

## Evaluating Indonesian Islamic Financial Technology Scholarly Publications: A Bibliometric Analysis

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### ABSTRACT

*This study aims to examine the development of trends in Islamic fintech studies published in journals under the SINTA category. This paper uses the bibliometric method with Harzing's Publish or Perish analysis tools to collect 121 article metadata on Google Scholar and R Studio and VOSviewer to analyze bibliographic data obtained automatically. The results show that the number of publications on Islamic fintech has increased significantly. The results of the bibliometric analysis found that the authors tend to use the term "sharia fintech" rather than "Islamic fintech." Several research themes that may develop in the future are those related to mobile banking, financial performance, and Internet banking. This study contributes to future research and provides scientific novelty in the assessment of Islamic fintech publications in Indonesia, which are practically and theoretically very important for academics.*

**Keywords :** *Islamic Fintech, Bibliometric, and Research Trend*

## A. INTRODUCTION

The presence of fintech has changed the interaction between givers and recipients (Chen et al., 2016) and changed conventional transaction patterns to become simple and modern by bringing together financial services and information technology. Fintech has replaced various functions of banks and other financial institutions with various kinds of fintech products, including payment, lending, financial planning (personal finance), retail investment, and

Received : January 14, 2023 – Revised: February 02, 2023, Accepted: February 13, 2023

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crowdfunding (Harris Irfan & Ahmad, 2019). Therefore, Fintech has a large effect on the global Islamic finance sector and to expand financial inclusion in emerging markets such as Indonesia (Hudaefi, 2020).

Although fintech is a new concept, the Islamic finance industry is also able to utilize fintech to develop a variety of innovative, sharia-compliant products, thereby providing competitiveness for the Islamic finance sector (Hasan et al., 2020) and opportunities for Islamic financial institutions to increase their product offerings and infrastructure. (Jamil & Seman, 2019). Islamic fintech platforms utilize revolutionary technologies whose activities involve implementing technology-based business models to promote economic, environmental, financial, and social goals, which include better service across all Islamic financial services, as well as broader benefits such as financial inclusion, poverty alleviation, and social justice. Islamic fintech will enable greater access to Islamic financial services in a cheaper, easier, and more efficient way to provide financing, payment, and investment opportunities aligned with the objectives of Islamic law (H. Mohamed & Ali, 2019).

The increase in fintech users is also in line with the growth of Islamic financial assets, which is increasing globally. In 2020, it reached \$3.3 trillion and puts fintech as a contributing part (S. Mohamed & Ahmed, 2021). Thus, studying the dynamics of emerging industries is very important, especially since the goals of fintech are in line with the main objectives of Sharia for financial transactions.

These developments have made the study of Islamic fintech increasingly developed in recent years and discussed various themes, such as the determining factors for adopting services offered by Islamic fintech companies (Ali, 2021; Darmansyah et al., 2020), prospects and financial challenges Sharia (Abadi et al., 2020; Irfan, 2018; Soemitra et al., 2021; Subagiyo, 2019), and a review of Sharia fintech studies. This also happens in Indonesia as one of the top countries after Malaysia, which is able to produce peer-reviewed journal articles and the top country that produces research articles, as well as the highest-ranking country covered by scientific articles in the field of Islamic finance (S. Mohamed & Ahmed, 2021) and generally accessible. Therefore, this study evaluates fintech research in Indonesia.

To our knowledge, this study is one of the first literature reviews on Islamic finance technology using the SINTA index. Bibliometric analysis is implemented to evaluate scientific publications and understand the current state of publications with the theme of Islamic Fintech. Bibliometric data were

obtained from the Google Scholar database and filtered by analyzing each SINTA-indexed article. This study is of great importance to the academic community, fintech developers, financial institutions, and government. This study can be used as a reference to obtain reliable and comprehensive information about fintech research in Indonesia. Furthermore, this study conducts a comprehensive review of research publications on Islamic Fintech and provides an overview of the current Islamic Fintech-specific environment in Indonesia and the challenges faced, in addition to providing suggestions and directions for future research.

Based on the results of Kabir Hassan's research(2022), Indonesia is ranked 4th in publishing articles on fintech, far 3 times the first place, Malaysia. For this reason, there needs to be an in-depth and structured study of how academics in Indonesia discuss fintech studies. Structured steps were carried out to select the articles to be reviewed. A description of the steps involved in this research is shown in Figure I. This study adopted the steps for collecting and retrieving data from previous research (M M Alshater, 2022).

## B. THEORITICAL

The term "fintech" was started by Bettinger in 1972 in an article entitled "A Series of 40 Time Shared Models Used at Manufacturers Hanover Trust Company" in a journal that focused on the practical application of operations research and management science. The popularity of fintech began in the early 1990s and was originally used as a reference for a project started by Citigroup to assist collaborative efforts in technology (Mohamed & Ali, 2019). Santarelli(1995)cited numerous studies on technological innovation and economic progress, which show that economic development can be enhanced and strengthened through the fusion of new technologies. However, it was not until after 2014 that the sector took off and captured the attention of the masses, including everyone, from technologists and researchers to industry players, regulators, and consumers.

