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The orientation of the bibliometrics researchers in Indonesia using the Reference Publication Year Spectroscopy

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ABSTRAK

Pendahuluan. Menggunakan referensi dalam sebuah studi sebagai sumber informasi saat melakukan penelitian adalah penting. Tujuan penelitian ini untuk mengetahui referensi utama yang digunakan para peneliti bibliometrik dalam melakukan sebuah penelitian.

Metode penelitian. Data diperoleh dari database Scopus, menggunakan fitur Researcher discovery dengan menuliskan keyword “bibliometrics” dari tahun 2017-2023, menggunakan metode bibliometrik dengan pendekatan Reference Publication Year Spectroscopy (RPYS). Tahapan penelitian meliputi pengumpulan data, pengolahan data, dan analisis data.

Data analisis. Data penelitian diproses menggunakan software CRExplorer dengan mengimpor dokumen peneliti yaitu 270 kedalam software dengan teknik impor all, serta menggunakan software Rstudio biblioshiny.

Hasil dan Pembahasan. Hasil penelitian menunjukkan bahwa para peneliti di Indonesia pada penelitian topik bibliometrik, berdasarkan perhitungan straight count dan complete count klibat atau acuan dalam melakukan penelitian ialah orang-orang yang berasal dari Benua Eropa, dan Asia Timur. Institusi yang paling besar kontribusi pada penelitian bibliometrik di Indonesia ialah Universitas Negeri Surabaya dan tempat publikasi yang paling banyak memuat karya para peneliti Indonesia ialah Journal of Physics: Conferences Series.

Kesimpulan dan Saran. Referensi penelitian oleh peneliti bibliometrik yang digunakan mulai tahun 1883-2023. Untuk mengetahui referensi atau melakukan kutipan penelitian bibliometrik secara langsung ke sumber utama digunakan referensi yang berasal dari wilayah tersebut.

Kata kunci: Bibliometrik; Reference Publication Year Spectroscopy (RPYS); CRExplorer; Rstudio biblioshiny; Peneliti Indonesia

ABSTRACT

Introduction. Using references in a study as a source of information when conducting research is important. The purpose of this research is to determine the main references used by bibliometric researchers.

Research methods. Data gathered from the Scopus database, utilizing Researcher discovery tool by using “bibliometric” as a keyword from 2017-2023, utilizing the bibliometric method with the Reference Publication Year Spectroscopy (RPYS). The stages included data collection, data processing, and data analysis.

Data analysis. CRExplorer software was used to import 270 research documents, which was done utilizing all import methodologies including Rstudio biblioshiny software.

Results and Discussion. The findings revealed that researchers in Indonesia on bibliometric issue research used references from the European Continent, and East Asia, based on straight count and complete count main reference calculations or references in conducting research. The State University of Surabaya has made the most contributions to bibliometric research in Indonesia, while the Journal of Physics: Conferences Series contains the most publications by Indonesian scholars.

Conclusions and recommendations. *The references utilised by bibliometric researchers range from 1883 to 2023. To discover references or create citations for bibliometric study, the researchers refer to the main source, which are the researchers of that area.*

Keywords: *Bibliometric; Reference Publication Year Spectroscopy (RPYS); CReXplorer; Rstudio biblioshiny; Indonesian Researcher*

A. INTRODUCTION

In research, references are essential. A reference can help to enhance and support statements which have been written. (Santini, 2018). Furthermore, references can be utilized to refine prior study in the future as well as a foundation for undertaking new research. As a result, references must be reliable because because the references used affect the quality of the research (Mahanum, 2021; Nadhifah & Hasan, 2021). Reference is closely related to quotations. There are two types of quotations: direct quotations and indirect quotations (Dewi & Diani, 2021). A good quotation is a straight quote or one that originates from the original source, not a quote within a quote (Colavizza et al., 2020; Ridwan et al., 2021; Tahamtan & Bornmann, 2019). The quantity of citations received by an author can be shown directly in Quotations. As a result, the amount of citations gained on a specific issue can help researchers to see someone's expertise in a particular discipline using bibliometrics approach.

