MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 36 Issue 1, Jan-June 2026, Pages: 869-883

# Nascent Role of Green Sukuk in Green Finance: A Structured Bibliometric Analysis

Dame Esther Mastina Hutabarat (Corresponding Author)
Faculty of Economics and Management, Universiti Kebangsaan Malaysia, 43600
Faculty of Economic and Business, Universitas HKBP Nommensen Medan 20235, Indonesia
estherhutabarat@uhn.ac.id

Fathin Faizah Said
Center for Sustainable and Inclusive Development (SID)
Faculty of Economics and Management, Universiti Kebangsaan Malaysia, 43600
fatin@ukm.edu.my

Zulkefly Abdul Karim
Center for Sustainable and Inclusive Development Studies (SID)
Faculty of Economics and Management, Universiti Kebangsaan Malaysia, 43600
zak1972@ukm.edu.my

Wai-Yan Wong
Centre for Global Business and Digital Economy Studies
Faculty of Economics and Management, Universiti Kebangsaan Malaysia, 43600
wongwy@ukm.edu.my

## Abstract

As green finance continues to evolve, the role of green sukuk is gaining attention for its potential to raise capital for environmentally sustainable projects. Yet, green sukuk studies are very limited, as a response to this gap, this paper aims to synthesize the knowledge on the nascent stage role of green sukuk among green finance literature spanning 1997 to 2023. This study retrieved 659 documents from the Scopus indexed database. This study conducts a hybrid approach that uses both bibliometric technical analysis (using VOSviewer and R) and structured review on the contents of the findings. The main finding of this study is though it is immature, there is a continuous growth in publications on green finance research. Interdisciplinary collaboration especially with the less-represented field is encouraged. China was the most productive country in publications, citations and authors in the green finance research, however only 2.58% of documents in green sukuk titles, whereas Malaysia and Indonesia are the most productive countries in the green sukuk study. It is recommended to conduct more research to study green sukuk.

**Keywords**: Bibliometrics, Green Finance, Green Sukuk, Islamic Bond, Sustainable Finance

## 1. Introduction

As a worldwide issue, climate change and sustainability have garnered attention from all over the nations and have the potential to affect people's lives around the world. In order to deal with climate change, two summit meetings took place that will lead to a redefinition of the international policy environment. Firstly, In September 2015, all 193 Member States of the United Nations adopted the Sustainable Development Goals (SDGs), updating the Millennium Development Goals by defining broader and more ambitious development objectives that apply to all countries (United Nations, 2015).

Three months later, on December 12, 2015, world leaders convened in Paris and reached a historic agreement: the Paris Agreement. They committed to collectively: i) keeping the increase in global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels ii) increasing the ability to adapt to the adverse impacts of the climate change and fostering climate resilience; and iii) mobilizing consistent finance flows to achieve mitigation and adaptation objectives (The Paris Agreement, 2015). The world leaders who gathered there were sending a message to every nation and every region that they were committed to taking steps to change people's lives.

The successful implementation of the two momentums mentioned above needs huge amounts of funding. Among the US$ 3.3-4.5 trillion per year needs to be mobilized to achieve the 2030 Agenda for Sustainable Development (UNCTAD, 2014). Referring to (Umme Habiba & Xinbang, 2022), green financial products can aid in the creation of a greener world. Studies have shown that green initiatives improve environmental quality. For example, (Saeed Meo & Karim, 2022) found that there was the relationship between green finance and CO2 emissions varies on different quantiles in selected economies; Tolliver,

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 36 Issue 1, Jan-June 2026, Pages: 869-883

Keeley & Managi (2019) also found that green finance can reduce over 108 million tons of carbon dioxide equivalent. Therefore, green finance is not just a global trend, but it has become an important channel for nations to achieve sustainable objectives.

On the other hand, green sukuk entered the financing world with their unique features and continue to attract the attention of the Islamic as well as the non-Islamic markets. It represents a significant innovation in Islamic finance industry and can be applied as an great potential vehicle that fund environmentally friendly objectives (Alkadi, 2024). In December 2017, Malaysia private sector has responded to the green sukuk enthusiasm by issuing US$1.4 billion (F. H. Liu & Lai, 2021). Furthermore, in first quarter of 2018, Indonesia had been issued USD1.25 billion of the green sukuk (Siswantoro, 2018).

As of the third quarter of 2023, green sukuk have raised a total of $10.1 billion, marking an increase from the record issuance of $9.4 billion in 2022, with 74.5% of this amount originating from the international market. Additionally, it is projected that $30 billion to $50 billion of funds could be raised from green sukuk by 2025 (LSEG Data & Analytics, 2023). Despite the significant capital raised through green sukuk, there remains limited study on this topic. The purpose of this research is to gain a deeper understanding within the research field by involving the following research questions; 1) What are the documents profiles with regards within the research field?; 2) What are the publication trends in the current research?; 3) How are the network analysis in terms of co-authorship, co-occurrences and three field plot analysis? and; 4) How is the role of green sukuk based on the research findings? This paper has been divided into five sections, containing: introduction, literature review, methodology, results and analysis and conclusion and recommendation.

## 2. Literature Review

Green finance has increasingly become a focal point in addressing climate change and fostering sustainable development for the environment. The legal basis for the global implementation on green finance, as those outlined in: (i) Kyoto Protocol (1998) Article 10 (c), 11 (a), 13 (4.g) and 13 (5) that countries have to seek and provide to mobilize additional finance resources and financial procedures to minimize the adverse impact on environment; (ii) The Paris Agreement (2015) Article 2 number 1 (c) page 3 stated: “Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development”.

There is no universally accepted definition of green financial activities, indeed a few different working definitions and sets of criteria have been developed in the context of the global financial system, national financial systems, financial institutions (for example, ‘green banking’) and financial instruments (for example, ‘green bonds’ and ‘green sukuk’) (G20 Green Finance Study Group, 2016; The UNEP Inquiry, 2016). However, global has agreed that green finance is comprises all forms of investment or lending that take into account environmental impact and enhance environmental sustainability.

A comprehensive literature review reveals that green finance has shown significant potential in enhancing environmentally responsible practices, namely (Chin et al., 2022; Lee & Lee, 2022; Zhao et al., 2022) revealed about green innovation, Keshminder et al., (2022) studied about the green investment, Ye & Dela, (2023) proposed to use CSR to improve sustainable economic performance, (David & Venkatachalam, 2019; Lv et al., 2023) studied about the impact of green bond. Despite there are limited stdies about green sukuk, but they also revealed the impact of the green sukuk on the environment (Keshminder et al., 2022), as well as potential impact of the green sukuk in the non-Moslem countries (Luigi & Poggi, 2017).