Fintech is a portmanteau of financial technology in the financial services sector. Fintech arrived quickly and became indispensable for financial institutions, which will continue to impact how technology supports banking and financial services. Schueffel(2016)defined fintech after analyzing more than 200 scientific studies over 40 years as a new financial industry that applies technology aimed at increasing financial activity. McAuley(2014)provides a definition of fintech, namely, technological innovation in the financial industry, so that

financial services become efficient. Kim et al. (2015) stated that fintech is an industry that uses gadget-centered information technology to increase the efficiency of the financial system. Fintech is also claimed to be a digital technology innovation to compete and be able to solve financial intermediation problems (Aaron et al., 2017; Fenwick et al., 2013). Hence, fintech also provides an opportunity for the Islamic finance industry to strengthen its foothold in existing markets and thrive in newer geographies, while remaining compliant with Islamic principles and local regulations governing financial markets (Nisar & Farooq, 2019).

Islamic fintech is a merger between technology and Islamic finance, which means that every product or service produced from fintech must comply with the rules extracted from the Koran and Sunnah, known as Sharia (H. Mohamed & Ali, 2019). Islamic Fintech is no different from fintech adopted by Islamic financial institutions (Alshater & Othman, 2020). The term "Islamic" differentiates between conventional and Sharia fintech operators. This differentiation is rational because of the many differences in the fintech business models between the two systems. For example, profit-interest-based P2P lending, one of the most developed business models in fintech, is rejected in the Islamic financial system because (usury) is the main prohibition in the system (MM Alshater, 2022). Fintech, categorized as Islamic fintech, must prioritize Islamic theory, namely, maqashid sharia (the goal of Islamic law).

Islamic fintech is provided by the customers of Islamic banks and financial institutions (M K Hassan, 2020; Khan & Rabbani, 2020; Rabbani et al., 2020). Islamic fintech focuses on delivering financial products, services, and investments that comply with Shariah requirements in innovative ways at affordable costs (Baber, 2020). Hudaefi(2020)defines Islamic fintech as an innovative financial industry that involves technology to enhance financial activities that offer Sharia-compliant products and services. Thus, Islamic fintech must adopt and implement Islamic contracts such as murabaha (financing plus costs), musyarakah (joint ventures), mudharabah (capital and labor partnerships), and other Islamic contracts in their business agreements. Furthermore, Islamic fintech companies must also be relevant to the existing fatwas (legal opinions) and follow the rules and regulations issued by their respective authorities.

Sharia compliance is central to integrating fintech into Islamic finance. Islamic Fintech companies must ensure that their business model complies with universal Shariah requirements and go through regulatory audits (Hasan et al., 2020). Biancone et al. (2019), for example, explore the business models of

Sharia-compliant crowdfunding and Fintech and conclude that Sharia-compliant crowdfunding is one that invests in Halal products and shares investment risk.

## C. METHODOLOGY

### Data Collection

This study uses a literature review analysis using Google Scholar, which aims to review the literature published in Indonesia on Islamic Fintech. Research on this topic is still relatively new, especially in the last few years, and has been increasing owing to the pandemic. The articles included in this study were published between 2018 and 2022. The collection mechanism used in this study is as follows.

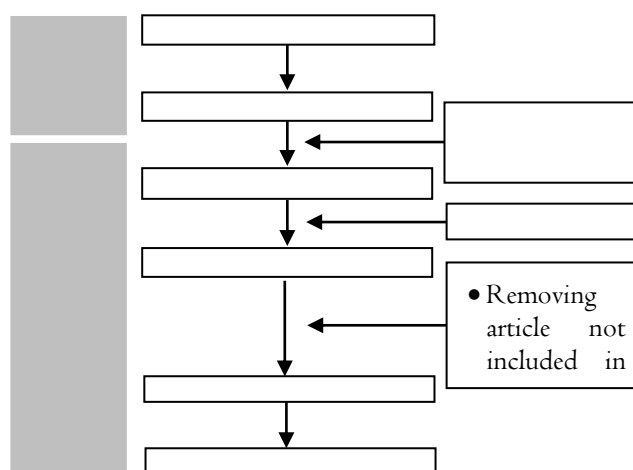
First, we searched for literature from Google Scholar that used the terms "Islamic fintech," "Islamic financial technology," "fintech sharia," and "financial technology sharia" using Harzing's Publish or Perish, producing 830 articles. Several articles were included in the categories of conference and seminar proceedings, and non-journals such as theses, dissertations, book sections, and research reports were excluded, leaving 416 journal articles. Furthermore, because duplicity is possible, which means that several articles appear repeatedly, we merged the two databases, resulting in 325 journal articles.