Bibliometrics is a research topic introduced by E. Wyndham Hulme, since the nineteenth century. (Dousa, 2017). Bibliometric issues have been extensively researched; according to Scopus statistics, research on bibliometric topics from 1970 to 2023 yielded 23,638 publications, indicating that this bibliometric topic is extremely popular. Several past research on the subject of bibliometrics (Alves et al., 2016; Barik & Jena, 2021; Ellegaard & Wallin, 2015; Kumar et al., 2022). The bibliometric topic is not only popular in foreign research, but it is also a topic that continues to grow and increase in Indonesia until it is classified as a trend (Fanani & Safii, 2023; Purnomo, 2020). According to Scopus statistics, bibliometric research conducted by Indonesia on Scopus from 2004-2024 number of 1,280, in the last three years 2021-2023 has increased

significantly, 2021 number of 175; 2022 number of 233; and 2023 number of 526. bibliometric research in Indonesia shows popular. Several earlier works on the issue of bibliometrics were written by linked Indonesian researchers (Handoko, 2020; Himawanto, 2016; Nandiyanto & Al Husaeni, 2021; Nove Eka Variant Anna & Anawati, 2021; Sarwar & Hassan, 2015; Tupan, 2020). There are numerous studies on bibliometric themes, particularly in Indonesia, researchers are keen to understand the primary references when conducting research on bibliometric topics. The Reference Publication Year Spectroscopy (RPYS) technique is one option.

The Reference Publication Year Spectroscopy (RPYS) method is a bibliometric strategy that can be used to determine which references are used. RPYS is able to analyze based on subjects, and individuals as a focus in study. Marx, Bornmann, Barth, and Leydesdorff first proposed RPYS in 2014 —(Ballandonne & Cersosimo, 2021; Thor et al., 2016a). Several earlier research used the RPYS approach to identify academic roots in several sectors of science (Comins & Leydesdorff, 2017; Millán et al., 2022; Yeung, 2023). Furthermore, RPYS can be utilised to see references that are used on a specific issue (Gohoungodji & Amara, 2022; Khan et al., 2020). Aside from branches of knowledge and topics, you can also observe the author's or individual's academic roots (Bornmann et al., 2018; Bornmann & Haunschild, 2023; Gruber et al., 2023; Zhao et al., 2020).

Based on the explanation above, the researcher will conduct study on "the orientation of researchers in bibliometric research in Indonesia with the RPYS approach". The objective of this study is to reveal the direction or references that serve as the foundation for researchers when conducting research on

bibliometric topics in Indonesia. The benefit of this research is that it is expected to be able to identify the main references for bibliometric researchers in Indonesia, and introduce the RPYS method. The uniqueness of the RPYS research approach has never existed in Indonesia.

B. LITERATURE REVIEW

1. Bibliometrics

According to Araújo et al., (2020) bibliometrics is a quantitative analysis study that aims to measure the value and impact of published research. Bibliometrics is measuring books or literature using mathematical and statistical approaches –(Karim & Soebagyo, 2021). According to Ibrahim et al. (2021) bibliometrics is an approach or statistical calculation on bibliographic information data obtained from journals or scientific publication databases. Based on some of these opinions, it can be concluded that bibliometrics is a study that utilizes mathematical and statistical approaches to measure or analyze literature, especially in aspects of authorship, publication, and use and other communication media.

2. Coauthorship-weighted indices

Adjusted Count

Adjusted count is a method of calculating the value of an author on a work with a value number of 1, so that if a work has more than one author then the value of one is divided to each author or according to the number of authors in the work (Todeschini & Baccini, 2016). For example, a document is written by three authors, namely authors A, B, and C, then author A gets 1/3, B gets 1/3 and author C gets 1/3. The following is the formula for adjusted count:

$$w(k) = \frac{1}{A} \quad k = 1, \dots, A$$

Complete count

Complete count is a technique of giving author value to a work, each author gets the same or equal value between the first, second and so on. Each author who has contributed is given a value of 1 (Todeschini & Baccini, 2016). For

example, if a work is written by D, E, F and G, then author D gets a value of 1, as well as authors E, F and G. The following is the formula for the complete count:

$$W(k) = 1 \quad k = 1, \dots, A$$

Straight Count

Straight count is a technique of giving value only to the first author, while the second, third and so on authors are ignored or not scored (Todeschini & Baccini, 2016). For example, a work is written by 3 authors, namely Z, Y and X, then only author Z gets a score of 1 while authors Y and X do not get or are ignored. The following is the formula for straight count:

$$W(1) = 1 \wedge w(k) = 0 \quad k = 2, \dots, A$$

3. Reference of Publication Year Spectroscopy (RPYS)

Reference of Publication Spectroscopy or commonly known as RPYS is a quantitative method that can be used to reveal the most important historical publications of a particular research field based on the analysis of the publication year of references cited in the relevant literature. The focus on historically important publications in a particular research field is a specialized application of the method known as cited reference analysis —""""(Thor et al., 2021). RPYS was first introduced by Marx, Bornmann, Barth, and Leydesdorff (Rhaiem & Bornmann, 2018) where the word Spectroscopy or Spectrogram was inspired by the spectrum in natural science, which is a real peak in the quantification of certain properties, namely the absorption or reflection of light as a function of color, so that from analogy, Marx et al. called this application "Reference Publication Year Spectroscopy".

RPYS part of bibliometrics. Reference Publication Year Spectroscopy analyzes the cited references (CR) especially the publication year referenced from a collection of publications. As Ballandonne & Cersosimo,

(2021) states that RPYS is based on analyzing the frequency of references cited in publications in a particular research field in relation to the publication year of the cited references. However, RPYS itself has been developed to study historical roots not only in research fields, but in topics, journals, and individuals or researchers. The increasing use of RPYS has been facilitated by the development of specialized software to make calculations easier. There are several software tools that can be used but the most well-known for RPYS is CitedReferencesExplorer (CRExpoler) created by Thor et al., (2016). However, there are other tools, such as RPYS i/o or RPYS.EXEFootnote (Comins & Leydesdorff, 2016), RPYS packages are also available in Python (McLevey & McIlroy-Young, 2017), R (Aria & Cuccurullo, 2017) and Stata (Bornmann, 2018).

C. RESEARCH METHODS

The researchers used quantitative methods with a bibliometric approach. The bibliometric method used is RPYS. (Bornmann et al., 2018; Marx et al., 2017; Thor et al., 2016b, 2018; Yao et al., 2019). RPYS (Reference Publication Year Spectroscopy) is a statistical approach for identifying the references most frequently referenced by a researcher, the root of the field or the researcher's direction in the field in which they are involved, and the topic of a research. (Ballandonne, 2019; Bornmann et al., 2018; Haunschild et al., 2019, 2020). Based on this, researchers use RPYS, which focuses on identifying the main references of individuals or researchers themselves. As explained in the literature review, RPYS has evolved and now not only examines the main references from a specific field and topic. Researchers carried out various stages in this investigation, including data gathering, data processing, and data analysis.

Data collection

The data for this study came from the Scopus database; data was collected using the Researcher discovery feature with the keywords "bibliometric" as well as the type feature selecting Indonesia, so that it would produce

researchers who contribute to the bibliometric field based on the number of matching documents originating in Indonesia. Data is collected individually based on research, so there are no duplicate documents. The data was taken on July 11, 2023, with the data period beginning in 2017-2023. Data collection starts from 2017 because the database used only provides data from that year onward. Based on the search results, the subjects of this study were all Indonesian bibliometric researchers, see in Table 1.

Data processing

After selecting the subject of study, the researcher gathered data from bibliometric researchers in Indonesia published between 2017 and 2023. This yielded 270 documents from 123 researchers dispersed throughout different Indonesian universities. The obtained data is available for download in CSV format. The file is then loaded into the CRExplore programme for additional examination (Hou, 2017; Thor et al., 2016b). The use of CRExplore software is chosen because it is specifically designed and developed to facilitate calculations in RPYS method (Thor et al., 2016). Researchers utilise the all import method when importing files. The data that had been processed using CRExplore software was then explored. Next, the researcher re-examined the data that should have been similar, but due to differences in title writing, inconsistent use of full stops and commas, the CRExplore software could not detect similarities between the data. Therefore, the researcher combined the data that should have been two, but were separated in the CRExplore software. Additionally, researchers used the Rstudio biblioshiny tool to identify the most productive journals in publishing the works of bibliometric researchers. The use of this software purposes to simplify and improve the efficiency of the data analysis process.

