

UNCOVERING THE RESEARCH LANDSCAPE OF ISLAMIC FINTECH: A BIBLIOMETRIC ANALYSIS

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Abstrak: Kajian mengenai Islamic fintech semakin berkembang seiring dengan kemajuan teknologi dan fintech. Tujuan dari kajian ini adalah untuk mengkaji tren perkembangan kajian Islamic fintech yang telah diterbitkan dalam jurnal yang terindeks Scopus dengan menggunakan kata kunci yaitu *islamic fintech*, *islamic financial technology*, *sharia fintech*, dan *sharia financial technology*. Analisis dilakukan terhadap karakteristik dan tren kata, serta abstrak, penulis, dan jurnal. Data yang dianalisis meliputi 95 artikel yang ditulis oleh 251 penulis dan terpublikasi dalam 56 jurnal. Metode analisis bibliometrik digunakan dengan menggunakan R Biblioshiny untuk menghasilkan peta bibliometrik. Hasil penelitian menunjukkan peningkatan signifikan dalam jumlah publikasi tentang Islamic fintech. Dalam analisis bibliometrik, ditemukan bahwa para penulis cenderung mengkaji isu-isu terkait pengguna Islamic fintech dengan menggunakan beberapa teori penerimaan aplikasi, sehingga pendekatan kuantitatif lebih dominan. Beberapa tema penelitian yang memiliki potensi untuk berkembang di masa depan meliputi isu pengguna, layanan keuangan sosial Islam, dan dampak terhadap performa dan pertumbuhan ekonomi. Penelitian ini memberikan kontribusi bagi penelitian masa depan serta memberikan pembaruan ilmiah dalam penilaian publikasi Islamic fintech yang memiliki pentingnya baik dari segi praktis maupun teoritis bagi kalangan akademisi.

Kata kunci: Bibliometrik, Tren penelitian, Teknologi keuangan Islam

Abstract: Studies on Islamic fintech are growing with advances in technology and fintech. The purpose of this study is to examine the development trend of Islamic fintech studies that have been published in Scopus indexed journals using the keywords *islamic fintech*, *islamic financial technology*, *sharia fintech*, and *sharia financial technology*. The characteristics and trends of words, abstracts, authors, and journals were analyzed. The data analyzed included 95 articles written by 251 authors and published in 56 journals. The bibliometric analysis method was used in R Biblioshiny to produce bibliometric maps. The results indicate a significant increase in the number of publications on Islamic fintech. The results of the bibliometric analysis found that the authors tend to examine issues related to Islamic fintech users using several theories of application acceptance, so that the quantitative approach is more dominant. Several research themes that have the potential to develop in the future include user issues, Islamic social financial services, and their impact on economic performance and growth. This study contributes to future research and provides scientific updates in the assessment of Islamic fintech publications, which have both practical and theoretical importance for academics.

Keywords: Bibliometric, Research trend; Islamic fintech

Introduction

Financial Technology (fintech) has changed the way transactions are conventional to be simpler and up-to-date by combining financial services and information technology.¹ Fintech has taken over the roles of various banks and other financial institutions with a variety of fintech products, such as microfinancing, crowdfunding, P2P lending services, and digital payment systems.² Fintech is an innovation beneficial to the financial sector because it can reach all levels of society.

The history of Islamic fintech development can be traced back to the establishment of the first modern Islamic bank, Dubai Islamic Bank, in 1975³. Since then, Islamic fintech has shown promising growth, particularly in countries with Muslim-majority populations (Hudaefi, 2020).⁴ In Indonesia, there has been a rapid development of sharia e-commerce, with a focus on FinTech peer-to-peer lending.⁵ Although fintech is a new concept, the Islamic finance sector has successfully used it to develop a variety of innovative products that comply with Islamic principles. This provides a competitive advantage for the Islamic finance sector⁶ and opportunities to increase product offerings to the public.⁷ The Islamic fintech platform uses revolutionary technology by implementing a technology-based business model that aims to accelerate financial services to customers so that they can easily reach the services offered by the financial industry⁸ and provide broader benefits such as financial inclusion, poverty reduction and social justice.⁹

Fintech users are increasing, which is in line with the increasing performance of Islamic banks and Islamic financial assets globally.¹⁰ Fintech has made a major contribution to this growth, which is shown in 2020 to have reached US\$3.3 trillion and in 2021 it will grow 17% to reach US\$4 trillion.¹¹ Thus, studying the dynamics of Islamic fintech is very important, especially since its goals are aligned with the

¹ Ming-Chih Chen et al., "The Key Factors Influencing Internet Finances Services Satisfaction: An Empirical Study in Taiwan," *American Journal of Industrial and Business Management* 6, no. 6 (2016): 748–762.

² Harris Irfan and Daniel Ahmad, "Fintech: The Opportunity for Islamic Finance," in *Fintech in Islamic Finance: Theory and Practice*, ed. Umar A. Oseni and S. Nazim Ali (Oxon: Routledge, 2019).

³ Felicia Hui Ling Chong, "Enhancing Trust through Digital Islamic Finance and Blockchain Technology," *Qualitative Research in Financial Markets* 13, no. 3 (2021): 328–341.

⁴ Fahmi Ali Hudaefi, "How Does Islamic Fintech Promote the SDGs? Qualitative Evidence from Indonesia," *Qualitative Research in Financial Markets* 12, no. 4 (2020): 353–366.

⁵ Yunika Sari, "Sharia E-Commerce in Indonesia: Sharia Peer to Peer Lending," *Review of Islamic Social Finance and Entrepreneurship* 2, no. 1 (2023): 90–102.

⁶ Rashedul Hasan, Mohammad Kabir Hassan, and Sirajo Aliyu, "Fintech and Islamic Finance: Literature Review and Research Agenda," *International Journal of Islamic Economics and Finance (IJIEF)* 3, no. 1 (2020): 75–94.

⁷ N N Jamil and J A Seman, "The Impact of Fintech on The Sustainability of Islamic Accounting and Finance Education in Malaysia," *Journal of Islamic, Social, Economics and Development (JISED)* 4, no. 17 (2019): 74–88.

⁸ S Nisar and U Farooq, "Financial Intermediation, Fintech and Sharī'ah Compliance," in *Fintech in Islamic Finance: Theory and Practice* (Rizvi Institute of Management Studies and Research, Mumbai, India: Taylor and Francis, 2018), 64–74.

⁹ Hazik Mohamed and Hassnian Ali, *Blockchain, Fintech, and Islamic Finance; Buiding the Future in the New Islamic Digital Economy* (Boston: Walter de Gruyter Inc., 2019).

¹⁰ Rizky Yudaruddin, "Financial Technology and Performance in Islamic and Conventional Banks," *Journal of Islamic Accounting and Business Research* 14, no. 1 (2023): 100–116; Syaakir Sofyan, A Syathir Sofyan, and Abdurrahman Mansyur, "Evaluating Indonesian Islamic Financial Technology Scholarly Publications: A Bibliometric Analysis," *Ikonomika: Jurnal Ekonomi dan Bisnis Islam* 7, no. 2 (2022): 233–256.

¹¹ Refinitiv Islamic Finance, *Islamic Finance Development Indicator Report 2022* (London, 2022), [https://icdps.org/uploads/files/ICD Refinitiv ifdi-report-20221669878247_1582.pdf](https://icdps.org/uploads/files/ICD%20Refinitiv%20ifdi-report-20221669878247_1582.pdf).

main objectives of Sharia for financial transactions. This makes the study of Islamic fintech increasingly developed and addresses various themes, such as the role of Islamic fintech¹², the prospects and challenges of Islamic finance¹³, its implementation¹⁴, and study reviews¹⁵.