## 3. Methodology

This study conducts a hybrid approach that uses both bibliometric analysis and structured review on the contents of the findings (Paul & Criado, 2020; Turnbull et al., 2023).

The term “bibliometrics” used by Pritchard (1969) for the first time, and it has gained wide popularity to aid quantitative analysis in the understanding literature. Critics argue that bibliometric analyses primarily focus on quantitative in nature, however in our view, conducting a bibliometric analysis can be more efficient, particularly for large, longevity and diverse bodies of literature. By leveraging voluminous datasets of publications and citations (Bhatnagar & Sharma, 2022; Zhang et al., 2019), bibliometric analyses can reveal patterns and connections that might not be apparent through traditional literature reviews. We use bibliometrics analysis, namely Microsoft Excel to conduct the performance analysis, Harzing’s Publish or Perish for citation metrics and analysis, VosViewer and Biblioshiny in the Bibliometrix R-package for network exploration (Ahmi, 2022b, 2022a)

Integrating the bibliometrics analysis, that delivered a framework to provide directions for future research, with a more structured review of the findings provides the holistic understanding and improves the depth and credibility of the literature review.

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 36 Issue 1, Jan-June 2026, Pages: 869-883

### *3.1. Data collection*

Data was retrieved from the Scopus database in 2023. The Scopus has been selected because it has several advantages. Empirical comparison has found that Scopus offers more comprehensive coverage of databases (Det & Hallinger, 2020; Hallinger & Kovačević, 2019), that contain peer-reviewed papers, books, conference proceedings and others (Ahmi et al., 2022). As per data accessed in 2023, Scopus has 44,737 source titles that consist of 41,474 journals, 1,901 book series, 564 conference proceedings and 798 trade publications, and it is continually expanded and updated. It offers tools to track, analyse and to visualize search data.This review adopted PRISMA (Preferred Reporting Items for Systematic Literature Review and Meta-Analysis) guidelines for conducting systematic reviews of research (Page et al., 2021). PRISMA is designed to be user-friendly, with clear instructions and downloadable formats that make it easy for researchers to implement (Alkadi, 2024). The flow diagram of the search strategy is shown in Figure 1.

Figure 1 illustrates the step-by-step flow diagram of the search strategy. The diagram provides a visual representation of the detail processing of searching, screening and selection. The search string “green finance” OR “green sukuk” was entered into the Scopus search engine. Since the search query that has been conducted using the search within the article title only, we can assume that all the documents attained are truthfully about green finance and green sukuk, which is the main topic of this study. This initial search yielded 659 documents from 1997 up to 2023, and there was no record removed.

## 4. Results and Analysis

In this section we address each of the research questions separately, and present all the results in tables, graphs, and networks for further illustration.

### *4.1. Document profile*

The earliest paper discussing green finance or green sukuk title appeared in Scopus database in 1997. Since then, the number of publications has grown significantly by 23.62%, with most being collaborative works. However, the average citation per-document is quite low at 1.23.

The analysis of the documents published reveals a clear dominance of articles, which constitute the vast majority (82.25%) of the publications. This indicates that scholarly articles are the primary medium through which the green finance and the green sukuk study disseminated. Conference papers (7.74%) and book chapters (4.40%) are also notable but less prevalent, while other types of documents make up less than 4% of the overall number of the publications. Additionally, mostly of the documents are in English (98.94%), with the remaining written in Russian, Chinese, and German.

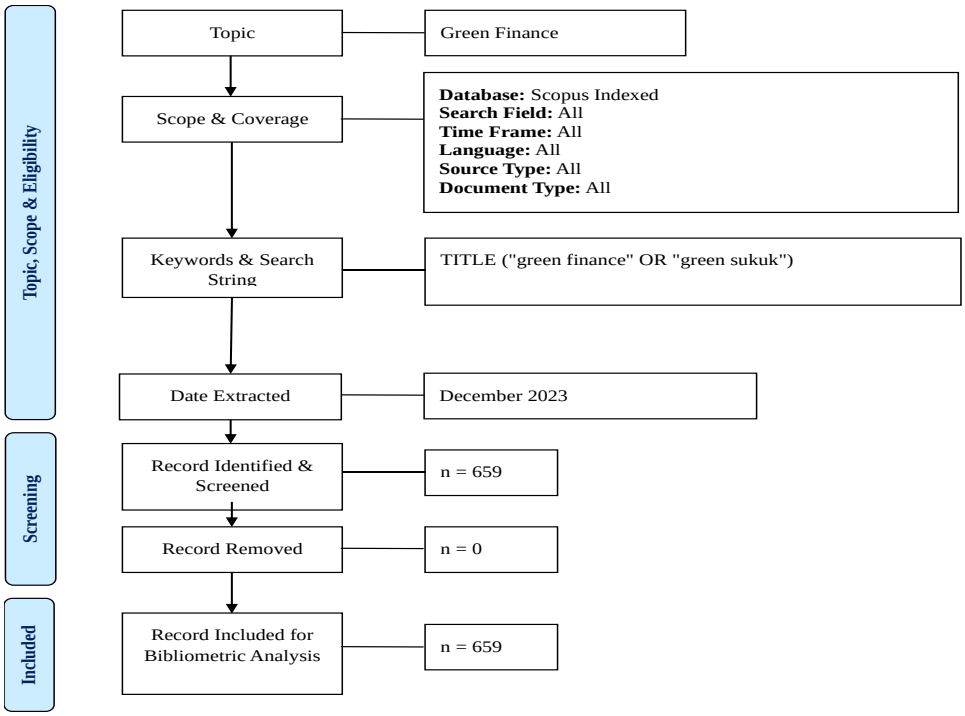


**Figure 1. Flow Diagram of the Search Strategy.**
Source: Page et al. (2021b)

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 36 Issue 1, Jan-June 2026, Pages: 869-883

As for the article on title of green sukuk, there are only seventeen articles out of 659 documents, and most of documents are in article (52.94%), followed by book chapter and conference paper (see Tabel 3).