Data analysis

The data was analyzed using CRExplore software for RPYS analysis. The analysis conducted includes the analysis of the frequency of references cited (CR) by bibliometric

researchers in Indonesia, the frequency of references cited in publications based on the publication year of the references, and the total number of times CR is cited. The results of this analysis will be presented in visualization. Additionally, complete and straight count counts are used to determine the authors who appear the most. The researcher will look at the author's area of expertise after identifying the most cited author. The researcher also examined the locations of publications for the institutions and scholars who made the biggest contributions to Indonesian bibliometric research.

D. RESULTS AND DISCUSSION

Results

The results of the analysis that have been carried out which include the most frequently cited years, the top 10 venues for bibliometric researchers in Indonesia, the top 10 institutions that have made the most contributions to bibliometric research in Indonesia, references that have received a lot of citations, and the authors who appear most frequently based on straight count and complete count.

Most cited references by year

According to figure 1, which presents the spectogram obtained from the RPYS analysis of the bibliometric research subject is the number of cited references and the deviation from the 5-year median. The figure 1 shows the number of references by year, and the number of cited references (NCR) indicates the total number of references used. The NCR's departure from the 5-year median, on the other hand, is the difference between the NCR's median for the last two years, the present year, and the next two years. In comparison to the curve in absolute numbers, this deviation from the 5-year median will provide a smoother curve (Thor et al., 2016a). The red line and the blue line both show the same amount as a result. According to the spectrogram of figure 1, the years 2017–2021 have the most referenced references. The peak year for reference citations is 2021, when there were 2,461 citations and a 5-year median

deviation of 1,154. There were 1,920 references in 2020, with a 5-year median deviation of 613 years. There were 1,307 references in 2019 with a 5-year median deviation of zero. There were 1,113 references with a 5-year median deviation in 2018 and 773 references with a 5-year median deviation in 2017. This demonstrates that the deviation value in 2019, 2018, and 2017 is relatively near to the median value, indicating that the stability of the year's quotations. The number of citations obtained dramatically increased in 2020 and 2021. This situation arises due to the severity of COVID 19 outbreak which was at its worst in 2020–2021, which has imposed constraints on researchers' ability to conduct fieldwork, laboratory testing and direct community engagement studies. Therefore research using secondary data results or online tools increased in number because of the physical social distancing. This statement is reinforced by data findings from the Scopus database, indicating that bibliometric research amounted to 5,507 documents in 2018, 7,934 documents in 2019, 11,398 documents in 2020, and 26,473 documents in 2022 (www.scopus.com May 2024). There was a significant increase in the years 2020 and 2021. As a result, the bibliometric topic is one of those where research does not have to deal with outsiders directly. This has resulted in numerous publications being mentioned in the last five years, particularly in 2020 and 2021, because several studies this year examined bibliometrics. Based on figure 1, The primary references used in bibliometric research by researchers in Indonesia span from 1883-2023.

Most cited references by title

According to Table 2 The most referenced reference by bibliometric researchers in Indonesia is the article entitled "Software survey: VOSviewer, a computer program for bibliometric mapping" with 53 citations, which is the work of Nees Jan van Eck and Ludo Waltman. The researchers of this article are from Leiden University. This article was published in the journal *Scientometrics*. The next article is "Bibliometrix: An R-tool for comprehensive science mapping analysis" written by Massimo

Aria and Corrado Cuccurullo with 22 citations. The first author is from Università degli Studi di Napoli Federico II, and the second author is from Università della Campania Luigi Vanvitelli. This article was published in the journal of informetrics. The next reference is the work of Raminta Pranckute entitled "Web of Science (WoS) and Scopus: The titans of bibliographic information in today's academic world" with 21 citations. This article was published in the Journal Publications. The researcher of this article are from Vilnius Gediminas Technical University.

Journals and proceedings of bibliometric research publications in Indonesia

According to figure 2 shows that bibliometric researchers have the most publications in the Journal of Physics: Conferences Series, with 38 documents published in the journal. This journal has been indexed by Scopus Q4, and it is an open access journal. The second position is held by Q2, the journal Library Philosophy and Practice, which has also been indexed by Scopus but at a higher level. There are 21 documents belonging to Indonesian researchers that have been successfully published. The International Journal of Emerging Technologies in Learning comes in third position, with a total of 12 documents that are the outcomes of research conducted by Indonesian scholars. This journal is classified as Quartile 2 or Q2. The International Journal of Energy Economics and Policy follows, with 9 documents. Scopus has also indexed this journal, which is in Quartile 2. The International Conference on Information Systems and International Technology (ICISIT) is a scientific conference organized by the State University of Malang. Several researchers from Indonesia and outside attended this meeting. The delivered scientific papers are then submitted to IEEE Xplore, an online platform produced by the Institute of Electrical and Electronics Engineers in partnership with Scopus. Five documents on bibliometric research were successfully published during this conference.