This article examines various studies exploring Islamic fintech using bibliometric analysis methods. Although several previous studies have discussed this topic with a similar analysis, metadata¹⁶ and approach/application¹⁷ are used differently. Based on our search, this research is one of the first literature reviews on Islamic fintech that uses the Scopus index as one of the most prominent and influential bibliographical indexes in academic and scientific fields¹⁸ using the biblioshny application. Although the approach used is similar to other studies, the mapping results will be different. Scopus being an index referenced by academics worldwide, the resulting mapping shows the tendencies of leading islamic fintech researchers, which will enable other researchers to get other themes in developing islamic fintech research.

This research has great significance for various parties, including the academic community, fintech developers, financial institutions, and government. This study can be used as a reliable and

¹² Mohamed Bechir Chenguel, "The Response of Islamic Banks Face the Covid-19 Pandemic and the Role of Financial Technology," ed. Alareeni B. and Hamdan A., *Studies in Systems, Decision and Control* (Kairouan University, Kairouan, Tunisia: Springer Science and Business Media Deutschland GmbH, 2023); M. Kabir Hassan et al., "Fintech in the Islamic Banking Sector and Its Impact on the Stakeholders in the Wake of COVID-19," in *FinTech in Islamic Financial Institutions: Scope, Challenges, and Implications in Islamic Finance* (University of New Orleans, New Orleans, LA 70148, United States: Springer International Publishing, 2022), 175–192.

¹³ Andri Soemitra et al., "Opportunities and Challenges for Islamic Financial Technology Development in Indonesia: Literature Study," *JESKaPe: Jurnal Ekonomi Syariah, Akuntansi dan Perbankan* 5, no. 2 (2021): 235–250; Rokhmat Subagiyo, "Era Fintech: Peluang Dan Tantangan Bagi Ekonomi Syariah," *el-Jizya : Jurnal Ekonomi Islam* 7, no. 2 (2019): 316–336; Harris Irfan and Daniel Ahmed, "Fintech: The Opportunity for Islamic Finance," *FinTech in Islamic Finance: Theory and Practice*, 2018.

¹⁴ Fahmi Ali Hudaefi, M. Kabir Hassan, and Muhamad Abduh, "Exploring the Development of Islamic Fintech Ecosystem in Indonesia: A Text Analytics," *Qualitative Research in Financial Markets* 15, no. 3 (2023): 514–533; Yudaruddin, "Financial Technology and Performance in Islamic and Conventional Banks"; Almira Z. Nagimova, "Islamic Finance in Kazakhstan: The View of Experts," *Journal of Islamic Accounting and Business Research* (2023); Ahmed Imran Hunjra et al., "Fintech Innovation and Its Application in Islamic Banking from Pakistan," in *FinTech in Islamic Financial Institutions: Scope, Challenges, and Implications in Islamic Finance* (Sitara Karim Nottingham University Business School, Semenyih, Malaysia: Springer International Publishing, 2022), 157–174.

¹⁵ Vikas Sangwan et al., "Financial Technology: A Review of Extant Literature," *Studies in Economics and Finance* 37, no. 1 (2020): 71–88; Egi Arvian Firmansyah and Budi Harsanto, "Islamic Fintech Research: Systematic Review Using Mainstream Databases," *Etikonomi* 21, no. 2 (2022): 355–368; Hasan, Hassan, and Aliyu, "Fintech and Islamic Finance: Literature Review and Research Agenda"; Sofyan, Sofyan, and Mansyur, "Evaluating Indonesian Islamic Financial Technology Scholarly Publications: A Bibliometric Analysis"; Muhammad Ridhwan Ab Aziz et al., "Bibliometric Analysis Of Literatures On Digital Banking And Financial Inclusion Between 2014-2020," *Library Philosophy and Practice* 2021 (2021): 1–31; M. Kabir Hassan et al., "An Insight into the Fintech and Islamic Finance Literature: A Bibliometric and Visual Analysis," in *FinTech in Islamic Financial Institutions: Scope, Challenges, and Implications in Islamic Finance* (University of New Orleans, New Orleans, LA 70148, United States: Springer International Publishing, 2022), 131–156.

¹⁶ Aisyah As-Salafiyah, Aam, and Lina Marlina, "Mapping Research on Islamic Fintech Using Biblioshiny-R," *Journal of Islamic Economic Literatures* 3, no. 2 (2022).

¹⁷ Hassan et al., "An Insight into the Fintech and Islamic Finance Literature: A Bibliometric and Visual Analysis"; Firmansyah and Harsanto, "Islamic Fintech Research: Systematic Review Using Mainstream Databases"; Hasan, Hassan, and Aliyu, "Fintech and Islamic Finance: Literature Review and Research Agenda."

¹⁸ Binh Pham-Duc et al., "Global Scientific Literature on Human Resource Development: A Bibliometric Analysis Using Scopus Database," *European Journal of Training and Development* 47, no. 7–8 (2023): 846–861.

comprehensive reference for obtaining information about research in Islamic fintech. In addition, this study conducts a thorough review of research publications on Islamic fintech, provides an overview of the current state of the Islamic fintech environment, and provides suggestions and directions for future research.

Literature Review

Fintech is a combination of two words, namely “Fin” and “Tech” which are shortened from “Finance” and “Technology” to become financial technology.¹⁹ Fintech is a portmanteau of financial technology that refers to the financial services sector that provides financial services in new and modern modes of technological innovation to customers. This covers a wide range of activities such as payment, financing, security, and security of customer funds and information. It also includes operations and risk management.²⁰

The term “fintech” was introduced by Bettinger in 1972 in an article entitled “A Series of 40 Time Shared Models Used at Manufacturers Hanover Trust Company” which was published in a journal that focused on the practical application of operations research and management science. In the early 1990s, fintech began to rise in popularity and was originally used to refer to projects initiated by Citigroups to support cooperation in technology. After 2014, this sector began to grow rapidly and attracted widespread attention. Countries with foresight are starting to design a fintech ecosystem so that their industry can grow and remain competitive in an increasingly global financial environment²¹ believed that economic growth can be increased and strengthened through the adoption of new technologies.²²

Some experts define fintech as a new financial industry that applies technology to increase financial activity,²³ technological innovation aimed at increasing the efficiency of financial services,²⁴ industries that use information technology centered on gadget devices to increase the efficiency of the financial system,²⁵ and digital technology innovations used for competition and overcoming financial intermediation problems.²⁶ Islamic fintech is a combination of the terms fintech and Islam. The use of the

¹⁹ Mohd Ma'Sum Billah, Suhail Ahmad, and Sahibzada Ghisaul Haq, “Emergence of I-FinTech in the Contemporary Socio-Economic Reality,” in *Islamic FinTech* (Islamic Economics Institute, King Abdulaziz University, Jeddah, South Africa: Springer International Publishing, 2021), 3–18.

²⁰ Sofyan, Sofyan, and Mansyur, “Evaluating Indonesian Islamic Financial Technology Scholarly Publications: A Bibliometric Analysis.”

²¹ Mohamed and Ali, *Blockchain, Fintech, and Islamic Finance; Buiding the Future in the New Islamic Digital Economy*.

²² Enrico Santarelli, *Finance and Technological Change* (New York: St. Martin Press, Inc., 1995).

²³ P. Schueffel, “Taming the Beast: A Scientific Definition of Fintech,” *Journal of Innovation Management* 4, no. 4 (2016): 32–54.

²⁴ A. McAuley, “Digital Health Interventions: Widening Access or Widening Inequalities?,” *Public Health* 128, no. 12 (2014): 1118–1120, <http://dx.doi.org/10.1016/j.puhe.2014.10.008>.

