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# A Bibliometric Analysis of Islamic Accounting Research Indexed by Dimensions.ai

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# A Bibliometric Analysis of Islamic Accounting Research Indexed by Dimensions.ai

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# **Abstract**

This bibliometric study investigated the current state of documents on Islamic accounting published by digital object identifier equipped journals from 1990 to 2020 listed in Dimension. The analysis focused on the trends of the keywords, authors and journals. The data analyzed were 556 publications of research publications in Dimension (https://dimension.ai). Search terms were 'Islamic accounting'. The searches used to establish the study dataset were last updated on November 13, 2020. Descriptive statistical methods were used, and a bibliometric analysis was conducted using the R Biblioshiny to find out the bibliometric map. The number of articles discussing the theme of Islamic accounting has been quite extensive in years, along with the development of Islamic financial institutions. Many journals publish this theme, among which the top journal is the Journal of Islamic Accounting and Business Research. The most popular keywords used are Islamic, Accounting dan Financial. The most prolific author is Karim RAA, who has been writing since 1990. The country with the most popular and the most number of authors is Malaysia. This study provides an overview of trends in the most popular keywords, journals and authors in articles on the topic of Islamic accounting, thus providing information for researchers focused on research in the field of Islamic accounting. In the end, this theme has the potential to continue to be developed.

**Keywords:** *Islamic Accounting, Finance, Bibliometrics, R* 

# INTRODUCTION

Various kinds of business industries are currently growing in line with the development of the accounting system, where the purpose of its formation is to achieve capitalistic socio-economic goals. This situation then led to the emergence of the need for the Muslim community to build an accounting system that could achieve the socio-economic goals of Islam, namely Falah (success in the world and the hereafter). The urgency of this effort is getting more significant with the continued development of Islamic financial institutions that adhere to Islamic principles in various parts of the world (Hameed & Ibrahim, 2005).

The development of these Islamic financial institutions then gave rise to the assumption that conventional financial accounting systems were not following Islamic beliefs and values so that the development of Islamic accounting research and reports on Islamic companies began. Islamic accounting researchers have carried out various analyzes and designs of Islamic accounting standard financial reports (Kamla, 2009).

The history of the use of the terma Islamic accounting system generally refers to the emergence of scientific literature on Islamic accounting in English. In particular, it started in 1981, when Abdel-Magid presented a theory related to Islamic banking accounting practice, which then began to emerge as a theme that continued to develop significantly (Velayutham, 2014). On the other hand, the Al-Qur'an as the holy book of the Islamic ummah also guides how to carry out accounting activities while remaining in compliance with Islamic law starting around 610 AD (Trokic, 2015).

Accounting which is based on Islamic principles has played an essential role in bringing about changes like Islamic banking and other financial institutions so that an Islamic accounting regulatory body such as AAOIFI was formed which played a role in regulating Islamic business institutions for the public interest, equality, sustainability and social justice (Afou, 2017).

The rapid development of research on Islamic accounting is interesting to be investigated in the bibliometric analysis. So that this study aims to analyze the characteristic bibliometric mapping of the development of trends in keywords, authors and journals in papers with the theme of Islamic accounting published from 1990 to 2020.

# LITERATURE REVIEW

Bibliometric mapping is an important research topic in the bibliometric field (Börner et al., 2003). Two different bibliometric aspects are the construction of the bibliometric map and the graphical representation of the map. In the bibliometric literature, the most significant concern is in the construction of the bibliometric map. Research related to the effects of differences in similarity measures (Ahlgren et al., 2003; Klavans & Boyack, 2006a; Van Eck & Waltman, 2007b; White, 2003), and they tested with different mapping techniques (Boyack et al., 2005; Van Eck & Waltman, 2007a).

The graphic representation of the bibliometric map has received less attention. Although some researchers seriously study issues related to graphical representations (Chen, 2003, 2006; Skupin, 2004), most articles published in the bibliometric literature rely on simple graphical representations provided by computer programs such as SPSS and Pajek. For thumbnails containing no more than, say, 100 items, a simple graphical representation usually yields satisfactory results.