Institutional productivity in bibliometric research in Indonesia

According to figure 3, Surabaya State University (UNESA) is the institution that publishes the most bibliometric research, producing 52 documents, or around 19.26% of the total 14 authors. Bina Nusantara University (BINUS) is the following sequence, with 39 documents, or 14.44% of the total 15 writers. Gadjah Mada University comes in third with about 5.93%, or 16 documents, from 12 writers. Airlangga University is the next, with 15 documents from 8 writers. The Indonesian University of Education comes in second with around 3.70%, or 10 documents from 6 writers.

The most widely cited author's analysis is based on complete count and straight count calculations

The researcher analyzed the data based on straight count and complete count, to see the most cited person. According to figure 4, the most cited person based on straight count is Nees Jan Van Eck (134) and on complete count is Ludo Waltman (135). This shows that Ludo Waltman did more research who was not the main author. In contrast to Nees Jan Van Eck, both in the straight count and complete count both are balanced, in the straight count being the most cited author and in the complete count being second as a researcher whose writings are widely cited (134). Both of these people are researchers from Europe. Asep Bayu Dani Nandiyanto is the third author in both the complete count (78) and straight count (38). It should be noted that Asep Bayu Dani Nandiyanto is a researcher from Indonesia, and one of the researchers in the field of bibliometrics whose writings have been indexed by Scopus. Furthermore, the fourth position on the complete count (73) and straight count (34) is Nadi Supranto. Jun Li (57) is ranked third in the complete count, but in the straight count is ranked last. This shows that Jun Li is only a co-writer or co-author, working with the main author. So his position can be second, third, depending on the contribution of the researcher. However, it is different with Chaomei Chen (25) who is fourth in the straight count and eighth in

the complete count (38). This shows that Chaomei Chen tends to publish as a main author rather than a co-author.

Discussion

Research on bibliometric topics began in 2017 until 2023 on Indonesian researchers, based on documents in the Scopus database. In Indonesia itself, the mecca or reference of researchers based on the results of analysis using RPYS, that the references used start from 1883-2023. When viewed from the geographical location, which is used as a mecca or reference by researchers in Indonesia is the European Continent. This can be seen from the many references used that come from the region. There are Nees Jan Van Eck, and Ludo Waltman. The researchers are people who are experts in the field of bibliometrics, so it is not surprising that the authors Ludo Waltman and Jan Van Eck are widely quoted, as evidenced by their works which have been published in many international journals and indexed by Scopus Q1, Q2, Q3. One of their famous works and has been widely used by researchers in the field of bibliometrics is the Vosviewer application. In addition to Jan Van Eck, and Ludo Waltman, authors from the European Continent. In addition, Indonesian researchers also tend to utilize references from local authors or works from peers who are considered to have significant contributions to the topic of bibliometrics even though the scientific background comes from Chemistry, Chemical Engineering, Nanotechnology, Aerosol Colloid, the author is Asep Bayu Dani Nandiyanto. It is not surprising that the works of Asep Bayu Dani Nandiyanto are widely cited because many of his works are included in reputable journals. Asep Bayu Dani Nandiyanto is also the most productive author in SINTA Indonesia. Apart from the European continent, the references used also come from East Asia, namely China. The authors are Chaomei Chen, Jun Li, and Xiaohong Chen. Interestingly, the authors cited as primary references, and researchers who publish as shown in Figure 2, indicate that the most publications are in physics journals. Thus, it appears that the majority do not come from

Library and Information Science, but from the exact sciences, in line with Kurdi & Kurdi, (2021) and Shang et al., (2015) assertion that bibliometric studies have been applied in various intellectual structures across multiple disciplines. This indicates that bibliometrics has begun to gain popularity and be widely adopted in various fields of knowledge, especially in the exact sciences, due to its association with simple mathematical methods. Over time, bibliometric analysis can be studied and applied in all disciplines (Donthu et al., 2021; L. et al., 2022; Mejia et al., 2021).