Next, we filter the journals obtained above by investigating whether the publisher of the article has been accredited and indexed through the Science and Technology Index (SINTA), which is a scientific publication indexation database sheltered by the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia and open access. This process takes a long time to visit each web article and ensure that it has been indexed through SINTA.

After confirming that it was SINTA-indexed, we continued to read the title, abstract, and keywords to check the relevance of the paper to our research objectives. Some of the considerations or criteria that we use are as follows: first, the title, abstract, and keywords explicitly state one of the following words: "Islamic fintech," "Islamic financial technology," "fintech sharia," "fintech sharia," "shariah financial technology," and "shariah financial technology". Second, we selected articles that used Indonesian and submitted them with abstracts and keywords in English. Third, articles published in non-business and management journals were excluded. Fourth, if words such as "Islam," "sharia," and "sharia" do not appear with the words "fintech" or "financial technology" in the title of the article, then we continue reading the abstract. If all considerations

are met, we process and complete various pieces of information for each article for bibliometric purposes. This resulted in a total of 121 articles. The steps taken to produce 121 journal articles are shown in Figure 1.

**Figure 1.** Data Collection Steps



## Machine Learning Tools

The steps of the method achieved 1) Authors involvement, a field containing the details of the authors extracted from the data file using BibExcel. 2) Source Analysis, namely using Bradford's Law formulated in 1934 by Samuel C. Bradford with the aim of studying the distribution of scientific literature (Andres, 2009). 3) Author Analysis, analyzes the frequency distribution of scientific productivity, and his work leads to the development of Lotka's law. This law, one of the most widely used in bibliometrics, assesses the pattern of author productivity. and 4) Abstract and Keyword Analysis. This study used Harzing's Publish and Perish, VOSviewer, and R studio for bibliometric analysis. Publish or Perish was developed by Anne-Will Harzing and is used to obtain the required article metadata according to the Google Scholar database (Harzing, 2010). Furthermore, VOSviewer was developed by van Eck and Waltman at the Center for Science and Technology Studies (CWTS), University of Leiden, and is used to create graphical networks from several bibliometric analyses (van Eck & Waltman, 2010). This study also used the bibliometric R-package software to



obtain a more accurate and clear analysis. It provides a set of tools developed by Aria and Cuccurullo for quantitative research. The latest version of this application is a web interface application (Biblioshiny) that was introduced to help users without the need for coding skills to perform bibliometric analysis (Aria & Cuccurullo, 2017).

## D. RESULTS AND DISCUSSION

### Overview of the Sample

The first result obtained from the article data collection process is an attribute consisting of the title, author's name, year of publication, name of publication journal, DOI, abstract, and keywords. Understanding these attributes will provide insight into the characteristics of scientific articles on Islamic fintech that have been compiled and published in various scientific journals. Table I presents the main information obtained from the bibliometric data used in this study. The time span of the bibliometric data sample from Google Scholar identified in the Sinta category between 2018-2022 was obtained from 121 articles from 99 journal publications. All articles were written by 245 authors, with details of 35 identified articles written by one author, and the remaining 86 articles were compiled by several authors. The final number of citations when this article was compiled was 1,074 and the number of keywords obtained was 261.

**Table I.** Descriptive Statistics of Sample

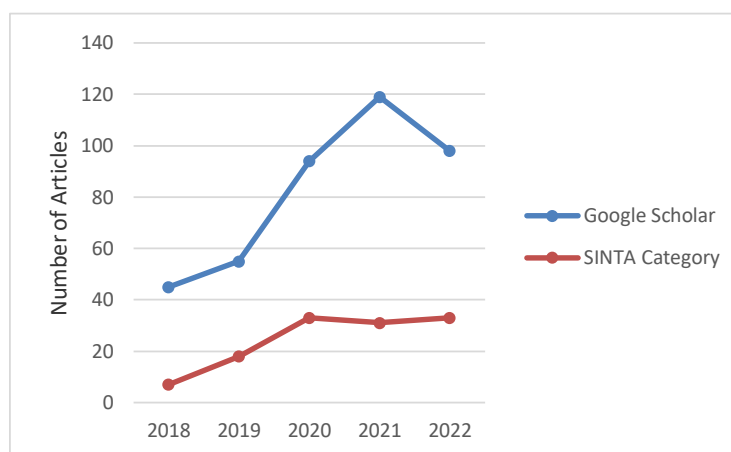
| Description                        | Results   |
|------------------------------------|-----------|
| <i>Main information about data</i> |           |
| timespan                           | 2018-2022 |
| sources                            | 99        |
| documents                          | 121       |
| citations                          | 1.074     |
| articles/Year                      | 268,5     |
| articles/Document                  | 8,88      |
| <i>Document Contents</i>           |           |

|                                    |       |
|------------------------------------|-------|
| thor's Keywords (DE)               | 261   |
| thors                              |       |
| thors                              | 245   |
| thors of single-authored documents | 35    |
| thors of multi-authored documents  | 86    |
| documents per Author               | 0,493 |
| thors per Document                 | 2,02  |

Source: secondary data processed through theRBiblioshiny application, 2022

Based on the attributes of the articles obtained by collecting data on the theme of Islamic fintech, it was found that the research trend of Islamic fintech has increased significantly, especially in 2018–2022, as shown in figure 2. There are two clusters shown: the blue clusters represent articles on Google Scholar, and the yellow clusters are articles included in the Sinta category. Each of these clusters experienced a significant increase in the publication of articles on Islamic fintech themes. Although this research was carried out in November 2022, it is possible that several articles with the same theme have not been published and will be published in December 2022; it is estimated that an increase will occur in December 2022.