²⁵ Yonghee Kim et al., “An Empirical Study on the Adoption of ‘Fintech’ Service: Focused on Mobile Payment Services,” *Advanced Science and Technology Letters* 114 (2015): 136–140.

²⁶ Meyer Aaron, Francisco Rivadeneyra, and Francisco Samantha, “Fintech: Is This Time Different? A Framework for Assessing Risks and Opportunities for Central Banks,” *Bank of Canada Staff Discussion Paper* 1

term “Islam” exists to differentiate between conventional fintech and sharia-based ones because there are many differences between the two systems. Interest-based business models are principally rejected in the Islamic financial system because usury is the main prohibition in the system. Fintech prioritizes Islamic principles, including maqashid sharia.²⁷

Islamic fintech companies adhere to Sharia principles by offering financial services that comply with Islamic law, such as profit-and-loss sharing, equity financing, and asset-backed financing.²⁸ These companies play a significant role in promoting financial inclusion and reducing poverty²⁹. The utilization of technology in Islamic fintech is expected to enhance trust and transparency in Islamic finance, thereby contributing to the development of a sustainable Islamic fintech ecosystem.³⁰ Several experts gave their opinion on Islamic fintech, including Syed et al. emphasizing the definition of innovation to fulfill the essence of Islamic Finance, which aims to create social justice, reduce inequality, and build financial inclusion.³¹ Hudaefi offers this definition by emphasizing technological innovation of Islamic Finance services and products based on sharia principles and sharia maqasid (objectives of Islamic law).³² Meanwhile, M. Kabir Hassan et al. define it in a simple way as “Islamic finance digital delivery”.³³

Islamic fintech is considered to be a means of broadening the Islamic finance customer base, improving operational efficiency, reducing costs, and providing a wider range of products. This aims to make the Islamic finance sector more competitive than conventional finance, without sacrificing profit margins.³⁴ Islamic fintech is used by Islamic banks and Islamic financial institutions,³⁵ which focuses on

(2017): 283–312; Mark Fenwick, Joseph A Mccahery, and Erik P M Vermeulen, “Fintech and the Financing of SMEs and Entrepreneurs: From Crowdfunding to Marketplace Lending,” in *The Economics of Crowdfunding: Startups, Portals, and Investor Behaviour*, ed. Douglas Cumming and Lars Hornuf (Switzerland: Palgrave Macmillan, 2013), 103–129.

²⁷ Muneer M. Alshater et al., “Fintech in Islamic Finance Literature: A Review,” *Heliyon*, 2022.

²⁸ Mustafa Raza Rabbani, Shahnawaz Khan, and Eleftherios I. Thalassinou, “FinTech, Blockchain and Islamic Finance: An Extensive Literature Review,” *International Journal of Economics and Business Administration* 8, no. 2 (2020): 65–86.

²⁹ Yudho Taruno Muryanto, Dona Budi Kharisma, and Anjar Sri Ciptorukmi Nugraheni, “Prospects and Challenges of Islamic Fintech in Indonesia: A Legal Viewpoint,” *International Journal of Law and Management* 64, no. 2 (2022): 239–252, https://api.elsevier.com/content/abstract/scopus_id/85117229183.

³⁰ Felicia Hui Ling Chong, “Enhancing Trust through Digital Islamic Finance and Blockchain Technology,” *Qualitative Research in Financial Markets* 13, no. 3 (2021): 328–341, <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85104230487&doi=10.1108%2FQRFM-05-2020-0076&partnerID=40&md5=f7b6abb583bd016af83e83d687b6eaa1>.

³¹ Mohammad Haider Syed et al., “An Artificial Intelligence and NLP Based Islamic FinTech Model Combining Zakat and Qardh-Al-Hasan for Countering the Adverse Impact of COVID 19 on SMEs and Individuals,” *International Journal of Economics and Business Administration* 8, no. 2 (2020): 351–364.

³² Fahmi Ali Hudaefi, “How Does Islamic Fintech Promote the SDGs? Qualitative Evidence from Indonesia,” *Qualitative Research in Financial Markets* 12, no. 4 (2020): 353–366.

³³ M. Kabir Hassan, Mustafa Raza Rabbani, and Mahmood Asad Mohd. Ali, “Challenges for the Islamic Finance and Banking in Post COVID Era and the Role of Fintech,” *Journal of Economic Cooperation and Development* 41, no. 3 (2020): 93–116.

³⁴ Ahmed Tahiri Jouti, “Islamic FinTech and Financial Inclusion,” in *Islamic FinTech: Insights and Solutions* (Switzerland: Palgrave Macmillan, 2021), 209–229.

³⁵ (Hassan, 2020; Kail, 2023; Khan & Rabbani, 2020; Rabbani et al., 2020)

delivering financial products, services, and investments to customers by fulfilling Sharia requirements in the most innovative way.³⁶

Hudaefi explains that Islamic fintech is an innovative financial sector that uses technology to improve financial activities by providing products and services that comply with Sharia principles. In this context, Islamic fintech must adopt and apply Sharia contracts such as murabaha (financing plus fees), musyarakah (joint company), mudharabah (capital and work partnership), and other Sharia contracts in their business agreements. In addition, Sharia fintech companies must comply with applicable fatwas and follow the regulations issued by the competent authorities.³⁷

The main focus of integrating fintech with Islamic finance is to ensure compliance with Sharia. Islamic fintech companies must ensure that their business model meets universal Sharia requirements.³⁸ For example, Biancone et al. conducted research to explore crowdfunding and fintech business models that comply with Sharia principles. They conclude that Shariah-compliant crowdfunding involves investing in halal products and sharing investment risks. Similar to P2P loans that do not apply an interest-profit system, riba is the main prohibition in the Islamic financial system.³⁹

Methods

This study uses bibliometric analysis to measure and quantitatively analyze scientific works,⁴⁰ which are articles included in the Scopus category. The first step we took was to search for articles from the Scopus database by going to the Scopus website and entering the search field by typing the keywords "Islamic fintech", "Islamic financial technology", "Islamic fintech", and "Islamic financial technology" which produced 637 scientific works consisting of several types, namely articles, books, books. chapters, conference papers, conference reviews, editorials, erratum, and notes. Some of them that were not included in the article type were excluded, resulting in 321 articles.

³⁶ Hasnan Baber, "FinTech, Crowdfunding and Customer Retention in Islamic Banks," *Vision* 24, no. 3 (2020): 260–268.

³⁷ Hudaefi, "How Does Islamic Fintech Promote the SDGs? Qualitative Evidence from Indonesia."

³⁸ Hasan, Hassan, and Aliyu, "Fintech and Islamic Finance: Literature Review and Research Agenda."

³⁹ Alshater et al., "Fintech in Islamic Finance Literature: A Review."

⁴⁰ Ana Andrés, *Measuring Academic Research: How to Undertake a Bibliometric Study, Measuring Academic Research: How to Undertake a Bibliometric Study* (Oxford: Chandos Publishing, 2009).