It should be mentioned, however, that, in contrast to international researchers, who self-cite or quote themselves. Eugene Gaarfield's research in developing prior research is to employ references in the form of previous work or self-citation, as research has been by Lutz Bornmann, Robin Haunschild, and Loet Leydesdorff "(Bornmann et al., 2018). This demonstrates that the majority of international researchers self-cite or quote themselves. In contrast to Indonesian researchers, there is a direction or reference in performing study. This is because it is taught in college that prior research is required, thus patterns like this persist at the bottom until they enter the world of employment and become hereditary. However, this does not rule out the possibility that future researchers in Indonesia will use self-citations, because there may be no more publications from the main reference or previous references, and we want to develop previous research, so self-citations will become an important issue in this context. Self citation in Indonesia also has high numbers for various disciplines other than bibliometrics (Baccini & Petrovich, 2023).

E. CONCLUSION

The main references used by bibliometric researchers in Indonesia, the most often mentioned authors in the straight count and complete count computations were from the Continent of Europe, and East Asia. For future research, looking for references or making citations related to bibliometric research, go directly to the main sources, authors from the European Continent, and East Asia, there are Jan

Van Eck, and Ludo Waltman, Asep Bayu Dani Nandiyanto, Chaomei Chen, Jun Li, and Xiaohong Chen. So do not cite within citations.

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FIGURE LIST

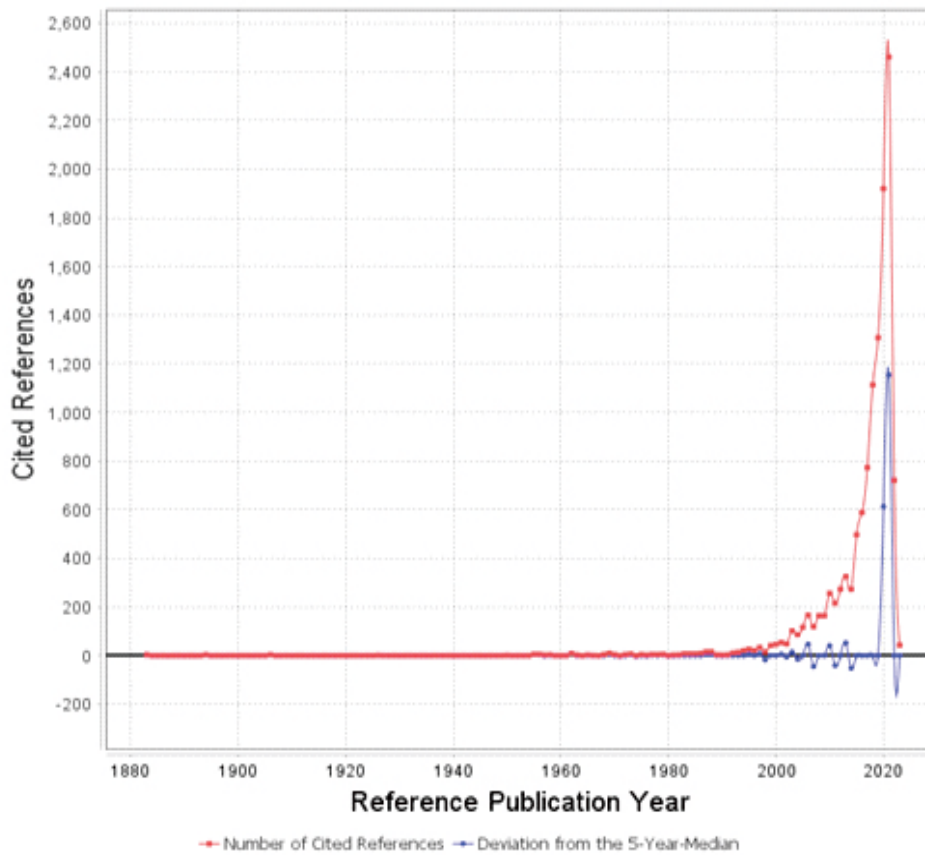


Figure 1 Spectrogram of number of cited references and deviations from the 5- year medians