**Tabel 2. Types of Documents**

| Document Type | Total Publications | Percentage (%) |
|---|---|---|
| Article | 542 | 82.25 |
| Conference Paper | 51 | 7.74 |
| Book Chapter | 29 | 4.40 |
| Review | 17 | 2.58 |
| Editorial | 7 | 1.06 |
| Book | 4 | 0.61 |
| Erratum | 4 | 0.61 |
| Note | 3 | 0.46 |
| Letter | 2 | 0.30 |
| Total | 659 | 100.00 |

Source: Author's compilation (2024)

**Tabel 3. Types of Retrieved Documents in Green Sukuk**

| Document Type | Total Publications | Percentage (%) |
|---|---|---|
| Article | 9 | 52.94 |
| Conference Paper | 3 | 17.65 |
| Book Chapter | 5 | 29.41 |
| Total | 17 | 100.00 |

Source: Author's compilation (2024)

The final characteristic of the document profile is its subject area, as shown in Table 5. Most green finance research is in environmental science (53.11%), with other areas like economics (31.71%), energy (27.31%), social sciences (24.28%), and business (14.57%) also represented. Less common fields include engineering (11.53%), computer science (11.23%), and earth sciences (36%), with others under 5%. Since environmental science is a key focus, researchers should continue to contribute here. Supporting less-covered areas can also add new ideas. Encouraging interdisciplinary work can help green finance research support climate and sustainability goals.

**Tabel 4. Subject Area**

| Subject Area | Total Publications | Percentage (%) |
|---|---|---|
| Environmental Science | 350 | 53.11 |
| Economics, Econometrics and Finance | 209 | 31.71 |
| Energy | 180 | 27.31 |
| Social Sciences | 160 | 24.28 |
| Business, Management and Accounting | 96 | 14.57 |
| Engineering | 76 | 11.53 |
| Computer Science | 74 | 11.23 |
| Earth and Planetary Sciences | 36 | 5.46 |
| Mathematics | 23 | 3.49 |
| Medicine | 20 | 3.03 |
| Decision Sciences | 17 | 2.58 |
| Agricultural and Biological Sciences | 12 | 1.82 |
| Arts and Humanities | 11 | 1.67 |
| Psychology | 10 | 1.52 |
| Multidisciplinary | 8 | 1.21 |
| Physics and Astronomy | 7 | 1.06 |
| Chemical Engineering | 2 | 0.30 |
| Neuroscience | 2 | 0.30 |
| Biochemistry, Genetics and Molecular Biology | 1 | 0.15 |
| Materials Science | 1 | 0.15 |
| Pharmacology, Toxicology and Pharmaceutics | 1 | 0.15 |
| Total | 659 | 100.00 |

Source: Author's compilation (2024)

### *4.2. Publication trend*

Figure 2 below shows the publication growth, and its impact based on the total citation of research articles published on green finance or green sukuk from 1997 to 2023. Referring to Ahmi & Mohamad (2019), publication growth pattern overtime is assessed by examining the documents based on the year of publication. From 1997 to 2013, very few literatures could be found related to the theme, but starting 2015 the number shows an upward trend, and step rise since 2017 onwards. It was caused by

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 36 Issue 1, Jan-June 2026, Pages: 869-883

the world commitment through the Sustainable Development 2030 Agenda and Paris Agreement (Shang & Jin, 2023; The Paris Agreement, 2015).

The annual publication growth rate for the publication is 23.62%. It reflects heightened interest and scholarly activity in this field of green finance theme, as indicated by the number of citations that have increased significantly, and the highest is in 2022. This aligns with global trends where green finance and sustainable investment become more prominent (Fahim & Mahadi, 2022; Zhang et al., 2019) in response to climate change and environmental sustainable goals, for example in China (Yu et al., 2021), Japan and Europe countries (Saeed Meo & Karim, 2022). In this study, green sukuk picked up the pace from the year 2016. From data retrieved, in 2016 to 2018, there was only one publication with the title green sukuk in each year, though the number increased the following year, but there are only 17 documents with article title out of 659 (2.58%). The low percentage of green sukuk study specifically addressing that there remains significant substantial potential for growth and further research in this field. The increasing attention from researchers to the green sukuk study reflects the rising importance of green sukuk as the sustainable finance for achieving environmental goals.

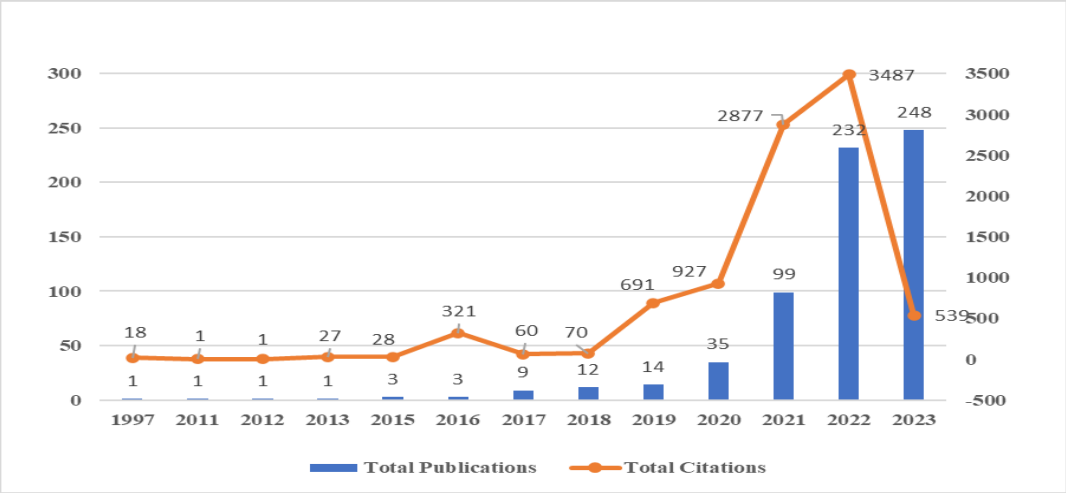


**Figure 2. Publications Growth and Total Citations**

Source: Author's compilation, 2024

In this section we will identify the most productive authors that published documents on green finance or green sukuk article title with at least four publications. As presented in Table 6., Farhad Taghizadeh-Hesary has made significant contributions to advancing the field of green finance through his extensive research and publications, with 15 publications and 971 total citation. His high h-index and i-index further underscore his significant contributions to understanding the linkages between green finance (Sachs et al., 2019; Taghizadeh-Hesary & Yoshino, 2019), renewable energy development (Mohsin et al., 2021) and sustainable **Tabel 6. Most Productive Authors**