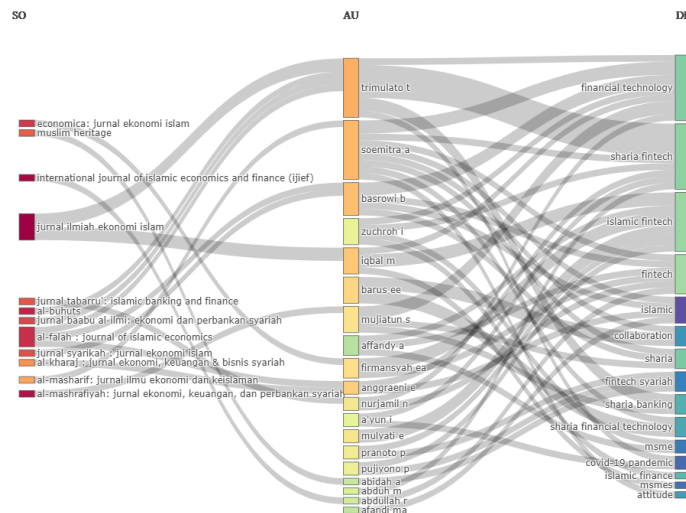
**Figure 2.** number of Islamic fintech themed articles by year



Source: Author's analysis



**Figure 3.** Authors' analysis via RBiblioshiny. Parameters: The left field is the source, the middle field is the author's, and the right field is the author's keyword



Source: secondary data processed through theRBiblioshiny application, 2022

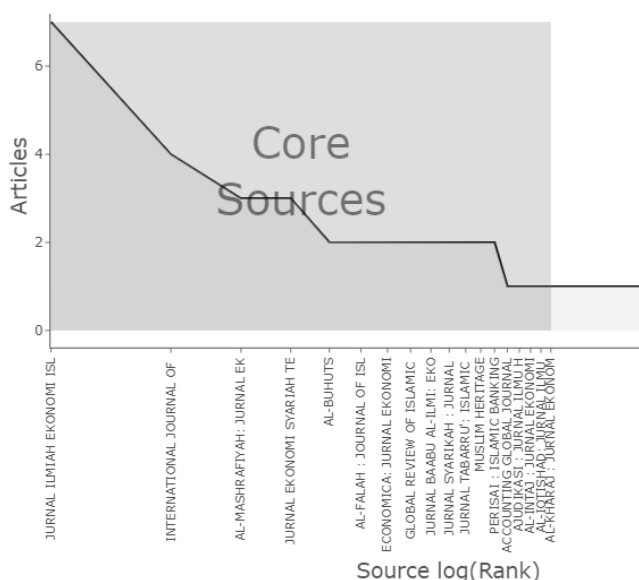
The three-field plot in Figure 3 is an image consisting of three components: the publication journal, authors, and keywords from 121 sample articles. The three elements are linked by a gray plot that is interrelated to one another, which starts from the name of the journal publication and indicates the name of the author who often contributed to the publication. Each author shows the keywords that are often used in Islamic fintech themed articles. In general, the thicker the resulting flow, the higher is the contribution. The size of the square shape shows the respective quantities of various components. Thus, the Scientific Journal of Islamic Economics is a publication journal that publishes the most articles on the Islamic Fintech theme, which is connected with several authors, namely Trimulato and Iqbal M. Meanwhile, Trimulato is a writer who is able to produce several articles on the Islamic Fintech theme, which are connected with various keywords, such as financial technology, Sharia banking, Sharia fintech, and the covid-19 pandemic. The keywords often used in articles are financial technology, Sharia fintech, Islamic fintech, and fintech.

### Source Analysis

Figure 4 shows the distribution of information on journal publications that contain Islamic Fintech issues based on Bradford's law. All article

publications are divided into several sections: core journal groups (zone 1), intermediate journals (zone 2), and broad journal groups (zone 3). Of the 99 publications, there are 18 published articles that fall into the zone I category, which means it has the highest number of publications on the Islamic Fintech theme, with the number of published articles ranging from 7-39 articles. Among these are the Scientific Journal of Islamic Economics with seven articles, the International Journal of Islamic Economics and Finance (IJIEF) with four articles, and the Al-Mashrifayah Journal and Theory and Applied Sharia Economics Journal with three articles each. Thus, the selected journal publications are journals in the field of Islamic economics and finance, which are considered appropriate as publication slots for scholars of Islamic economics.