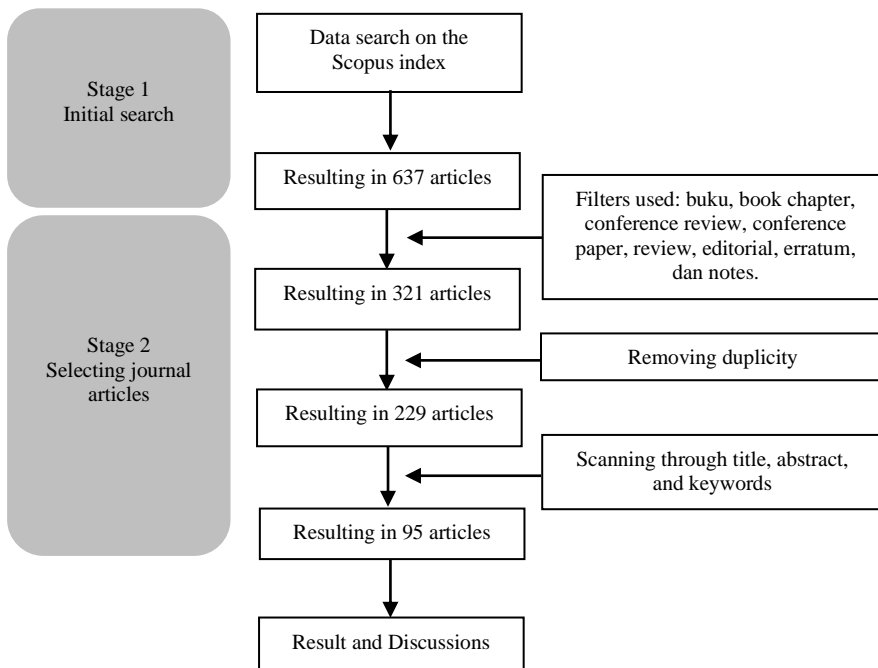


Figure 1
Data Collection Steps

The next step is because it is possible for several articles to appear repeatedly, and we merge the databases to produce 229 articles. To check the relevance to our research objectives, we continued at the reading stage of the titles, abstracts, and keywords of the 229 articles with the following provisions: 1) the titles, abstracts, and keywords explicitly stated one of the predetermined keywords, and 2) if the words "Islam" and "sharia" do not appear together with the words "fintech" or "financial technology" in the title of the article, then proceed to reading the abstract. This resulted in 95 studies. The data in the final sample were then analyzed using bibliometric R-package software to obtain a more accurate and clear analysis. The software was developed by Aria and Cuccurullo for quantitative research. The latest version of this software is a web interface application (Biblioshiny) designed to assist users without the need for programming skills in performing bibliometric analysis⁴¹.

Result and Discussion

Overview the Sample

Research on Islamic fintech has progressed and become the focus of research in recent years. The table below provides information on articles related to Islamic fintech obtained from Scopus data sources from 2010 to mid-2023. During this period, 95 documents, including journal articles, were successfully published. All documents were published through 56 different publication sources and involved 293 authors. Through analysis using the application, it was found that the annual growth of articles on Islamic

⁴¹ Massimo Aria and Corrado Cuccurullo, "Bibliometrix: An R-Tool for Comprehensive Science Mapping Analysis," *Journal of Informetrics* 11, no. 4 (2017): 959–975, <http://dx.doi.org/10.1016/j.joi.2017.08.007>.

fintech reached 24.9%, with an average of 2.01 articles per year (Figure 1). Detailed information on the bibliometric data used in this study is presented in Table 1.

Table 1
Descriptive Statistics of Sample

Description	Results
Timespan	2010:2023
Sources	56
Documents	95
Annual Growth Rate %	24,9
Document Average Age	2,01
Average citations per doc	9,021
Document Contents	
Author's Keywords (DE)	293
Authors	
Authors	251
Authors of single-authored docs	14
Authors Collaboration	
Single-authored docs	19
Co-Authors per Doc	2,99
International co-authorships %	28,42

Source: Author's analysis

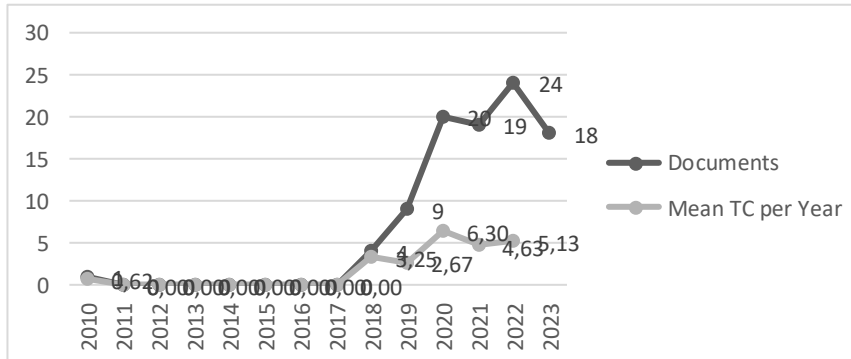


Figure 1
Annual Scientific Production

Figure 2 presents a three-field plot that illustrates the relationship between several elements, such as the author's name (AU), journal publication (SO), and keywords (DE). The results of data processing show that Rabbani MR and Khan S are the most active writers in the preparation and publication of articles on the theme of Islamic Fintech. In terms of publishing articles on Islamic fintech, the journals that play the most important roles are Qualitative Research in Financial Marketing, the Journal of Islamic Marketing, and the Journal of Islamic Accounting and Business Research. Finally, the keywords most frequently used in articles related to Islamic fintech are fintech, Islamic fintech, and Islamic finance.

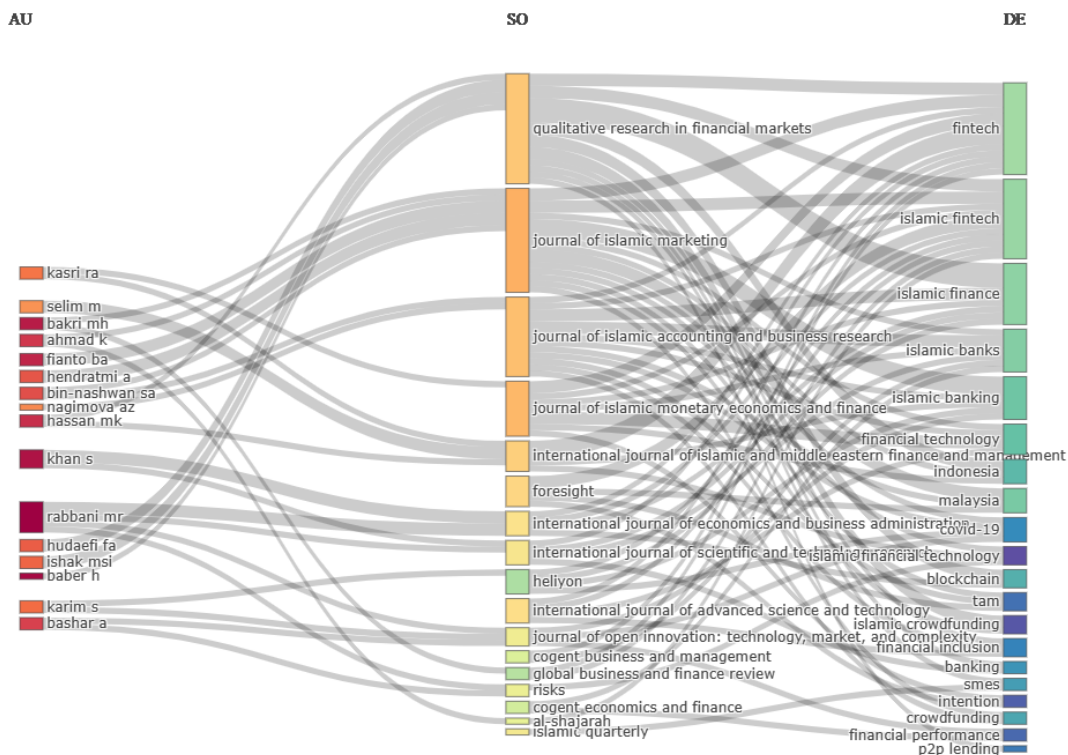


Figure 2
Three field plot

Sources Analysis

In this section, information is given regarding journal publications that have the greatest contribution and influence in the publication of articles on Islamic fintech. Different approaches are used, such as the number of articles published (NP), impact measurement, and number of citations obtained by journal publications (TC). Table 2 presents a list of the ten most relevant journal publications with a focus on Islamic fintech, based on the number of articles published and the journals most cited by articles included in this research category.