| Author's Name | Affiliation | Country | TP | NCP | TC | C/P | C/CP | h | g |
|---|---|---|---|---|---|---|---|---|---|
| Taghizadeh-Hesary, Farhad | Tokai University | Japan | 15 | 15 | 971 | 64.73 | 64.73 | 9 | 15 |
| Iqbal, Wasim | Yanshan University | China | 6 | 5 | 125 | 20.83 | 25.00 | 5 | 6 |
| Sadiq, Muhammad | Taylor's University | Malaysia | 6 | 5 | 302 | 50.33 | 60.40 | 5 | 5 |
| Siddik, Abu Bakkar | University of Science and Technology of China | China | 6 | 6 | 115 | 19.17 | 19.17 | 5 | 6 |
| Dong, Kangyin | University of International Business and Economics | China | 5 | 5 | 41 | 8.20 | 8.20 | 4 | 5 |
| Liu, Zhen | Zhejiang University of Media and Communications | China | 5 | 5 | 53 | 10.60 | 10.60 | 3 | 5 |
| Tang, Decai | Nanjing University of Information Science & Technology | China | 5 | 4 | 11 | 2.00 | 3.00 | 2 | 3 |
| Wang, Rong | Nanjing Xiaozhuang College | China | 5 | 5 | 103 | 20.60 | 20.60 | 3 | 5 |
| Boamah, Valentina | Nanjing University of Information Science & Technology | China | 4 | 3 | 7 | 1.75 | 2.33 | 2 | 2 |
| Gu, Xiao | Zhejiang University of Media and Communications | China | 4 | 3 | 6 | 1.50 | 2.00 | 2 | 2 |
| Lee, Chien-Chiang | Nanchang University | China | 4 | 4 | 386 | 96.50 | 96.50 | 4 | 4 |
| Mohsin, Muhammad | Jiangsu University | China | 4 | 4 | 413 | 103.25 | 103.25 | 3 | 4 |

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 36 Issue 1, Jan-June 2026, Pages: 869-883

| Author's Name | Affiliation | Country | TP | NCP | TC | C/P | C/CP | h | g |
|---|---|---|---|---|---|---|---|---|---|
| Najam, Hina | Iqra University | Pakistan | 4 | 4 | 86 | 21.50 | 21.50 | 4 | 4 |
| Rasoulinezha, Ehsan | University of Tehran | Iran | 4 | 4 | 4 | 181.00 | 1.00 | 4 | 4 |
| Song, Xiaowei | Ocean University of China | China | 4 | 4 | 35 | 8.75 | 8.75 | 2 | 4 |
| Tang, Xinmeng | University of Science and Technology Beijing | China | 4 | 2 | 187 | 46.75 | 93.50 | 2 | 2 |
| Volz, Ulrich | SOAS University of London | United Kingdom | 4 | 3 | 126 | 31.50 | 42.00 | 3 | 3 |
| Yoshino, Naoyuki | Keio University | Japan | 4 | 4 | 385 | 96.25 | 96.25 | 4 | 4 |
| Zhang, Dongyang | Capital University of Economics and Business, | China | 4 | 4 | 377 | 94.25 | 94.25 | 3 | 4 |
| Zhou, Xiaoguang | University of Science and Technology Beijing | China | 4 | 2 | 187 | 46.75 | 93.50 | 2 | 2c |

Notes: TP=total number of publications; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; and g=g-i
Source: Author's compilation (2024)

development (Zhang et al., 2021). In addition to Taghizadeh-Hesary, Wasim Iqbal, Muhammad Sadiq and Abu Bakkar Siddik are ones of the most productive authors with sixth publications each and high total citations.

This section focusses on the analysis of the present state of collaboration and identifies the most important country on the theme green finance and green sukuk. Researchers from 76 countries have published documents collected from Scopus indexed databased on green finance or green sukuk more than 10 publications. Table 6 presented that China is the most productive country to write on the topic with the total publications 452 documents, 6,598 citations, h-index 40 and g-index 69. These indicate that Chinese publications are widely recognized and referenced by other researchers. Pakistan came second with total publications 53, while Malaysia has placed third. However, publications from Malaysia are cited more than publication from Pakistan. This also occurs with Japanese publications. This could be due to the various factors, such as quality research, relevance of the topics covered or stronger collaboration. Overall, the difference in researchers' productivity and impact can also be caused by the research ecosystem in the countries, including funding availability, international collaborations and research groups. As for the green sukuk context area, Malaysia and Indonesia each published six documents, and others were published by Turkey, Pakistan, the United Kingdom, and Italy.

**Table 7. Publication by Countries**

| Country | TP | NCP | TC | C/P | C/CP | h | g |
|---|---|---|---|---|---|---|---|
| China | 452 | 335 | 6598 | 14.60 | 19.70 | 40 | 69 |
| Pakistan | 53 | 41 | 1096 | 20.68 | 26.73 | 16 | 32 |
| Malaysia | 46 | 35 | 1376 | 29.91 | 39.31 | 15 | 35 |
| United Kingdom | 33 | 24 | 504 | 15.27 | 21.00 | 10 | 22 |
| Indonesia | 22 | 11 | 215 | 9.77 | 19.55 | 5 | 14 |
| India | 20 | 15 | 355 | 17.75 | 23.67 | 7 | 18 |
| Japan | 19 | 18 | 1221 | 64.26 | 67.83 | 11 | 19 |
| Russian Federation | 19 | 12 | 138 | 7.26 | 11.50 | 7 | 11 |
| United States | 19 | 13 | 139 | 7.32 | 10.69 | 8 | 11 |
| Australia | 18 | 15 | 254 | 14.11 | 16.93 | 7 | 15 |
| France | 18 | 12 | 168 | 9.33 | 14.00 | 8 | 12 |
| Germany | 18 | 7 | 53 | 2.94 | 7.57 | 5 | 7 |
| Viet Nam | 17 | 15 | 422 | 24.82 | 28.13 | 11 | 17 |
| Italy | 14 | 11 | 249 | 17.79 | 22.64 | 6 | 14 |
| Taiwan | 12 | 7 | 167 | 13.92 | 23.86 | 4 | 12 |
| Hong Kong | 11 | 9 | 98 | 8.91 | 10.89 | 5 | 9 |
| Saudi Arabia | 11 | 8 | 57 | 5.18 | 7.13 | 4 | 7 |
| Turkey | 11 | 10 | 201 | 18.27 | 20.10 | 5 | 11 |

Source: Author's compilation (2024)

The source-wide publication analysis is retrieved from the downloaded data, and it is presented in Table as below. Evidence from the Table 8 indicates that Environmental Science and Pollution Research has the highest number of publication (93) and citations (990), and it's followed by Sustainability Switzerland and Resources Policy. On the contrary, Energy Economics, Journal of Cleaner Production, Resources Policy and Renewable Energy have the most scientific influence based on the SJR 2020 and SNIP2020 values. In summary, the journals vary in their publications counts and influence rank. While some journals are prominently positioned in Q1 and Q2, others with Q3 and Q4 rankings still play important roles in disseminating discussions on the green finance theme within the research.