**Figure 4.** Bradford's Law Scattering of the Sample



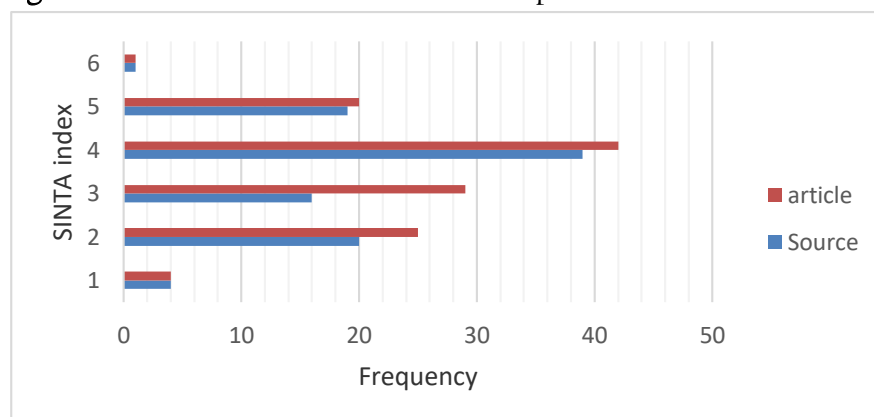
Source: secondary data processed through theRBiblioshiny application, 2022

The selected articles were articles indexed by SINTA, which is a journal index portal managed by the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia, involving external systems that integrate various databases such as Scopus, Web of Science (WoS), Google Scholar (GS), Garda Referral Digital (Garuda), research and community service with the BIMA database, journal accreditation data with the Arjuna database,

Wealth data Intellectuals based on the Directorate General of Intellectual Property, and book data based on data from the National Library. The journals were divided into six categories based on content assessment and journal management. The categorization of publications is shown in Figure 5.

The results of the analysis found that based on the selected articles published until 2022, 42 articles were published in SINTA category 4, 29 articles were published in SINTA category 3, 25 articles were published in SINTA category 2, 20 articles were published in the category of SINTA 5, four articles were published in the category of SINTA 1, and one article was published in the category of SINTA 6. In addition, 121 journals indexed by SINTA, with 39 journals in the category of SINTA 4, 20 journals in the category of SINTA 2, 19 journals in the category of SINTA 5, 16 journals in the category of SINTA 3, four journals in the category of SINTA 1, and one journal in the category of SINTA 6. Several journals have been published in journals that fall under the highest category. These results indicate that several articles have been successfully published in the high category and show interesting Islamic fintech research topics. It is estimated that the number of articles in 2023 will increase, especially in the highest category of Sinta. Likewise with journal publications which will tend to increase because journal managers continue to strive so that journals can reach the highest category, especially in the field of Islamic economics.

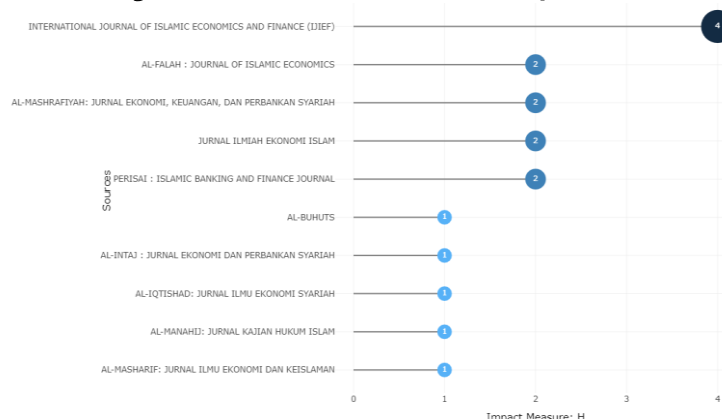
**Figure 5.** Number of source and article published in the SINTA index



Source: secondary data processed through theRBiblioshiny application, 2022

The calculation of journals is not only based on the quantity produced, but also must be based on the impact of each journal that publishes articles by calculating the h-index of the journal, as illustrated in Figure 6. In addition to showing the h-index value, the diagram also illustrates the effect of the journal through the resulting color, that is, the darker the color produced, the greater the impact of the journal. Thus, the International Journal of Islamic Economics and Finance (IJIEF) occupies the top position, with an h-index of 4. Subsequent positions were occupied by Al-Falah, Al-Mashrafiyah, Islamic Economics Scientific Journal, and Perisai, with h-index values of 2. The h-index 1 journal shows a low impact of the journal.