The Journal of Islamic Marketing and the Journal of Islamic Monetary Economic and Finance are the main sources of articles on Islamic fintech, with a total of nine articles each. This was followed by the Journal of Islamic Accounting and Business Research and Qualitative Research in Financial Markets, with seven articles each, and the International Journal of Islamic and Middle Eastern Finance and Management, with four articles.

Table 2
Top 10 Journal Discussing Topics of Islamic Fintech

Sources	Articles
Journal of Islamic Marketing	9
Journal of Islamic Monetary Economics and Finance	9
Journal of Islamic Accounting and Business Research	7
Qualitative Research in Financial Markets	7
International Journal of Islamic and Middle Eastern Finance and Management	4
Foresight	3
International Journal of Advanced Science and Technology	2
International Journal of Economics and Business Administration	2
International Journal of Scientific and Technology Research	2
Islamic Quarterly	2

Table 3 shows the top ten journals that have influence based on the impact measurement and total citations obtained from the articles published by these journals. In terms of impact measurement, the results of the application analysis place the Journal of Islamic Marketing at the top, with an h-index of 5, g-index of 9, and m-index of 0.833. This was followed by Qualitative Research in Financial Markets with h-index 5, g-index 7, and m-index 1; the International Journal of Islamic and Middle Eastern Finance and Management with h-index 3, g-index 4, and m-index 0.6; and several other published journals. Meanwhile, in terms of the total citations obtained, Qualitative Research in Financial Markets occupies the top position with a total of 131 citations. This was followed by the Journal of Islamic Marketing with a total of 111 citations and the International Journal of Economics and Business Administration with a total of 108 citations, as well as several other journal publications.

Table 3
Top 10 Journal Publications Based on Impact Measurement
and Total Citations (TC)

Impact Measurements				Total Citations	Total
Sources	h-Index	g-Index	m-Index	Sources	
Journal of Islamic Marketing	5	9	0,833	Qualitative Research in Financial Markets	131
Qualitative Research in Financial Markets	5	7	1	Journal of Islamic Marketing	111
International Journal of Islamic and Middle Eastern Finance and Management	3	4	0,6	International Journal of Economics and Business Administration	108
Journal of Islamic Monetary Economics and Finance	3	5	0,6	Journal of Economic Cooperation and Development	67
Foresight	2	3	0,5	Foresight	65
International Journal of Advanced Science and Technology	2	2	0,5	Journal of Open Innovation: Technology, Market, and Complexity	64
International Journal of Economics and Business Administration	2	2	0,5	Journal of Islamic Monetary Economics and Finance	33
International Journal of Scientific and Technology Research	2	2	0,5	International Journal of Islamic and Middle Eastern Finance and Management	26
Journal of Islamic Accounting and Business Research	2	3	0,667	Risks	26
Journal of Open Innovation: Technology, Market, and Complexity	2	2	0,667	Vision	23

Figure 3 illustrates the distribution of journal publications covering Islamic Fintech issues based on Bradford's law. Bradford's Law provides guidance in determining important journals in the field of study and provides insight into the distribution and availability of literature on a specific topic⁴². The published articles were divided into several groups: core journal groups (zone 1), intermediate journals (zone 2), and broad journal groups (zone 3). Out of a total of 56 journal publications, there are four published articles included in zone 1, which indicates the highest number of publications on the Islamic Fintech theme, namely the Journal of Islamic Marketing, Journal of Islamic Monetary Economics and Finance, Journal of Islamic Accounting and Business Research, and Qualitative Research in Financial Markets. Thus, the selected journal publications are those in the field of Islamic economics and finance,

⁴² B. C. Brookes, "Bradford's Law and the Bibliography of Science," *Nature* 224, no. 5223 (1969): 953–956.

which are considered appropriate as a publication platform for scholars of Islamic economics as well as references with the theme of Islamic fintech.

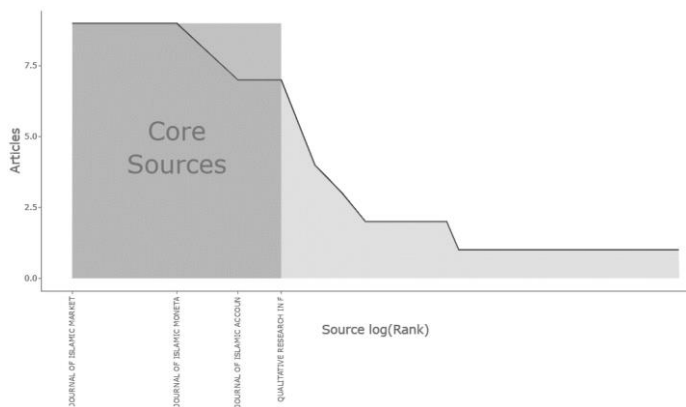


Figure 3
Source Clustering through Bradford's Law

Authors Analysis

Analyzing aspects related to authors in bibliometric studies becomes an important thing that is useful for investigating authors, affiliations, and countries that have the greatest influence and contribution in research on a particular topic. Table 4 describes the 10 authors who have the most significant influence on the publication of articles on halal cosmetics, based on the number of articles published, impact measurements, and total citations obtained.

Rabbani MR ranks highest in the publication of Islamic fintech-themed articles with 7 articles, followed by Baber H with 6, then Khan S with 4 articles and several other authors. Judging from the impact measurement, Rabbani MR ranks first (h-index 6, g-index 7, m-index 1.5), followed by Baber H (h-index 4, g-index 6, m-index 0, 8), as well as Khan S (h-index 3, g-index 4, m-index 0.75), and several other authors. Finally, judging from the total citations obtained by each author, it was found that Rabbani MR obtained a total of 258 citations, followed by Khan S, who obtained a total of 119 citations, and Bashar S with a total of 72 citations, and several other authors.

Table 4
Top 10 Authors Based on Number of Publications, Impact Measurements, and Total Citation

Number of Publications		Impact Measurements			Total Citations		
<i>Authors</i>	<i>Total</i>	<i>Authors</i>	<i>h-Index</i>	<i>g-Index</i>	<i>m-Index</i>	<i>Authors</i>	<i>Total</i>
Rabbani MR	7	Rabbani MR	6	7	1,5	Rabbani MR	258
Baber H	6	Baber H	4	6	0,8	Khan S	119
Khan S	4	Khan S	3	4	0,75	Bashar A	72
Bakri MH	3	Bashar A	2	2	0,667	Hassan MK	71
Fianto BA	3	Fianto BA	2	3	0,5	Mohd Ali MA	67
Hassan MK	3	Hassan MK	2	3	0,5	Baber H	61
Ahmad K	2	Hendratmi A	2	2	0,5	Syed MH	59
Bashar A	2	Ishak MSI	2	2	0,667	Thalassinos YE	59
Ben Bouheni F	2	Kasri RA	2	2	0,4	Thalassinos EI	49
Bin-Nashwan SS	2	Selim M	2	2	0,5	Karim S	48

The author's analysis can also be reviewed through Lotka's law approach, which states that the distribution of productivity of scientific writers is uneven. Specifically, the distribution of scientific writer productivity follows an unequal pattern or tends to be concentrated. This means that only a small number of writers have a high level of productivity, whereas most writers have a low level of productivity. By applying Lotka's Law in bibliometrics, researchers can identify the most prolific groups of writers and provide insights into patterns of productivity within the scientific community⁴³. The resulting ordinate shows the percentage of authors from various studies, whereas the abscissa shows the number of documents. The resulting dotted line illustrates Lotka's law. The figure below shows that 92.4% of the total authors included in this research sample published one article and the percentage of authors who published and were involved in more than one article was 6.8%, with a breakdown of the percentage of authors who published two articles by 5, 2%, authors who published three articles by 1.2%, and authors who published four articles by 0.4%.

