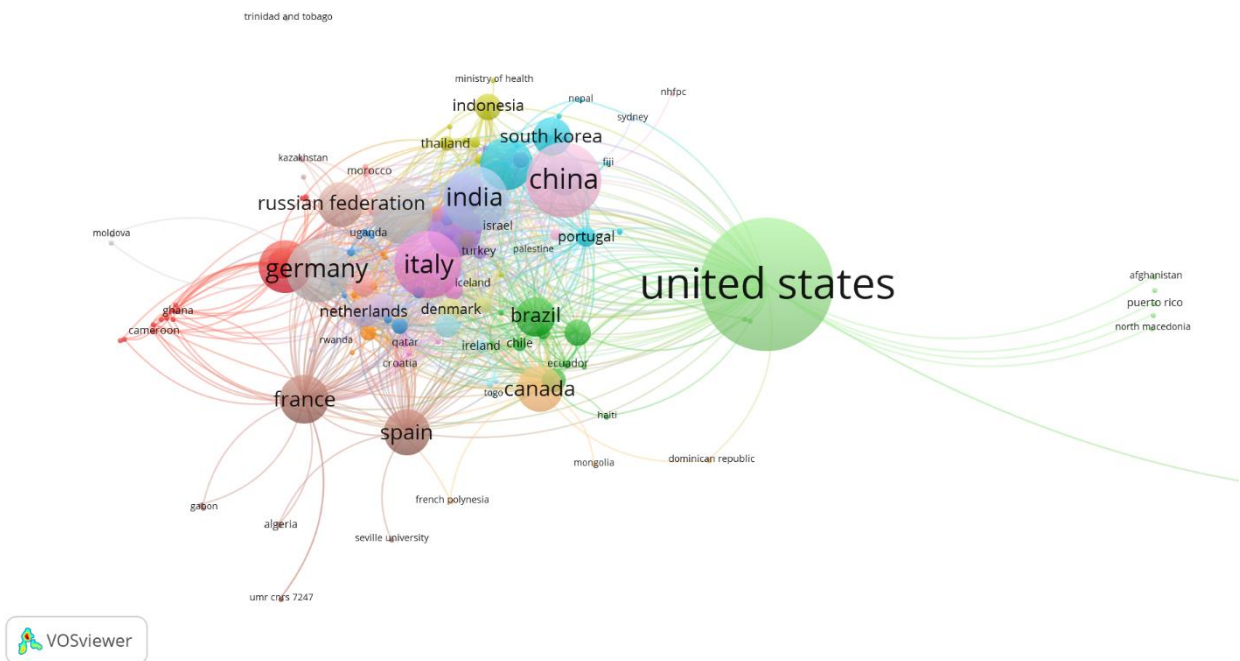


Figure 3 Network Visualization of Co-authorship (Countries unit analysis)

Figure 3 shown the DIB documents are dominated by the USA, China, Italy, India, Germany, and UK. The summary of number of publications per country can be seen in table 4.

Table 4 The most productive countries

No	Country	No. of Documents
1	United States	1,039
2	China	449
3	Italy	384

No	Country	No. of Documents
4	India	368
5	Germany	357
6	United Kingdom	331
7	Iran	287
8	Nigeria	274
9	Japan	269
10	France	249
11	Canada	230
12	Spain	225
13	Russian Federation	214
14	Brazil	185
15	Australia	182
16	Malaysia	180
17	South Korea	175
18	South Africa	127
19	Netherlands	116
20	Colombia	102
21	Indonesia	99
22	Sweden	92
23	Switzerland	90
24	Mexico	86
25	Belgium	81

There are 160 keywords in DIB journal, the most keywords are proteomics (78 times); transcriptome (52 times); and mass spectrometry (45 times). The keyword “data” which fits the name of this journal only in position 14 with 21 times and there are 6 times for “COVID-19” until this study was conducted. The summary of number of keyword (top 20) can be seen in table 5.

Table 5 The top 20 of keyword

No	Keyword	Count
1	Proteomics	78
2	Transcriptome	52
3	Mass Spectrometry	45
4	Adsorption	39
5	Iran	33
6	Breast Cancer	28
7	Heavy Metals	27
8	Inflammation	26
9	Nigeria	26
10	Statistics	24
11	Microarray	23
12	Drinking Water	22

No	Keyword	Count
13	Gene Expression	22
14	Data	21
15	Groundwater	21
16	RNA-Seq	21
17	RNA-seq	20
18	Diabetes	19
19	Machine Learning	19
20	Optimization	19

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships which have, or could be perceived to have, influenced the work reported in this article.

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