However, there appears to be a trend toward larger maps (Boyack et al., 2005; Klavans & Boyack, 2006b; Van Eck et al., 2006), and for such maps, simple graphical representations are not adequate. The graphical representation of a sizeable bibliometric map can be further improved by, for example, a zoom function, unique labelling algorithms, and density metaphors. Such functionality is not included in the computer programs commonly used by bibliometric

researchers. In this paper, we introduce a new computer program for bibliometric mapping. This program pays special attention to the graphical representation of bibliometric maps.

This section discusses the use of VOS, which is to build a bibliometric map. The purpose of VOS is to place items in such a low dimension that the distance between two items accurately reflects the uniformity or association of these items. For each pair of items i and j, VOS requires a similarity input sij (sij  $\geq$  0). VOS treats the equation sij as a measure on a ratio scale. The equation sij is usually calculated using the strength of the association defined in Equation 1 (Van Eck et al., 2006; Van Eck & Waltman, 2007a). VOS determines the location of items on the map by minimizing:

$$V(x_i, ..., x_n) = \sum_{i < i} s_{ij} ||x_i - x_j||^2$$
 (1)

to:

$$\frac{2}{n(n-1)} \sum_{i < j} ||x_i - x_j|| = 1 \tag{2}$$

Therefore, the idea of VOS is to minimize the weighted sum of the squares of the distance between all pairs of items. The equation between those items weights the square of the distance between pairs of items. In order to avoid worthless solutions, where all items have the same location, limits are imposed so that the average distance between two items must be equal to one.

Two computer programs have implemented the VOS mapping technique. Both are available free of charge. A simple open-source program is available at www.neesjanvaneck.nl/vos/, and a more advanced program called VOSviewer (Van Eck et al., 2010) is available at www.vosviewer.com. Both programs use the variant of the SMACOF algorithm mentioned above to minimize Equation 1 to Equation 2.

# **METHODOLOGY**

This was a literature-databased descriptive study based on bibliometric analysis. This study uses publication data related to Islamic Accounting sourced from the dimensions.ai database (https://Dimensions.ai). Dimensions are alternative indexations with the criteria that all articles have a specific digital object identifier (DOI). The search terms were 'Islamic Accounting' in Full data. As a result, there were 556 publications on November 13, 2020. Data of keywords, authors and journals in the publication of the topic of the theme Islamic Accounting were analyzed using the R Biblioshiny software freely available from https://bibliometrix.org/.

Descriptive data are presented as numbers, percentages, and rankings. Descriptive statistical analyses were carried out to present the timeline and distribution of the articles.

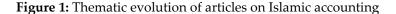
The computer program that was introduced was called VOSviewer. VOSviewer is a program developed for building and viewing bibliometric maps. This program is freely available to the bibliometric research community. VOSviewer, for example, can be used to create author maps or journals based on cocitation data or to build keyword maps based on shared incident data. The program offers a viewer that allows the bibliometric map to be examined in detail.

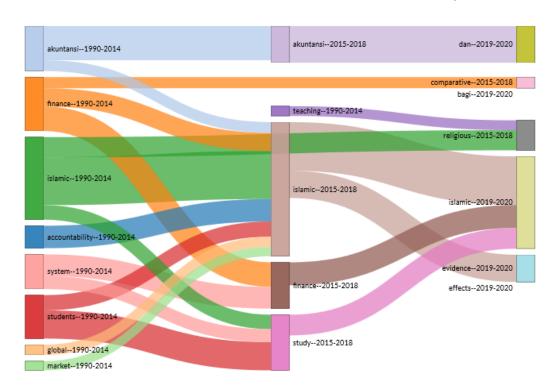
VOSviewer can display maps in a variety of ways, each emphasizing a different aspect of the map. It has functions for zooming, scrolling, and searching, which facilitate detailed inspection of the map. VOSviewer's display capability is beneficial for maps containing at least a large number of items (e.g., at least 100 items). Most computer programs used for bibliometric mapping do not satisfactorily display such maps.

To build maps, VOSviewer uses the VOS mapping technique (Van Eck & Waltman, 2007b), where VOS stands for similarity visualization. VOSviewer can display maps built using suitable mapping techniques. Therefore, this program can be used not only to display maps built using the VOS mapping technique but also to display maps built using techniques such as multidimensional scaling. VOSviewer runs on a large number of hardware and operating system platforms and can be started directly from the internet.