**Figure 6.** Source Local Impact by h-index



Source: secondary data processed through theRBiblioshiny application, 2022

## Author Analysis

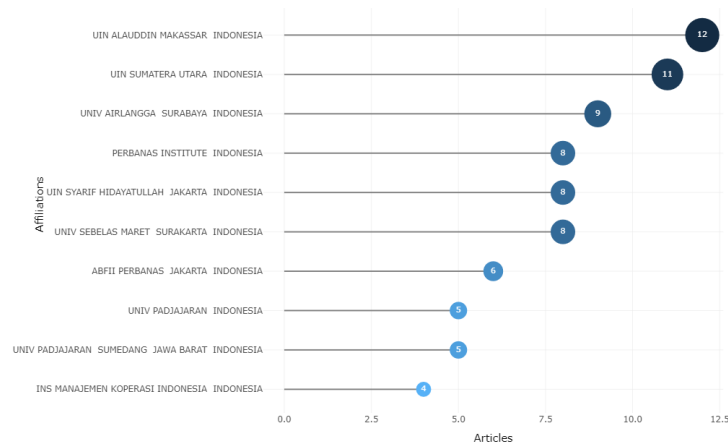
The analysis of issues related to authors in a bibliometric study is theoretically very important to explore the most influential authors, affiliations, and countries. As shown in Table 2, based on measuring the impact of the h-index, g-index, and m-index, Basrowi B. The author who produced the most articles in the 2018-2022 period was Trimulato with 6 articles and the author with the most cited was Miswan A. Furthermore, the top affiliation based on the number of articles published as shown in Figure 7 is UIN Alauddin Makassar with a total of 12 articles.

**Table 2.** Top 10 Authors Adressing Topics Islamic Fintech

| Impact Measurements |         |         |         |              | Number Of Publication<br>s |             | Citation |
|---------------------|---------|---------|---------|--------------|----------------------------|-------------|----------|
| Authors             | H-Index | G-Index | M-Index | Author       | Total                      | Author      | Total    |
| Basrowi B           | 2       | 3       | 0,5     | Trimulato T  | 6                          | Miswan A    | 153      |
| Iqbal M             | 2       | 3       | 0,667   | Soemitra A   | 5                          | Yarli D     | 78       |
| Mulyati E           | 2       | 2       | 0,667   | Basrowi B    | 4                          | Aliyu S     | 77       |
| Trimulato T         | 2       | 3       | 0,5     | Iqbal M      | 3                          | Hasan R     | 77       |
| A'yun I             | 1       | 1       | 0,5     | Anggraeni E  | 2                          | Hassan MK   | 77       |
| Abdullah R          | 1       | 1       | 0,25    | BarusEe      | 2                          | Rusdyana A  | 77       |
| Affandy A           | 1       | 1       | 0,25    | Firmansyah E | 2                          | Mujiatun S  | 76       |
| Aguspriyani Y       | 1       | 1       | 0,25    | Mujiatun S   | 2                          | Hariani     | 75       |
| Aji Am              | 1       | 1       | 0,333   | Mulyati E    | 2                          | Rahmayati R | 75       |
| Akbar Ff            | 1       | 1       | 0,333   | Nurjamil N   | 2                          | Alwi AB     | 69       |

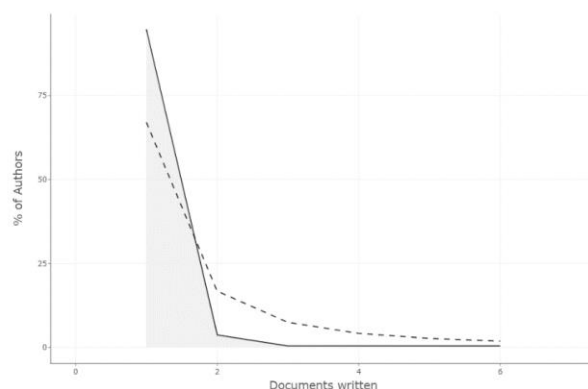
Source: Source: secondary data processed through theRBiblioshiny application, 2022

**Figure 7.** Most Relevant Affiliations



Source: secondary data processed through the R Biblioshiny application, 2022

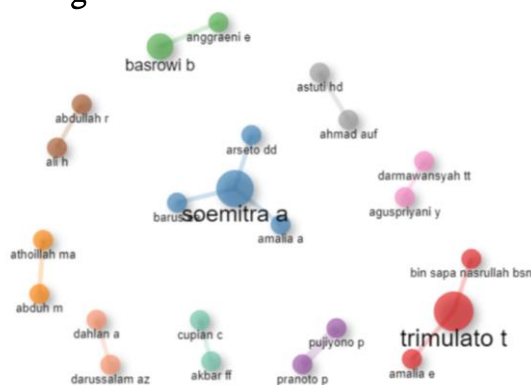
**Figure 8.** Author productivity through Lotka's Law



Source: secondary data processed through theRBiblioshiny application, 2022

Figure 8 presents an image of the distribution of scientific productivity frequencies, which shows the distribution map of Lotka's law. The ordinate shows the percentage of authors from various studies, whereas the abscissa shows the number of documents. Dotted lines show a general picture of Lotka's law. In this figure, 94.7% of the authors published one article. The percentage of writers who wrote more than one article was 3.7%. This indicates that the number of authors who wrote only one article was far greater.