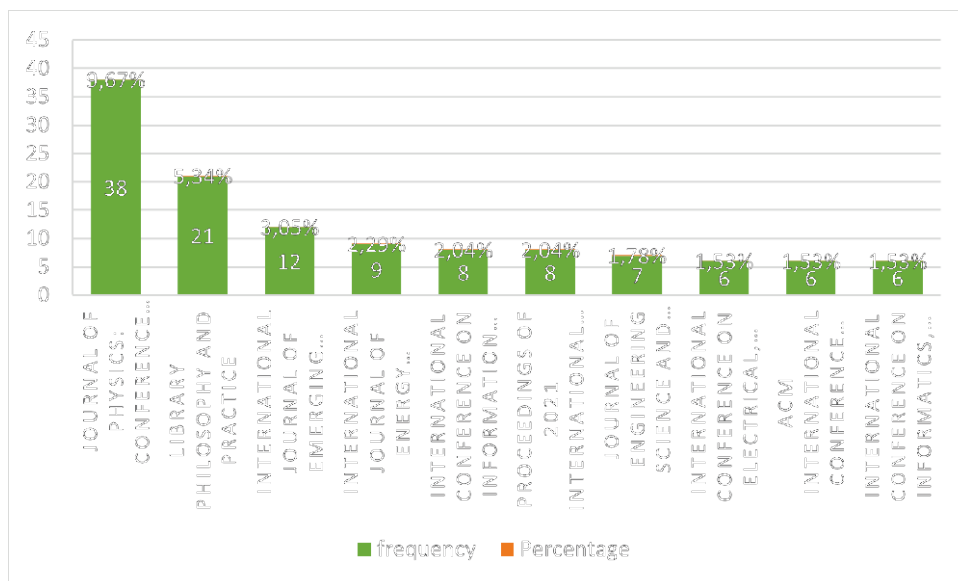


Figure 2 Top 10 places of publication for bibliometric researchers in Indonesia

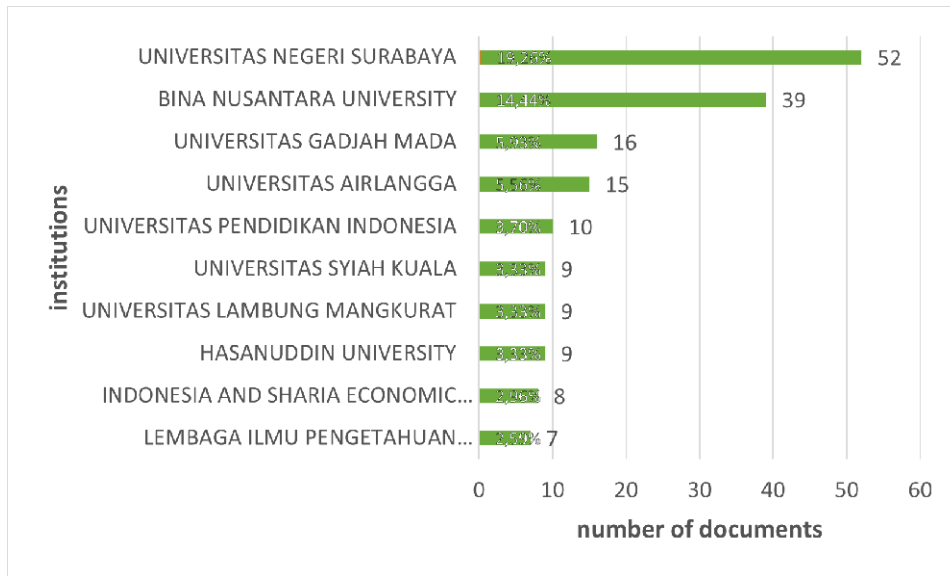


Figure 3 Productive university in bibliometric research

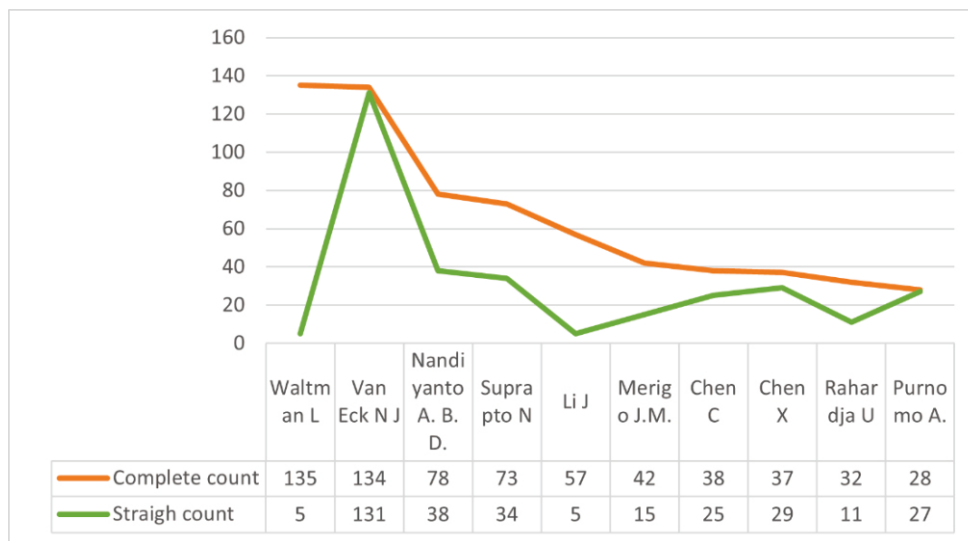


Figure 4 The author most quoted by Indonesian researchers in bibliometric research

Table 1 Bibliometric Researcher in Indonesia

name	University	Number of matching documents
Prahani, Binar Kurnia	Surabaya State University	12
Maulana, Fairuz Iqbal	Bina Nusantara University	10
Jatmiko, Budi	Surabaya State University Indonesia and Sharia Economic Applied Research and Training (SMART)	8
Rusydiana, Aam Slamet	Surabaya State University	8
Suprpto, Nadi	Lambung Mangkurat University	6
Misbah, M.	Dynamics University	6
Amelia, Tan	Bina Nusantara University	5
Purnomo, Agung
.....
Purwanto, Purwanto	Dian Nuswantoro University	1
Lukitaningsih, Endang	Gadjah Mada University	1
Sukmana, Raditya	Airlangga University	1
Kusmana, Cecep	IPB University	1
Nuringtyas, Tri Rini	Gadjah Mada University	1

(source:Scopus, 2023)

Table 2 The most widely used references on bibliometric topics by researchers in Indonesia

No	CR	RPY	N_CR
1	Van Eck NJ, Waltman L., Survey software: VOSviewer, a computer program for bibliometric mapping, <i>Scientometrics</i> , 84, 2, pp. 523-538, (2010)	2010	53
2	Aria M., Cuccurullo C., Bibliometrix: An R-tool for comprehensive science mapping analysis, <i>Journal of Informetrics</i> , 11, 4, pp. 959-975, (2017)	2017	22