## **RESULTS AND DISCUSSION**

#### Thematic Evolution





The themes used in papers that are the object of research continue to change, especially from papers that have recently been published when compared to papers that have been published for a long time. The evolution of the theme is shown in the image above. Although the theme of this research is Islamic accounting, this data shows several sub-themes that are widely used. The left side shows some of the themes that are widely used from 1990 to 2014, and there are 8 themes

listed with different sizes depending on the quantity of use of the theme. The theme 'Islamic' took first place, followed by the theme 'finance' and 'accounting'.

The second or middle section shows several themes that are widely used from 2015 to 2018. Several themes that have emerged during this period are an evolution of the previously used themes and have a connection in their content, for example, the theme 'Study' emerged as a form of revolution from the 'Islamic', 'system' and 'students', this shows that research using the theme Study is an extension of the research theme 'Islamic', 'system' and 'students' in previous studies. In this section, the most widely used theme is 'Islamic'.

The third or right section shows the most recently used themes in the period between 2019 and 2020. There are 5 themes listed, all of which are evolutionary from themes that emerged in the previous period, for example, the theme 'comparative, religious' which is an extension of several themes as indicated by the colourful grooves.

# **Word Growth**

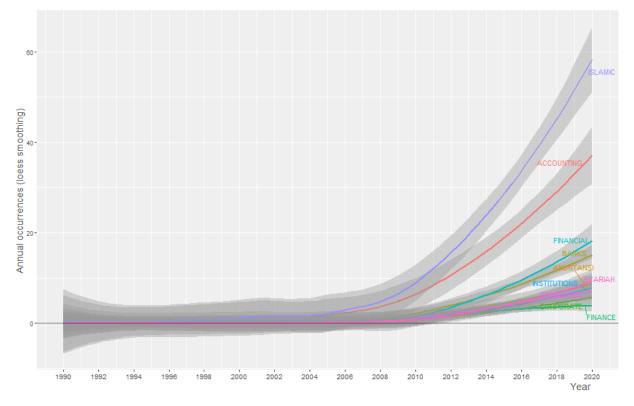


Figure 2: Word growth of articles on Islamic accounting

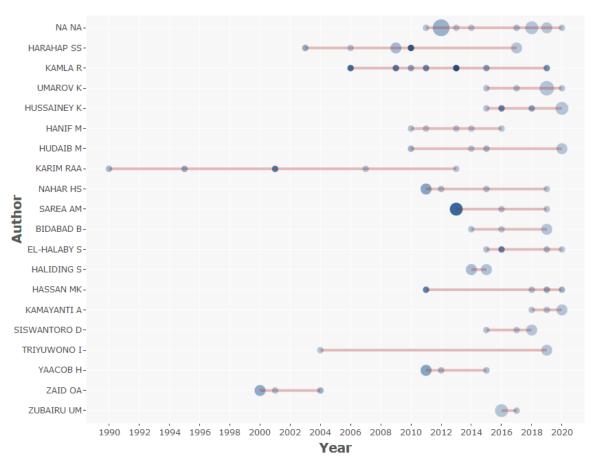
In this study, the words that often appear are also translated into a development curve each year with an annual occurrence value that shows the average value of the number of occurrences of these words in the data collection studied in the theme of Islamic accounting per year. The picture above shows that the majority of words that often appear have begun to develop and be used since 2008 and continue to increase every year.

The highest increase was achieved by the word 'Islamic' with the value of annual occurrence, which increased every year with a large enough number to produce a steep curve

and in 2020 the value exceeded 50. Then the second place was the word 'Accounting' which until 2020 the value of annual occurrence exceeds the number 30. Furthermore, in the third-place, the word 'financial' also continues to increase but is not as high as the two previous words with almost reaching the number 20.

# Top Author's Production Over the Time





Productivity can not only be measured in journals, but also on the author in particular. The picture above shows the production of some of the top authors during the study period, namely from 1990 to 2020 which is shown by a red line from the beginning of the author to publish until the last year the author published his paper, besides that the circle in the red line shows the number of papers published according to the applicable year.

The research produces data as shown in the picture, where it appears that there are authors who have started writing papers on Islamic accounting themes for a long time and some are new. The author who has been writing based on data for a long time is Karim RAA, who has been writing since 1990 and continues to write productively until 2013 even though the quantity is not much. Besides, authors who have a long track record are also occupied by Zaid OA who wrote from 2000 to 2004, Harahap SS who wrote from 2003 to 2017 and Triyuwono I who wrote from 2004 to 2019.