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 36 Issue 1, Jan-June 2026, Pages: 869-883

**Table 8. Publication by Source**

| Source Titles | TP | TC | Publisher | Cite Score | SJR 2020 | SNIP 2020 |
|---|---|---|---|---|---|---|
| Environmental Science and Pollution Research | 93 | 990 | Springer Nature | 7.9 | 0.944 | 1.214 |
| Sustainability Switzerland | 55 | 732 | Multidisciplinary Digital Publishing Institute (MDPI) | 5.8 | 0.664 | 1.198 |
| Resources Policy | 37 | 676 | Elsevier | 11.3 | 1.869 | 2.001 |
| Frontiers in Environment Science | 30 | 153 | Frontiers Media S.A. | 3.1 | 1.005 | 1.166 |
| Renewable Energy | 29 | 340 | Elsevier | 16.1 | 1.815 | 2.146 |
| Energy Economics | 17 | 615 | Elsevier | 14.7 | 3.039 | 2.622 |
| Journal of Cleaner Production | 15 | 455 | Elsevier | 18.5 | 1.981 | 2.379 |
| International Journal of Environment Research and Public Health | 14 | 91 | Multidisciplinary Digital Publishing Institute (MDPI) | 5.4 | 0.828 | 1.28 |
| E3S Web of Conference | 13 | 44 | EDP Science | 1 | 0.182 | 1.213 |
| Economic Research Ekonomska Istrazivanja | 12 | 30 | Taylor & Francis | 6.2 | 0.611 | 1.408 |

Notes: CiteScore = average citations received per document published in the source title; SJR = SCImago Journal Rank measures weighted citations received by the source title; SNIP = source normalised impact per paper measures actual citations received relative to citations expected for the source title's subject field.

Source: Author's compilation (2024)

The performance and the impact of the publications can be examined further by looking at the highly cited papers within the downloaded dataset (Ahmi, 2022a; Wahyudi, 2022). Table 9 represented the 20 most influential documents in green finance, but none in the green sukuk article title.

The mostly cited documents are "Public spending and green economic growth in BRI region: Mediating role of green finance" written by Zhang et al., (2021) published in the Energy Policy Journal, where the authors examine the impact of public spending on education, research, and development (R&D) to the green economic performance, particularly in Belt and Road Initiative (BRI) member countries. The second mostly cited article is "The way to induce private participation in green finance and investment" by Taghizadeh-Hesary & Yoshino (2019). This paper contributes to literature by proposing two applied frameworks, backed by theoretical models on green finance and investment based on projects size. Meanwhile, Lee & Lee (2022) that examined the green finance effect on green total factor productivity in China gathering the highest citation per-year among all articles.Thus, we can say that the results of their research are conclusively a reference for future research. These documents underscore the importance of both public and private investment in fostering a sustainable economy, making them essentials resources for scholars and policymakers aiming to advance green finance initiatives. The government initiative also can be stimulated with substantial academic interest and research in green finance field of research.

**Table 9. Top 20 Highly Cited Articles**

| No. | Author(s) | Title | TC | C/Y |
|---|---|---|---|---|
| 1. | Zhang et al. (2021) | Public spending and green economic growth in BRI region: Mediating role of green finance | 322 | 161 |
| 2. | Taghizadeh-Hesary and Yoshino (2019) | The way to induce private participation in green finance and investment | 306 | 76.5 |
| 3. | Lee and Lee (2022) | How does green finance affect green total factor productivity? Evidence from China | 263 | 263 |
| 4. | Yu et al. (2021) | Demand for green finance: Resolving financing constraints on green innovation in China | 248 | 124 |
| 5. | Zhang et al. (2019) | A bibliometric analysis on green finance: Current status, development, and future directions | 214 | 53.5 |
| 6. | Wang and Zhi (2016) | The Role of Green Finance in Environmental Protection: Two Aspects of Market Mechanism and Policies | 214 | 30.57 |
| 7. | Zhou et al. (2020) | Impact of green finance on economic development and environmental quality: a study based on provincial panel data from China | 177 | 59 |
| 8. | Ren et al. (2020) | Nexus between green finance, non-fossil energy use, and carbon intensity: Empirical evidence from China based on a vector error correction model | 156 | 52 |
| 9. | Zhang et al. (2021) | Fostering green development with green finance: An empirical | 148 | 74 |

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 36 Issue 1, Jan-June 2026, Pages: 869-883

| No. | Author(s) | Title | TC | C/Y |
|---|---|---|---|---|
| | | study on the environmental effect of green credit policy in China | | |
| 10. | Nawaz et al. (2021) | Nexus between green finance and climate change mitigation in N-11 and BRICS countries: empirical estimation through difference in differences (DID) approach | 142 | 71 |
| 11. | Irfan et al. (2022) | Influence mechanism between green finance and green innovation: Exploring regional policy intervention effects in China | 131 | 131 |
| 12. | Meo and Karim (2022) | The role of green finance in reducing CO2 emissions: An empirical analysis | 128 | 128 |
| 13. | Muganyi et al. (2021) | Green finance, fintech and environmental protection: Evidence from China | 116 | 58 |
| 14. | Rasoulinezhad and Taghizadeh-Hesary (2022) | Role of green finance in improving energy efficiency and renewable energy development | 108 | 108 |
| 15. | Lv et al. (2021) | Regional gap and the trend of green finance development in China | 107 | 53.5 |
| 16. | Dikau and Volz (2021) | Central bank mandates, sustainability objectives and the promotion of green finance | 102 | 51 |
| 17. | Hafner et al. (2020) | Closing the green finance gap: A systems perspective | 96 | 32 |
| 18. | Zhou et al. (2022) | The impact of fintech innovation on green growth in China: Mediating effect of green finance | 95 | 95 |
| 19. | Soundarrajan and Vivek (2016) | Green finance for sustainable green economic growth in India | 95 | 13.57 |
| 20. | Wang and Wang (2021) | Research on the impact of green finance on the upgrading of China's regional industrial structure from the perspective of sustainable development | 93 | 46.5 |

Source: Author's compilation (2024)

Out of the 659 documents identified, only 17 documents are titled 'green sukuk' as listed below:

**Table 10. Green Sukuk Publications**

| No. | Author(s) | Title | TC |
|---|---|---|---|
| 1. | Morea and Poggi (2017) | An innovative model for the sustainability of investments in the wind energy sector: The use of green sukuk in an Italian case study | 22 |
| 2. | Alam et al. (2016) | Green sukuk: an innovation in Islamic capital markets | 13 |
| 3. | Liu and Lai (2021) | Ecologies of green finance: green sukuk and development of green Islamic finance in Malaysia | 10 |
| 4. | Siswantoro (2018) | Performance of indonesian green sukuk (islamic bond): a sovereign bond comparison analysis, climate change concerns? | 6 |
| 5. | Keshminder et al. (2022) | Green sukuk – Malaysia surviving the bumpy road: performance, challenges and reconciled issuance framework | 5 |
| 6. | Abdullah and Keshminder (2022) | What drives green sukuk? A leader's perspective | 5 |
| 7. | Santoso (2020) | Green sukuk and sustainable economic development goals: mitigating climate change in Indonesia | 3 |
| 38. | Endri et al. (2022) | Corporate green sukuk issuance for sustainable financing in Indonesia | 2 |
| 9. | Keshminder et al. (2019) | Green sukuk: Malaysia taking the lead | 2 |
| 10. | Siswantoro and Surya (2021) | Indonesian green sukuk (islamic bond) of climate change: a revisited analysis | 1 |
| 11. | El amri et al. (2021) | How green sukuk structure contributes to sdgs? | 1 |
| 12. | Musari (2021) | Green sukuk, Islamic green financing: a lesson learned from Indonesia | 1 |
| 13. | Güçlü (2019) | The rise of environmental consciousness in Islamic finance: green sukuk | 1 |
| 14. | Faisal et al. (2023) | Examining the purchase intentions of Indonesian investors for green sukuk | 0 |
| 15. | Rahman et al. (2023) | Policy approach adopted for issuance of green sukuk: is priority given to priority needed areas? | 0 |
| 16. | Rozman and Azmi (2022) | Green sukuk, environmental issues and strategy | 0 |
| 17. | Saeed (2021) | Green sukuk for financing renewable projects in Islamic social finance: problems and solutions | 0 |

Source: Author's compilation (2024)

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 36 Issue 1, Jan-June 2026, Pages: 869-883

### 4.3. Network Analysis

Among the most popular tools in bibliometric analysis is called network analysis. A bibliometric analysis was used to create a map based on network data of scientific publications. VosViewer, Gephi, Pajek are the most popular tools for conducting analysis. Currently, Biblioshiny has been recognized as the latest tool for performing network analysis. The next section of this analysis will be analysis with VosViewer and Biblioshiny.

The Sankey diagram of the three-field plot analysis, as presented in Figure 3, helps in visualizing the relationship of the three-field selected academic literatures, such as keyword (left), countries (middle) and source (right). The height of rectangular nodes is proportional to the frequency of the presence of keywords, countries and source in the collaboration network. The width of the lines between nodes is proportional to the number of connections.

The Three Field Plot analysis highlights the interconnectedness of the keywords, countries, and journals in the realm of "green finance" research. It underscores the global participation on this research, especially the significant role of China, Pakistan and Indonesia, the variety of topics covered under green finance and the key journals that publish this work. Visualization can help researchers to identify the potential areas for further study, key regions of interest and the most impactful journals for publication. The further explanation can be seen in the component co-authorship by countries and co-occurrence by all keyword's networks below.

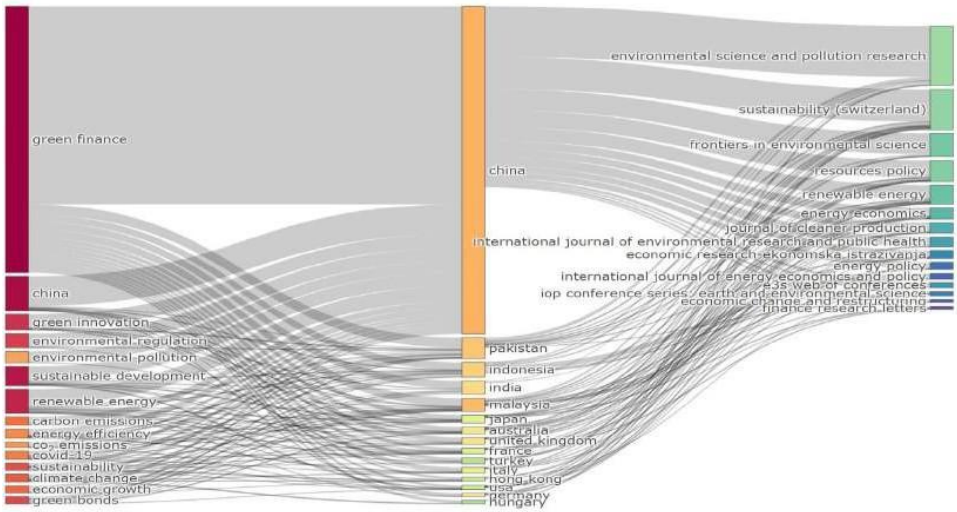


**Figure 3. Three Field Plot Analysis**

This co-authorship analysis provides valuable insight on the global landscape of collaborative research in green sukuk and green finance. Mapping the co-authorship countries with the Vos Viewer technique for networks publishing in green finance or green sukuk from 1997 to 2023 resulted in 65 countries out of 73 that met the threshold at least 1 number of documents published per-country and minimum 1 of citation. As presented in Figure 3, we found that most countries have co-authorship with China, Malaysia has co-authorship with 25 countries and Indonesia has co-authorship with China, Malaysia, Vietnam and Japan.

China is the most productive countries with 452 publications in total and 6,598 citations (see Table 6), It ranks first in the total link strength 197, then followed by Pakistan (95) and Malaysia (81). The countries with lowest total link strength are Denmark, Canada and Cyprus (2) and Slovenia, Azerbaijan and Austria (1). These highlights that China's as the leading country in terms of both research productivity and research authors or influence in green finance field of research with Pakistan and Malaysia also having notable contributions. In contrast, Slovenia, Azerbaijan and Austria have the least contributions.

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 36 Issue 1, Jan-June 2026, Pages: 869-883