⁴³ Miranda Lee Pao, "Lotka's Law: A Testing Procedure," *Information Processing and Management* 21, no. 4 (1985): 305–320.

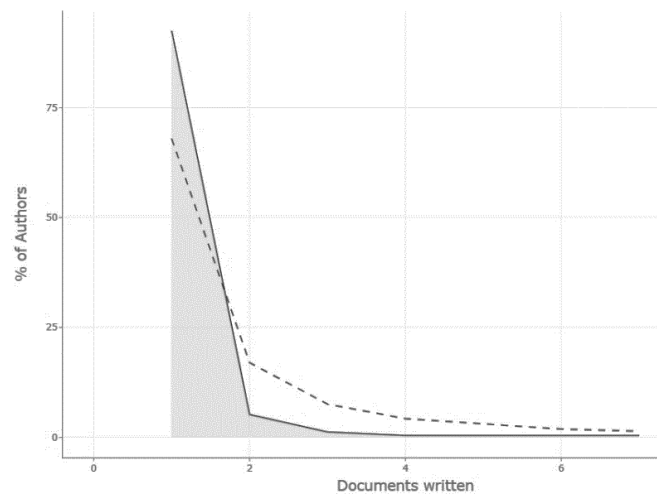


Figure 4
Author Productivity through Lotka's Law

Information about the authors of the articles in this research sample can also be analyzed through the research collaboration network formed between them. These networks reflect the collaborative relationships between two or more authors working together in research projects⁴⁴. The image generated by the application shows the names of several authors and their connections made between them. The linkages between authors are shown through groups of the same color and the lines connecting them. The circle size indicates the number of articles produced by each author; the larger the circle size, the more articles produced by that author.

Based on the results of data analysis, there were 10 collaboration network clusters formed, where the red cluster is the largest cluster indicating collaboration between the 5 authors in this study, namely Abdul Aziz NA, Bakri MH, Fianto BA, Hendratmi A, and Abdul Hamid MH. The next cluster is blue, which consists of 7 authors, namely Rabbani MR, Bashar A, Alam S, Ali Imam, Karim S, Abaji EE, and Khan S. Then the green cluster shows collaboration between 4 authors, namely Hassan MK, Hudaefi FA, Selim M, and Abduh M, as well as several other clusters.

⁴⁴ Christina Prell, Klaus Hubacek, and Mark Reed, "Stakeholder Analysis and Social Network Analysis in Natural Resource Management," *Society and Natural Resources* 22, no. 6 (2009): 501–518; Yu Song et al., "Exploring Two Decades of Research on Classroom Dialogue by Using Bibliometric Analysis," *Computers and Education* 137, no. March (2019): 12–31, <https://doi.org/10.1016/j.compedu.2019.04.002>.

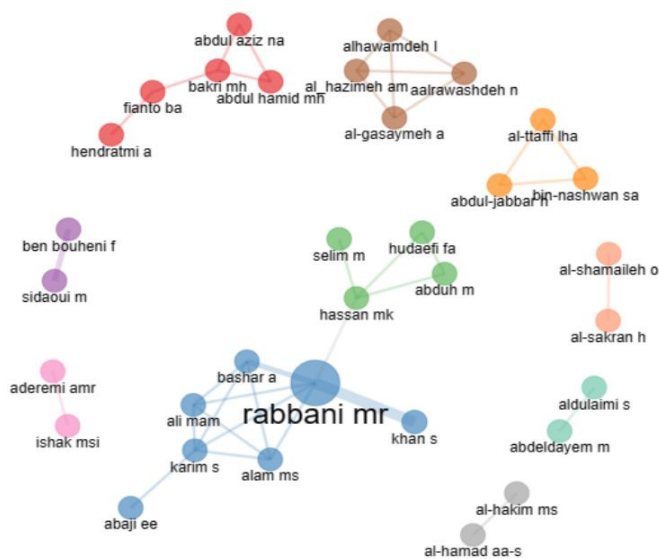


Figure 5
Collaboration network

Information on the author can also be used to analyze the affiliation and country of the author who succeeded in publishing articles on the Islamic fintech theme. Based on the analysis of data obtained from the application, it was found that Airlangga University was the author's affiliate, which was ranked first and succeeded in publishing 10 articles, followed by Universiti Teknikal Malaysia Melaka and Universiti Telnologi Mara with eight articles each, Menlo College with seven articles, and several other affiliates. Furthermore, the top countries based on the origin of the authors found that Indonesia was ranked first with 84 articles, followed by Malaysia with 83 articles, Bahrain with 21 articles, and several other countries.

Table 5
Top 10 Affiliations and Country Addressing Topics of Islamic Fintech

Most Relevant Affiliations	Country Scientific Production		
	Affiliatoons	Total	Countries
Universitas Airlangga	10	Indonesia	84
Universiti Teknikal Malaysia Melaka	8	Malaysia	83
Universiti Teknologi Mara	8	Bahrain	21
Menlo College	7	USA	13
Universiti Sains Islam Malaysia	6	Pakistan	10
University Bosowa	6	Jordan	9
University of Bahrain	6	Saudi Arabia	8
School of Business and Management	5	India	6
Donghua University	4	UK	6
Multimedia University	4	South Korea	5

Documents Analysis

In this study, an investigation was conducted on globally obtained citations (GC) in relevant articles in the field of Islamic fintech. The purpose of this investigation was to measure the number of citations received by the articles included in this study from the entire Scopus database as well as to evaluate the effect of each article on receiving citations from different disciplines ⁴⁵.

The following table describes the top 10 documents by global citation (GC). This table places the MK work. Hasan, published in 2020, ranked first, with a total of 67 citations. This work was followed by the work of Syed MH, which was published in 2020 with 59 citations, and the work of Rabbani et al., which was published in 2020 with 49 citations and several other articles.

Table 6.
Top 10 Articles by Most Global Cited Documents

Documen Title	Source	Global Total Citation
Challenges for The Islamic Finance and Banking in Post Covid Era and the Role of Fintech	Journal of Economic Cooperation and Development	67
An Artificial Intelligence and NLP Based Islamic Fintech Model Combining Zakat and Qardh-Al-Hasan for Countering The Adverse Impact of Covid 19 on SMES and Individuals	International Journal of Economics and Business Administration	59
Fintech, Blockchain and Islamic Finance: an Extensive Literature Review	International Journal of Economics and Business Administration	49
Exploring the Role of Islamic Fintech in Combating the Aftershocks of Covid-19: The Open Social Innovation of The Islamic Financial System	Journal of Open Innovation: Technology, Market, and Complexity	47
P2P Lending Adoption by SMES in Indonesia	Qualitative Research in Financial Markets	47
Acceptance of Islamic Financial Technology (Fintech) Banking Services by Malaysian Users: An Extension of Technology Acceptance Model	Foresight	40
How Does Islamic Fintech Promote The SDGS? Qualitative Evidence from Indonesia	Qualitative Research in Financial Markets	29
Factors Determining Behavioral Intentions to Use Islamic Financial Technology: Three Competing Models	Journal of Islamic Marketing	28
Does Gender Differences Play Any Role in Intention to Adopt Islamic Mobile Banking In Pakistan?: An Empirical Study	Journal of Islamic Marketing	28
How Perceived Risk, Benefit and Trust Determine User Fintech Adoption: A New Dimension for Islamic Finance	Foresight	25