# Corresponding Author's Country

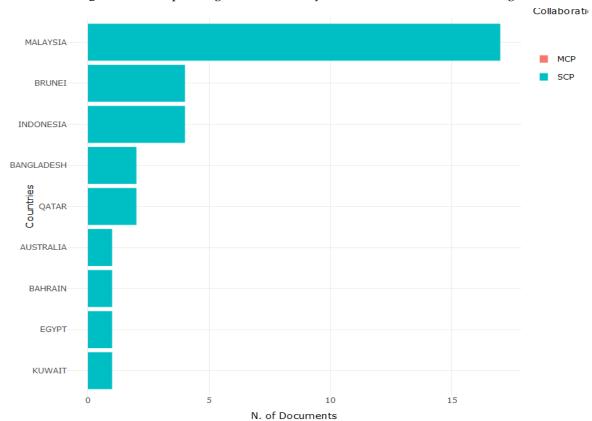


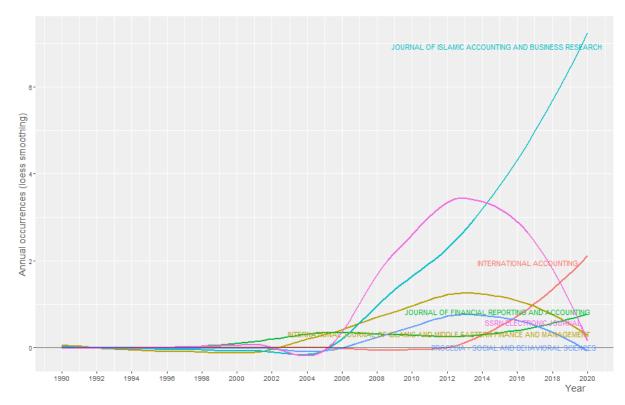
Figure 4: Corresponding author's country of articles on Islamic accounting

The picture above shows the author's correspondence countries contained in each article with the calculation of the total form of collaboration between SCP (single country collaboration) or one country collaboration, not MCP (multiple country collaboration) or collaboration between several countries. There are 9 top countries included in this data and the document quantity interval is between 0 and more than 15 published paper documents with the theme of Islamic accounting.

The results obtained are that Malaysia ranks first as a country with the highest quantity of author correspondence with more than 15 published papers. Furthermore, the second rank is Brunei and Indonesia, with the number of published papers less close to 5. The rest of the other countries publish articles less than 5. This data shows the need for an increase in the number of published papers on the theme of Islamic accounting in Southeast Asian countries.

## Source Growth

Figure 5: Source growth of articles on Islamic accounting



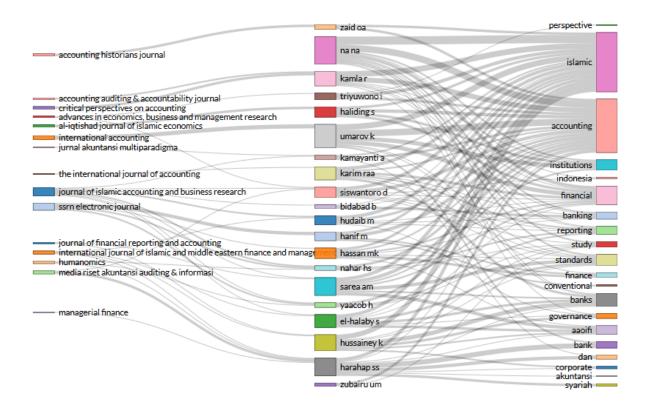
This study also discusses the development of journals which are the source of research documents for this Islamic accounting theme paper. The data above shows the development of the annual occurrence of each journal from 1990 to 2020 so that it has found a picture of whether the journal has increased or decreased with a curved line during the research period, especially in the publication of Islamic accounting themed papers.

The picture above shows several journals that have started to develop since the beginning of 2000 and continue to increase, including a turquoise line, namely the Journal of Islamic Accounting and Business Research, which has continued to increase in the last few years since 2008 significantly, until the annual occurrence value exceeds the number 8. The International Accounting journal line shows another paper that has increased quite well and until 2020, the value of annual occurrence exceeds number 2.