**Figure 4. Network Visualisation Map of the Co-authorship by Countries**

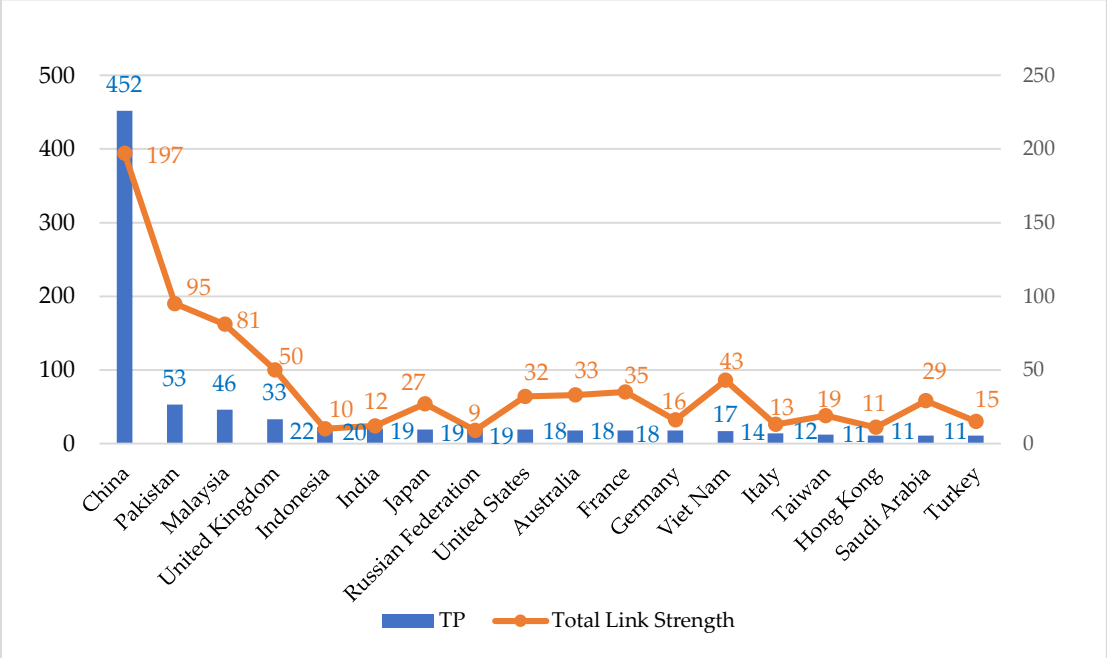


**Figure 5. Countries with the Highest Total Link Strength**
Source: Author's compilation, 2024

The Co-occurrences analysis of all the author keywords with minimum 7 occurrences led to 165 keywords out of 2784 keywords divided into 7 clusters. Keywords green finance (448), China (214), finance (209), sustainable development (145), economic development (120) and green economy (119) were the most encountered author keywords after the exclusion of the core keywords related to the search query green finance or green sukuk by more than 100 occurrences. Circles in the same cluster suggest similar topics among the publications. Each cluster will represent a subfield of the field of research in green finance (see Figure 6). Specifically, as shown in the purple, green, yellow, blue, light blue and brown colour cluster. Keyword "green sukuk" is classified in cluster 4 (yellow) along with "green finance", "sustainability", "climate change", "financial system", "covid-19", "green bonds", "bibliometrics", "cost", "sustainable finance", "green bonds", "green credit", "green growth", policy implementation", "green energy", "green investment", "Asia", "climate finance", "energy", "financial market"

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 36 Issue 1, Jan-June 2026, Pages: 869-883

"green financing" and "literature review". Green sukuk has the lowest weight compared to others in the same cluster with 4 links, 5 total link strength and 7 occurrences.

Through the above findings, it means that discussions around green finance topics are central to the current academic discourse. The attentions of China may reflect its role as a major player in the global green trends. In contrast, the research on green sukuk remains a niche area with limited academic focus and relatively few publications specifically addressing it. Given this research gap, we encourage researchers should investigate specific aspects of green sukuk that have not been extensively covered, such as interdisciplinary approaches, policy analysis or empirical studies of green sukuk, especially for Saudi Arabia and Malaysia as the highest green sukuk issuance in the global. This fact also offers an excellent opportunity for Indonesia researchers to explore the impact of green sukuk on Indonesia more thoroughly, give the country's third place of ranking in green sukuk issuance and its status as the world's most populous Moslem nation. The findings can be utilized by policymakers in Indonesia to advance the green sukuk as a tool for achieving sustainability goals.

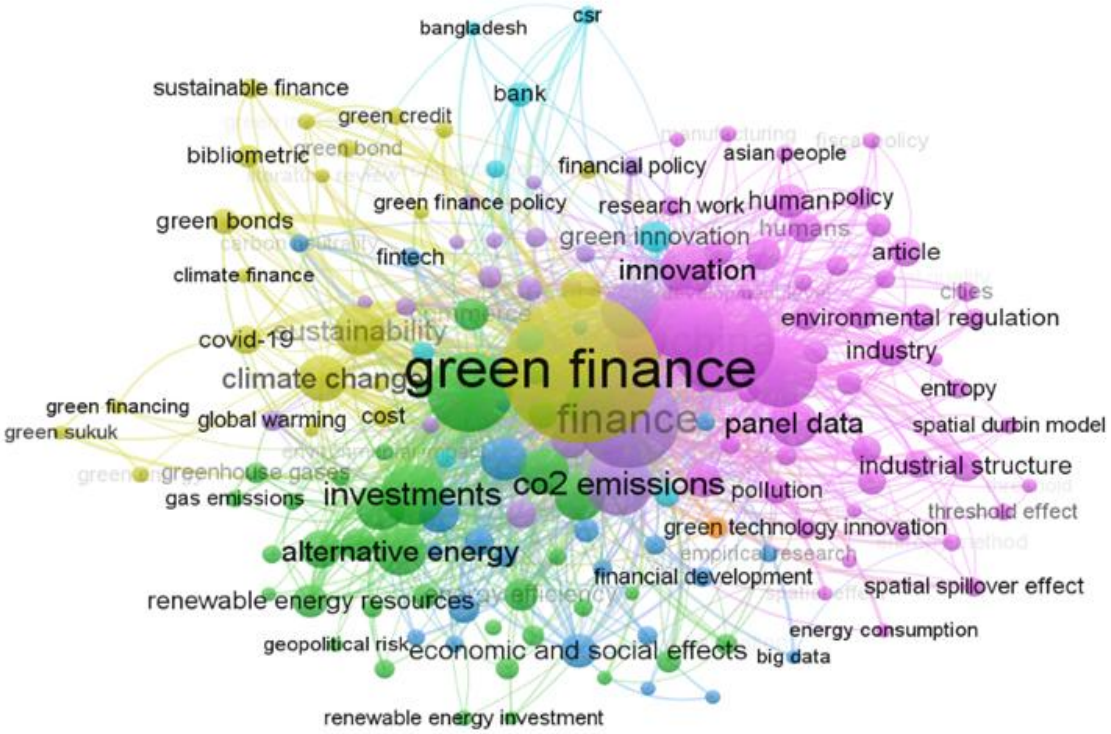


**Figure 6. Network Visualization Map of Co-occurrences by All Keywords**

### 4.4. Emerging Role of Green Sukuk in Green Finance Research

While green finance have gained a lot of attention and recognition, whereas green sukuk have not been studied as much. Limited research that exists on green sukuk, we found only 17 publications in green sukuk title out of the 659 documents, and they are fragmented. Most of the publications are qualitative research, and only 2 of 17 documents utilize quantitative approaches.