3	Pranckute R., Web of science (wos) and scopus: The titans of bibliographic information in today's academic world, <i>Publications</i> , 9, 1, pp. 1-59, (2021)	2021	21
4	Donthu N, Kumar S, Mukherjee D, Pandey N, Lim WM, How to conduct a bibliometric analysis: An overview and guidelines, <i>Journal of Business Research</i> , 133, pp. 285-296, (2021)	2021	19
5	Marcal J., Bishop T., Hofman J., Shen J., From pollutant removal to resource recovery: A bibliometric analysis of municipal wastewater research in Europe, <i>Chemosphere</i> , 284, (2021)	2021	18
6	Van Eck N. J., Citation-based clustering of publications using CitNet Explorer and Vosviewer, <i>Scientometrics</i> , 111, 2, pp. 1053 -1070, (2017)	2017	18
7	Chen X., Zou D., Xie H., Wang F.L., Past, present, and future of smart learning: A topic - based bibliometric analysis, <i>International Journal of Educational Technology in Higher Education</i> , 18, 1, pp. 1-29, (2021)	2021	17
8	Setyaningsih I., Indarti N., Jie F., Bibliometric analysis of the term "green manufacturing", <i>International Journal of Management Concepts and Philosophy</i> , 11, 3, (2018)	2018	17
9	Mongeon P, Paul-Hus A., The journal coverage of web of science and scopus: A comparative analysis, <i>Scientometrics</i> , 106, pp. 213-228, (2016)	2016	16
10	Aalirezaei A, Kabir G, A bibliometric analysis on oil and gas pipeline failure consequence analysis <i>Innov. Infrastructure. Solute</i> , 6, (2021)	2021	15

(Source: primary data processed, 2023)