**Figure 9.** Collaboration Network



Source: secondary data processed through theRBiblioshiny application, 2022

Figure 9 shows the relationship between the articles produced by the authors and the theme of Islamic fintech. The network resulting from co-authorship is a tool for understanding the direction of collaboration and identifying researchers and those who lead research. The results of the data processing showed that there were 10 clusters with various colors. Author relatedness is shown by groups with the same colors and lines.

**Figure 10.** Country Scientific Contribution



Source: secondary data processed through theRBiblioshiny application, 2022

Figure 10 shows a map of collaboration between countries that shows collaborations from the countries of the authors involved in research with Islamic Fintech published in journals under the Sinta category. It can be seen in the image below that several writers from outside Indonesia chose to collaborate with several writers from Indonesia, as well as those who came from outside Indonesia and published their articles in journals categorized as Sinta. Some of the countries in question include Malaysia, Brunei, Nigeria, the USA, and Pakistan.

### **Abstract and Keyword Analysis**

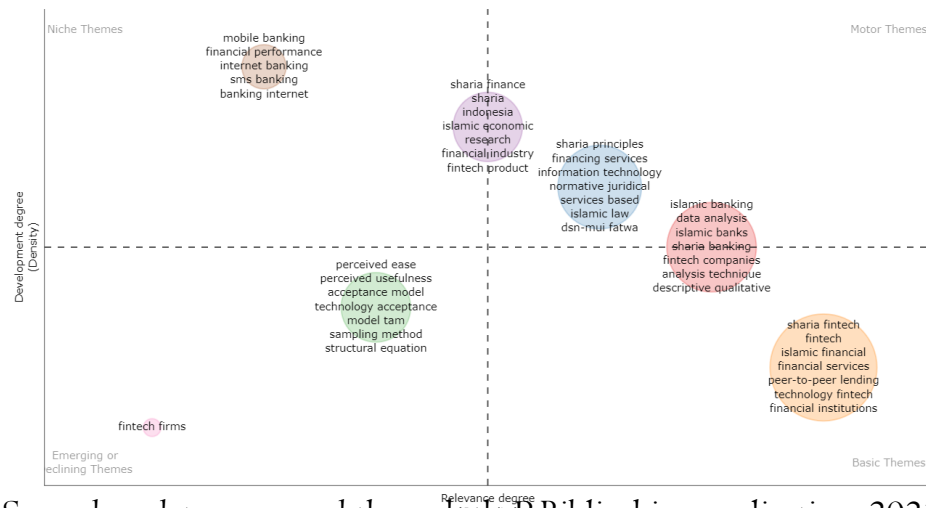
Keyword analysis can reveal important topics in various fields. This study was able to examine and reveal important themes extracted from the keywords of 261 authors and 652 link strengths. The image shows that the most frequently used keyword was fintech. In addition, the authors tend to use the term Sharia fintech rather than Islamic fintech.





The grouping of words in Figure 12 is a description of words that often appear in the abstract in a collection of articles on the theme of Islamic fintech in the form of a network that connects words. The resulting grouping considers the relationship between words to another so as to produce red, blue, and green clusters. Fintech, sharia, financial, technology, services, and development are words and themes that often appear in various Islamic Fintech studies. The others were words and themes, which were less frequently used and researched.

Figure 13. Thematic Map



Source: Secondary data processed through the RBiblioshiny application, 2022

Thematic map analysis is also presented as shown in Figure 13. Thematic analysis can map the words contained in the abstract and divide them into four important quadrants. The dominant words are grouped into several quadrants, namely the upper right quadrant (Sharia principles, financing, services, information technology, normative juridical, and others), representing motor themes. The lower right quadrant (Sharia fintech, fintech, Islamic finance, financial services, peer-to-peer landing, and others) represents the basic theme. Those that are between the upper right quadrant and the lower right quadrant (Islamic banking, data analysis, Islamic banks, Sharia banking, and others) are themes that represent basic and motor themes. The top left quadrant (mobile banking, financial performance, internet banking, and others) represents a special theme. Those between the top right and top left (sharia finance, sharia, Indonesia,

Islamic economics, and others) represent specific and motor topics. The lower-left quadrant (fintech firms, perceived ease, perceived usefulness, and others) represents a decreasing theme.

This research was conducted using bibliometric analysis by collecting the Google Scholar database and specifying certain phrases and certain treatments. Compared to Islamic banking, which is the core of the development and progress of Islamic finance (Ghlamallah et al., 2021), research on Islamic fintech is a topic that has just emerged in the current era, especially due to the covid 19 pandemic. Globally, economic growth has slowed, resulting in financial crises. (Rabbani et al., 2020). In addition to these problems, fintech has become a growing phenomenon with rapid and unprecedented development (Sun et al., 2020). Islamic fintech is no exception, as it has changed the development of Islamic finance (M K Hassan, 2020). Indonesia is no exception, as it is experiencing significant growth (Muryanto et al., 2022). This is also in line with the increasing trend of research on Islamic fintech, which provides an opportunity for us to evaluate various articles published in Indonesia.