Several other journals also experienced an increase even though it was not as significant as the two journals above. However, some journals experienced a drastic decline where there was an increase in 2008 but began to decline since 2012, namely the Ssrn Electronic Journal which continued to decline until 2020 reaching its lowest position with annual occurrence value of 0.0.

# **Three Fields Plot**

Figure 6: Three Fields Plot on Islamic accounting



The Three Fields Plot above illustrates three elements: a list of journal names, a list of authors and a list of topics used. These three elements are plotted with a gray plot that shows their relationship to each other, starting from the journal's name, then each journal shows the author and each author is shown on the topic they use in their paper with the theme of Islamic accounting. Each rectangle's size in the list of names shows the quantity of paper associated with that element.

The first element is the journal. There are 15 journals indexed in the Three Fields Plot that publish papers on Islamic accounting themes, but the top journal that publishes the most papers on this theme is the Journal of Islamic Accounting and Business Research, which is depicted in a dark blue rectangle and is linked by several authors, including Kamayanti A, Siswantoro D, Hudaib M, and so on.

The second element in the middle is the author's name. Some writers whose publication journals are recognized will be associated with previous elements, such as an author named Zaid OA, linked to the Accounting Historian Journal journal in the journal element. However, some others are not indexed, so they do not connect with any of the journals listed. Besides, each of these authors will also be associated with frequently used keyword topics on the right. There are the top 20 authors listed in this plot. The size of the rectangle shows the quantity of the number of papers written by each author. In this plot, Umarov occupies the widest rectangle, which shows that he wrote the most on Islamic accounting themes.

The third element is the keyword topic that appears the most in the paper, which is the object of research. Each topic is associated with an author who uses the topic a lot. There are 20 keyword topics listed and the most frequently occurring keyword is Islamic, as indicated by the

size of the purple rectangle and accounting topics in pink, which dominates the rest of the rectangles. It also appears that almost all registered authors use these two topics. This data follows the theme of this study, discussing scientific papers related to Islamic accounting. Apart from these two topics, this plot also shows several other keywords widely used, such as institution, financial and banks.

# **Findings**

The results of the above research show the bibliometric analysis using the R Biblioshiny from journal articles with a digital object identifier equipped in the Islamic Accounting theme indexed by the Dimension database. Research related to Islamic accounting has been an exciting discussion since 1981 and continues to develop throughout the world so that researchers in the accounting field have begun to produce various scientific studies in developing research related to Islamic accounting. The development of the literature on Islamic accounting is also growing, along with the development of various Islamic financial institutions.

Based on the above results, it appears that research on Islamic accounting has been published by various journals and many authors, resulting in various topics. The results shown by thematic evolution show the evolution of the theme in a paper on Islamic accounting, where the keywords' accounting, Islam, finance' and even 'accountability' have been detected since the first period, namely 1990-2014, and continue to develop until the third period, namely the year 2019-2020 the theme of 'comparative' has begun to emerge, which shows that the paper on the theme of Islamic accounting is starting to develop and can be compared with other accounting systems. The keyword 'religious' which has just emerged in the last period also shows the increasing awareness of the Muslim community in their various beliefs, so that it has an impact on choosing a system that is following Islamic law, including accounting.

Then it relates to the words that are most widely used in articles on the most popular Islamic accounting themes including 'Islamic, Accounting and Financial' and so on. These words that often appear that from all the data of the articles studied, most of them focused on putting forward the topic of Islam, only then the focus of both, namely accounting, then penetrated a broader theme, namely finance. The words that are popularly used in the theme of Islamic accounting show a significant increase in the use of Islam as the basis for the development of Islamic accounting as shown by the graph that continues to increase, even outperforming the accounting keyword itself.

An interesting fact which is shown by these words is that the research on the theme of Islamic accounting is not very broad and does not cover various sectors, because the popular words that appear are similar to one another. For example, the words Islamic and sharia as well as industrial coverage that appears only in finance, corporate and bank, not yet a specific field. This shows the need to increase and expand research on the theme of Islamic accounting to other fields in the economy.

The productivity development of the authors can be seen from the top author's production over the time chart. This graph provides an overview of the position of each author in the timeline per year with the published paper circle codes. It was found that only 1 registered author has

written a paper on the theme of Islamic accounting since 1990, while the other authors have only started publishing their paper since 2000. This shows that the authors who write many papers on the theme of Islamic accounting have only recently experienced increased productivity in several last years.