Words Analysis

Word analysis in bibliometrics involves the use of methods and techniques to understand and analyze words used in the scientific literature and academic publications. The purpose of this analysis is to

⁴⁵ Aria and Cuccurullo, "Bibliometrix: An R-Tool for Comprehensive Science Mapping Analysis"; Jonathan Grant et al., "Evaluating 'payback' on Biomedical Research from Papers Cited in Clinical Guidelines: Applied Bibliometric Study," *British Medical Journal* 320, no. 7242 (2000): 1107–1111; Hajra Waheed et al., "A Bibliometric Perspective of Learning Analytics Research Landscape," *Behaviour and Information Technology* 37, no. 10–11 (2018): 941–957, <https://doi.org/10.1080/0144929X.2018.1467967>.

identify trending topics that are the focus of scientists as well as patterns and relationships between words in the corpus of the text under study. Keywords are words or phrases that stand out in an article and are used to find the structure of the text or important things contained in the article ⁴⁶.

The image below shows keywords that are often used in published articles on Islamic fintech. Of the many keywords used by the authors, the word "fintech" is the word most often used, followed by "Islamic fintech", "Islamic finance", and "Islamic bank", as well as several other keywords.



Figure 6
Visualization of keywords in Islamic Fintech research

Word analysis also uses the co-occurrence network approach to identify relationships between keywords or visualize the relationships between topics discussed in scientific publications. Network analysis can reveal entities that occur most frequently, show groups of entities that are thematically related, or identify entities that play a central role in a network. In a co-occurrence network, each entity is represented as a node (node) in the network, and the co-occurrence relationships between entities are represented as links (edges) between the nodes ⁴⁷.

The image below reveals the relationship between keywords, as shown in Figure 7. Keywords that have a large influence are shown through the size of the circle they generate, and are connected to other keywords. The results of application data processing produced five clusters, which are indicated by the colors produced by each cluster. The largest cluster is the green cluster, where the word "fintech" is the most influential word and is connected with other words such as Islamic finance, SMES, financial inclusion, Islamic microfinance, Islamic crowdfunding, and cryptocurrency. and a few other words. The next cluster is the purple cluster, which shows the word Islamic fintech, connected with the words Indonesia, P2P lending, UTAUT, and financial services. The next cluster is the blue cluster which shows the word Malaysia connected with the words Islamic banks, TAM, global crisis, customer retention, conventional banks, and crowdfunding, as well as several other clusters.

⁴⁶ Song et al., "Exploring Two Decades of Research on Classroom Dialogue by Using Bibliometric Analysis."

⁴⁷ Hossein Jelvehgaran Esfahani, Keyvan Tavasoli, and Armin Jabbarzadeh, "Big Data and Social Media: A Scientometrics Analysis," *International Journal of Data and Network Science* 3, no. 3 (2019): 145–164.

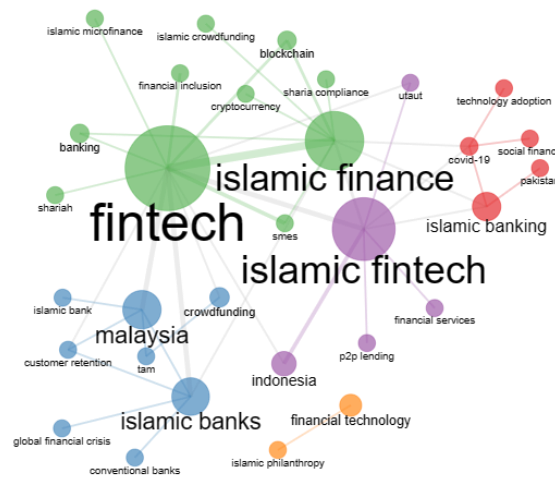


Figure 7
Co-occurrence Network

The next analysis was a thematic map using the keywords/abstracts used by the authors. Thematic maps can be used to visualize themes or topics that appear in a collection of literature in bibliometric analysis. This can help obtain themes/trends that can be developed in the future and become a reference for future researchers to develop research on halal cosmetics. Thematic map analysis maps words into four important quadrants.⁴⁸

Figure 8 displays a thematic map in the field of Islamic Fintech, which is divided into four quadrants, namely Q1-Q4. The Q1 quadrant, which is located at the upper right, represents a motor theme, which is a central theme and has the potential to develop. Quadrant Q4, which is located at the bottom right, reflects the basic theme which is also the central theme, but has limitations in its development. Quadrant Q2, which is located at the top left, reflects a special theme that has special characteristics and has the potential to develop. Meanwhile, Q3 quadrant, which is located at the bottom left, shows themes that appear but tend to decline and do not develop. The word analysis used in this thematic map was abstract. This approach was used to provide more detailed and extensive information to identify the themes contained in the thematic map.

Figure 8 shows a thematic map of the keywords most frequently used in this research sample. Words are grouped in the upper right quadrant consisting of 4 clusters, namely the first cluster, namely "behavioral intention, performance expectancy, effort expectancy, and so on", the second cluster, namely "financial system, global financial, covid-pandemic, and so on". The third cluster is "financial services, banking sector, banking system, and so on," and the fourth cluster is "structural equation, fintech services, and acceptance model."

⁴⁸ (Aria and Cuccurullo, 2017)

The lower right quadrant consists of 3 clusters consisting of the first cluster namely "Islamic crowdfunding, crowdfunding model, qualitative analysis, and so on." The second cluster is "social influence, UTAUT technology, Saudi Arabia, and so on". The last cluster is "financial technology, Islamic banks, and Islamic fintech." The clusters "pp lending, Sharia fintech, fintech industry, and so on, are located between the upper and lower right quadrants.

The top left square consists of 3 clusters, namely the first cluster namely "social finance, digital Islamic, Islamic services, and so on." The second cluster is "data gathering, regression analysis, strata sampling, and so on" and the third cluster is "Islamic microfinance, digital banking, microfinance institutions." The "online banking, social media, and service quality" clusters are between the upper-right and upper-left quadrants.

The lower left quadrant consists of 5 clusters, namely the first cluster is "fintech model, artificial intelligence, corona virus." The second cluster is "fintech startups and text mining". The third cluster is "bank Indonesia, Indonesia Institute, Indonesia." The fourth cluster is the alternative model "alternative model" and the last cluster is "risk management and secondary data."