The significant increase in the number of publications was caused by the public interest in using fintech in various financial transactions, especially during the early 2019 pandemic. The shift in face-to-face transactions to technology-based transactions has triggered an increase in the demand for fintech. In addition, significant growth has occurred in the number of sharia-based fintech companies, and the development of various service features in applications has triggered the growth of sharia-based fintech users (Hornuf, 2016; Leong et al., 2017). The trend towards increasing use of fintech will continue until 2022, and it is likely that 2023 will see a further increase.

The results of our investigation of the results of keyword analysis found using VOSViewer that the use of the term “sharia fintech” and its various forms such as “sharia financial technology”, and “shariah fintech” dominates in various articles compared to the term “Islamic fintech” and its form, namely “Islamic financial technology.” The implications of using this term can help determine the direction and map of Islamic fintech research in Indonesia. We found that the use of the word sharia has a flow relationship with words that tend to be used in themes related to law/fiqh, such as gharar, jizwaf, quran, muamalah, and mashlalah. This is different from the use of Islam, which refers to peer-to-peer lending (P2P), development, crowdfunding, SWOT, and MSME. This is in accordance with the results obtained through RBiblioshiny through Thematic

Map, where the current trend of research development is towards principles and legality from an Islamic perspective on Islamic fintech.

This is increasingly evident in several words that appear such as “descriptive” and “qualitative” which indicate that Islamic fintech research in Indonesia tends to use descriptive qualitative research rather than quantitative. This is also evident from several word indicators that appear on the thematic map, where several quantitative research models and their indicators are in a quadrant that tends not to develop.

Based on Lotka's law, the resulting graph shows Indonesian writers' tendency to use the Islamic fintech theme as momentum to produce articles. It is cyclical in nature and highly dependent on things that develop and dominate at a certain time. These results indicate that there is a lack of consistent writers in producing articles with the theme of Islamic Fintech, so the specialization of writers, especially with the theme of Islamic Fintech, is lacking. Lotka's legal figure illustrates that only 3.7% of the total number of authors can produce several articles on Islamic Fintech, even though this theme is very useful for the development of Islamic Fintech in the future, especially in applications, behaviors, contracts used, risk management, and others. This needs to be done, considering that the direction of fintech development will accelerate in the future.

Thematic map analysis is very useful in determining relevant topics for future research in the field of Islamic Fintech. The thematic maps aim to gain insight into the current status of Islamic Fintech research and its future sustainability (Agbo et al., 2021). Thus, it is very useful in providing knowledge to all stakeholders interested in Islamic Fintech. To measure whether a topic is developing well, a measuring instrument is needed, namely the density represented by the vertical axis and centrality represented by the horizontal axis. The higher the number of connections a node has with others in the thematic network, the higher its centrality and importance and is in an important position in the network. The integration between nodes represents the density of the research field to be developed.

Figure I3 shows a thematic map in the field of Islamic Fintech, which is divided into four quadrants (Q1-Q4). The upper right quadrant (Q1) represents a motoric theme that indicates it is a central theme that can develop; the lower right quadrant (Q4) represents a basic theme that indicates it is a central theme but cannot develop; the upper left quadrant (Q2) is a special theme that indicates it is a special theme that can be developed; and the lower left quadrant (Q3)

indicates a theme that appears but tends to decline and does not develop. The figure shows the theme of Sharia principles (blue clusters), which is the most widely researched basic theme in Islamic Fintech research and can be developed properly. The Islamic banking theme (red cluster), sandwiched between Q1 and Q4, is a basic theme that can be properly developed. The Sharia fintech theme (orange cluster) is the basic theme used in research development with the Islamic fintech theme, and this theme tends not to experience development and has been widely researched, especially P2P. The mobile banking theme (brown cluster) is a potential theme associated with Islamic Fintech, including financial performance, Internet banking, SMS banking, and Internet banking. Researchers should explore this theme in the future. The theme of Sharia finance (purple cluster) is between Q1 and Q2, which indicates that this theme is a special theme that can be used as a basic theme in Islamic fintech research and can develop well. Finally, the themes of fintech firms (pink cluster) and perceived ease (green cluster) tend to decline in Islamic fintech research.

## E. CONCLUSION

Research with the theme of Islamic fintech in Indonesia is still relatively new, so the opportunity to conduct research is very large, especially in Indonesia. This research aims to evaluate Islamic fintech research published in SINTA category journals. Our findings show that the direction of Islamic fintech research in Indonesia is still dominated by legal and normative aspects, so that descriptive qualitative research dominates at this time compared to quantitative. Furthermore, several research themes that may develop in the future are themes related to mobile banking, financial performance, and internet banking. Among the most researched is peer to peer lending due to the growing development of P2P companies in Indonesia at the time this article was written. This research contributes greatly to the Islamic fintech-themed literature by providing an up-to-date review of the development of Islamic fintech research in Indonesia.

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