Data from the corresponding author's country shows some of the top countries that have contributed the most to Islamic accounting themes. Interestingly, all authors from various countries tend to carry out an SCP (single country collaboration) collaboration system, which means that countries whose authors are quite productive collaborate more with other authors from the same country, so there is an imbalance in the number of Islamic accounting theme paper production in various countries in the world, where the top country is Malaysia, which has far more documents than other countries, followed by Brunei Darussalam and Indonesia. This result is a motivation for authors from other countries to continue to improve their studies in the theme of Islamic accounting.

When viewed from the point of view of journals that publish papers, it can be seen the development of journal productivity per year from source growth. The Journal of Islamic Accounting and Business Research is the most productive and continues to experience an increase in the graph where the journal has the highest annual occurrence value compared to other journal values—followed by the journal International Accounting. These two highest journals show that the theme of Islamic accounting is mostly published in papers that specifically discuss the themes of accounting, business and finance compared to Islamic journals there is only one journal that specializes in discussing the Islamic side, namely the International Journal of Islamic and Middle Eastern Finance and Management. This is an opportunity for journals that discuss Islamic economics to publish more papers with the theme of Islamic accounting.

Based on an Islamic theoretical perspective, accounting must be built on Islamic principles to serve a broader financial role, providing a holistic, multidisciplinary and religious organizational perspective. According to Islamic principles, the purpose of accounting itself must lead to the fulfillment of obligations to Allah, society, the environment, self and the achievement of socio-economic justice and success in the world and the hereafter (Kamla & Haque, 2019). The basic concept of Islamic accounting is based on elements of faith and ethics. Islamic accounting also depends on the financial processes that are allowed in Islamic law. The basic concept of Islamic accounting is also based on behavioral aspects as elements that also play a role in the economy. The reasons in Islamic accounting why accountants must be responsible to God will have implications for an accounting process based on truth, justice, fairness, goodwill, honesty, virtue, and reliability (Marina et al., 2019).

Regarding the study of Islam and accounting, generally, Muslim scholars tend to underoptimized the environmental focus's substantive dimension, regardless of Islamic teachings on it (Kamla et al., 2006). The lack of critical theory and limited technical and instrument explanations of Islamic accounting research indicates that Islamic accounting research still needs to be improved in fulfilling the social and moral roles that are its objectives (Kamla, 2009).

In the literature that is the object of this research, it is found that banking practices still dominate Islamic accounting. Although there are also other non-bank financial institutions, the

number is still minimal. This is because the discussion about usury issues is often only associated with banking (Kamla & Alsoufi, 2015) so that Islamic banking tends to be careful in its accounting calculations (Almutairi & Quttainah, 2019). The global financial crisis that occurred also became a consideration for the need for a transformation of conventional accounting in banking towards a more based system based on ethics. One way is to consider alternatives to the spirituality-based Islamic accounting system (Hidayah et al., 2019).

However, the Islamic accounting literature shows a reasonably well-articulated thought about how Islamic teachings are applied to produce a financial reporting system and provide an appropriate label for empirical studies and practices regarding other Islamic entities (Napier, 2009).

# **CONCLUSION**

The results show that the number of Islamic accounting themed articles published by the journal DOI Equipped is quite large and has the potential to increase along with the development of the number of Islamic financial institutions around the world. The results of the study show that several topics and keywords are popularly used in this theme and have the potential for further development, especially in specific fields in Islamic economics and Islamic financial institutions. Also, some of the most productive journals and authors can be used as a reference consideration for researchers who will develop research on this theme.

This study has several limitations. This research only focuses on knowing the development trend of keywords, authors and journals that publish on the theme of Islamic accounting, thematic evolution which describes the development of keywords in three time periods, then word growth which shows the development of keywords by year, then Top Author's Production Over the Time that shows the productivity of the author, the corresponding author's country which shows the country of origin of the author, and the source growth which shows the development of the number of publications of each journal.

Of course, there are still many parts that can be explored. It should also be noted that the number of article collections studied was only obtained from Dimensions and was limited to November 13, 2020, so it is still possible to continue to experience changes and developments in the future. Suggestions for further research are to carry out a complete bibliometric analysis with more elements understudy or more diverse software to produce more comprehensive results.

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