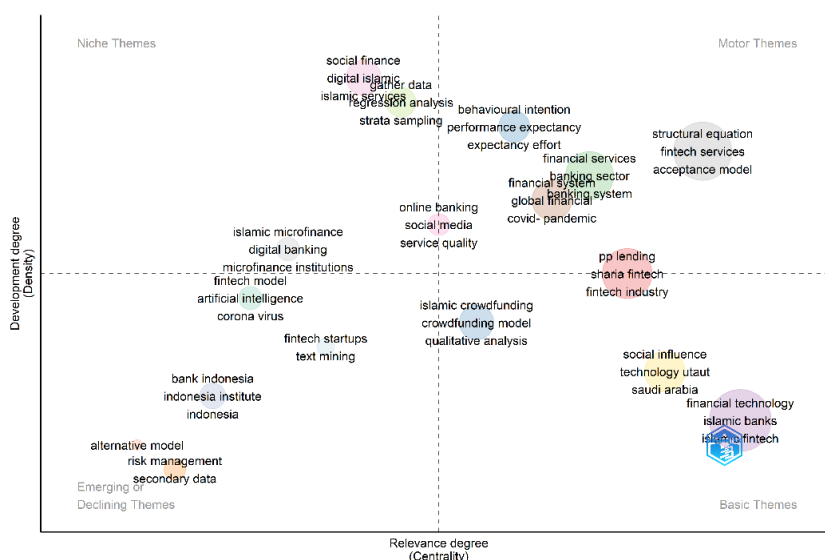


Figure 8
Thematic map by author's keywords

Discussion

This study uses bibliometric analysis to collect data from the Scopus database by searching for certain phrases and certain treatments. Compared to Islamic banking, which is the main focus in the development and progress of Islamic finance,⁴⁹ research on Islamic fintech is a new topic, especially as a result of the COVID-19 pandemic. Since its spread globally, economic growth has slowed down and

⁴⁹ Ezzedine Ghlamallah et al., "The Topics of Islamic Economics and Finance Research," *International Review of Economics and Finance* 75, no. March (2021): 145–160, <https://doi.org/10.1016/j.iref.2021.04.006>.

caused many financial crises.⁵⁰ Fintech is a rapidly growing phenomenon,⁵¹ as is Islamic fintech, which acts as a driving force for the development of Islam.⁵²

The number of publications has increased significantly due to the public interest in using fintech in various financial transactions, especially since the beginning of the 2019 pandemic. The change in behavior from face-to-face to technology-based transactions has fueled an increased demand for fintech. The trend of increasing use of fintech is attracting researchers to make it an object of research. Even though this research was conducted at the end of May 2023, the potential for research development on Islamic fintech will increase towards the end of 2023 (see figure 1).

However, the results of our investigation of Lotka's law (see figure 4) show that there are very few authors who consistently produce articles on the theme of Islamic fintech, so that specific expertise in writing about Islamic fintech is very limited. In figure 4 of Lotka's law, only 6.8% of the total authors involved produced several articles on Islamic fintech. However, there are several researchers who focus on Islamic fintech studies and have produced 4-7 articles that can be used as reference material in research on Islamic fintech, including Baber H, Rabbani MR, and Khan S.

In addition, Indonesia and Malaysia have the highest productivity in scientific publications on Islamic fintech. These two countries are also able to produce the top journal articles that produce research articles, as well as the highest ranking countries covered by scholarly articles in Islamic finance and generally accessible.⁵³ This is because both Indonesia and Malaysia have experienced significant developments in Islamic Fintech, and both have great potential in this industry.

Relevant topics can be determined through the analysis of thematic maps, which provide insight into the current status of research in Islamic Fintech and developments that may occur in the future.⁵⁴ This provides significant benefits by providing an understanding of the various stakeholders involved in Islamic Fintech. Research topics with the theme of Islamic fintech are proposed based on the results of thematic map analysis:

1. Costumer Issues

The need to understand the factors that influence the adoption and use of application technology in society has led to various theories regarding application acceptance. In the digital era that continues to

⁵⁰ Rabbani et al., "Embracing of Fintech in Islamic Finance in the Post COVID Era."

⁵¹ Huidong Sun et al., "Identifying Big Data's Opportunities, Challenges, and Implications in Finance," *Mathematics* 8, no. 10 (2020): 1–19.

⁵² Hassan, Rabbani, and Mahmood, "Challenges for the Islamic Finance and Banking in Post COVID Era and the Role of Fintech"; CHL Hornuf, "The Emergence of the Global Fintech Market: Economic and Technological Determinants Christian Haddad The Emergence of the Global Fintech Market: Economic and Technological Determinants Abstract," *Small Business Economics* 53, no. 1 (2016): 81–105; Carmen Leong et al., "Nurturing a FinTech Ecosystem: The Case of a Youth Microloan Startup in China," *International Journal of Information Management* 37, no. 2 (2017): 92–97, <http://dx.doi.org/10.1016/j.ijinfomgt.2016.11.006>.

⁵³ Mohamed and Ali, *Blockchain, Fintech, and Islamic Finance; Buiding the Future in the New Islamic Digital Economy*.

⁵⁴ Friday Joseph Agbo et al., "Scientific Production and Thematic Breakthroughs in Smart Learning Environments: A Bibliometric Analysis," *Smart Learning Environments* 8, no. 1 (2021): 1–25.

grow, applications are one of the main means of interacting with technology in various ways. Studies on application acceptability have shown that many applications fail to gain widespread adoption and continued use. Several theories that can be used are the Technology Acceptance Theory (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT).

2. Islamic Financial Social Services

Social finance includes the use of finance to achieve social goals and the common good. In the context of Islamic fintech, social finance can be used to develop financial products and services that support the financing of socially beneficial projects in accordance with Sharia principles. Several social finance instruments are Islamic crowdfunding⁵⁵ and digital zakat,⁵⁶ which utilize technological developments. Thus, the opportunities, challenges, strategies, and implementation of various social finance-based products that utilize financial technology can be a future research direction.

3. Impact for Economic Growth and performance

This study is still rarely found in Islamic fintech research, so it can serve as a reference for future research. The first study was conducted by Barata A which examined the role of the Islamic digital economy in Indonesia's economic growth using Input Output (I-O) analysis⁵⁷ and Azman, et al. who examined the impact of using i-fintech in stabilizing the income of micro entrepreneurs.⁵⁸

As described above, the results of this study show that Islamic fintech research still focuses on the factors that influence users' use of fintech. This is due to the fact that Islamic fintech is still relatively new and therefore has limitations, especially in relation to the performance of Islamic banks. Thus, customers have become worthy research objects, especially in terms of their responses to Islamic fintech. In addition, the research approach that tends to be used, and based on the results of thematic map analysis, we found that there is a tendency to use a quantitative approach compared to qualitative approaches.

⁵⁵ Abdulmajeed Muhammad Raji Aderemi and Muhammad Shahrul Ifwat Ishak, "Qard Hasan as a Feasible Islamic Financial Instrument for Crowdfunding: Its Potential and Possible Application for Financing Micro-Enterprises in Malaysia," *Qualitative Research in Financial Markets* 15, no. 1 (2023): 58–76.

⁵⁶ Saeed Awadh Bin-Nashwan et al., "Adoption of ZakaTech in the Time of COVID-19: Cross-Country and Gender Differences," *Journal of Islamic Marketing* 14, no. 11 (2023): 2949–2979.

⁵⁷ Amrin Barata, "Strengthening National Economic Growth and Equitable Income Through Sharia Digital Economy in Indonesia," *Journal of Islamic Monetary Economics and Finance* 5, no. 1 (2019): 145–168.

⁵⁸ Nik Hadiyan Nik Azman et al., "The Utilisation of Islamic Fintech (I-Fintech) in Promoting Sustainable Inclusive Growth: Evidence From Micro-Entrepreneurs in Malaysia," *Journal of Islamic Monetary Economics and Finance* 6, no. 3 (2020): 555–576.

Conclusion

Research on Islamic fintech in Indonesia is still relatively new; therefore, the opportunity to conduct research is enormous. This study evaluates Scopus-indexed Islamic fintech research. Our findings show that the future direction of Islamic fintech research is related to customer issues, Islamic social financial services, and their impacts on economic performance and growth. However, issues related to customers are still worthy of investigation using various application–acceptance theories. This research contributes greatly to Islamic fintech literature by providing an up-to-date review of the development of Islamic fintech research. The limitation of this study is that it uses only one index, namely Scopus, so the findings obtained do not represent all research on Islamic fintech. In addition, this research is general in nature and not categorized by region. Therefore, further research can be conducted by including several other databases and limiting the scope of research based on certain areas.

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