In this study, research on green sukuk began in 2016, and up to 2018, with only one article published each year. These articles are Green Sukuk: An Innovation In Islamic Capital Markets by Alam et al. (2016), An Innovative Model For The Sustainability Of Investments In The Wind Energy Sector: The Use Of Green Sukuk In An Italian Case Study by Luigi & Poggi (2017) and Performance Of Indonesian Green Sukuk (Islamic Bond): A Sovereign Bond Comparison Analysis, Climate Change Concerns? by Siswantoro (2018). The very low numbers during those years and very limited research on green sukuk were due to the lack of clear guidelines and standards for green finance in general (Keshminder et al., 2022).

The geographic context coverage of this study revealed that most of the publications in green sukuk focused on Indonesia (6 publications) and Malaysia (5 publications), followed by Italy and multi-countries (Southeast Asia and Gulf Cooperation Council) are one each, and there are four publications with unspecified geography context.

This significant number of publications related to the green sukuk in Malaysia and Indonesia cannot be separated from the proactive steps taken by their respective governments to promote green sukuk. Malaysia's first green sukuk was issued by the

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 36 Issue 1, Jan-June 2026, Pages: 869-883

Tadau Energy Sdn. Bhd. On July 27, 2017, raising MYR 250 million (approximately USD59 million) that were allocated to finance a 50-megawatt solar photovoltaic power plant is Sabah, Malaysia (Keshminder et al., 2022). Indonesia issued its first green sukuk IDR 16.75 trillion (approximately USD1.25 billion) in March 2018 that exclusively go to selected eligible green projects based on the Indonesia's Green Bond and Green Sukuk Framework. This green sukuk is considered as the first sovereign green sukuk in the world (UNDP Indonesia, 2018). By the third quarter of 2023, green sukuk cumulative issuance so far been led by Saudi Arabia (USD10,070 million), Malaysia (USD9,818 million) and Indonesia (USD7,829 million), which collectively 77.4% of the total amount raised (LSEG Data & Analytics, 2023).

Alam et al. (2016) found in their study that in Southeast Asian and GCC countries, green sukuk offer and ideal investment opportunity that support environmental sustainability through Corporate Social Responsibility. As sukuk is a popular financial instrument among Southeast Asian and GCC governments and companies, that can help fund the region's ambitious renewable energy and infrastructure projects; on the contrary, the introduction of green sukuk allows attention to expand to Western economies, as seen in the case of the Orasis Sukuk that issued in France in 2012 for photovoltaics investment to convert solar energy into electricity.

Luigi & Poggi (2017) highlighted that it is potential for green sukuk to be applied as an instrument for promoting environmental projects while adhering to Islamic finance principles in an Italian onshore wind farm case study investment. This study revealed that the standardization of such structures and government support, such as tax reductions for investment, remains limited in non-Moslem countries.

## 5. Conclusion and Recommendation

This research reviews the past three decades of green finance studies through bibliometric techniques and analysis. Bibliographic data are generated from the Scopus indexed database and defined search query "green finance" or "green sukuk" within the article title to reach documents that are really about the green finance or green sukuk. We found 659 documents, and no record removed from 1997 to 2023.

Compared with other types of documents, 82.25% of the documents are published as articles, 7.74% as conference papers and 4.40% as a book chapter, and most of them written in English language. This indicates that researchers continue to use articles as the main medium to disseminate their result. Green finance is considered interdisciplinary research, but only 31.71% of documents are published in economics, econometrics and finance, with a greater emphasis in science. Interdisciplinary collaboration among authors is still needed to further advance green finance and green sukuk. The Sustainable Development 2030 Agenda and Paris Agreement established in 2015 lead to gaining attention towards the need for green finance and sustainable activities. Thus, this research has witnessed an upward trend since 2015 and rise from 2017. The annual publication growth rate for the publication is 23.62% and citations reached the highest in 2022. On the contrary, the result of the bibliometrics showed the interesting fact that only 17 out of 659 publications (2.58%) discussed the implementations of the green sukuk. We encouraged the researchers to explore more in the green sukuk area, as the growing attention indicates a rising awareness and role of green sukuk in achieving sustainable goals.

This research found out that Farhad Taghizadeh-Hesary, Wasim Iqbal, Muhammad Sadiq and Abu Bakkar Siddik are ones of the most productive authors; and China came out as the most productive country to write about green finance, however Malaysia and Indonesia are the most productive countries to write in green sukuk theme. Environmental Science and Pollution Research journal reached the highest publication and citation; and Public Spending and Green Economic Growth in BRI region: Mediating Role of Green Finance as the highest most cited article.

For the networks analysis, as the highest publication and citation country, China has the highest weight of total link strength compared to others. Keywords like green finance, China, and finance were the most encountered authors' keywords, while the green sukuk was rarely to used. This fact is the nascent role of green sukuk in green finance field. It is advisable for countries leading in green sukuk issuance, including Saudi Arabia, Malaysia, and Indonesia, to enhance their research efforts on green sukuk. Such research is expected to reveal the potential of green sukuk as a viable funding source from both public and private sectors, which could significantly support sustainability initiatives in these countries.

The role of green sukuk in green finance research is increasingly significant as it combines the principles of Islamic finance with sustainability goals. Green Sukuk as the novel concepts of green finance, aimed at funding environmentally friendly projects, offers an innovative solution for financing initiatives like renewable energy, sustainable infrastructure, and climate resilience. Researchers are exploring how green sukuk can bridge the gap between Islamic finance and global efforts to combat climate change by attracting socially responsible investors. This instrument not only aligns with Islamic ethical principles but also helps meet the growing demand for sustainable investments. As green finance continues to evolve, the role of green sukuk is gaining attention for its potential to expand access to green capital in regions like the Gulf States, Southeast Asia, and even

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 36 Issue 1, Jan-June 2026, Pages: 869-883

non-Muslim countries, such as investment alternative in Italia and Orasis Sukuk in France.

Despite the projected growth, the green sukuk market is still far from being free of challenges. Liu & Lai (2021) study in Malaysia found that green sukuk potential for improvement in green bond regime remains doubtful due to its incorporation of existing green bond principles. Meanwhile, researchers stated in their paper that a country urgently required a stable green taxonomy to implement a green sukuk through government intervention (Endri Endri et al., 2022; Keshminder et al., 2022; Luigi & Poggi, 2017; Ulfah et al., 2023). The green classification system will automatically increase the private investors' confidence as they are protected from greenwashing (Keshminder et al., 2022; F. H. M. Liu & Lai, 2021).

Green sukuk is still nascent, with considerable growth opportunities in sight. Thus, greater government involvement is required. There is no doubt that innovation remains relevant, but it needs to be further developed to attract more interest from investors, and more study from researchers.

However, our analysis is not without limitations. Although bibliometrics analysis has specific properties, the outcome only comes from keywords based on the document titles. So, other query results, such as keywords and abstracts, are not involved in this analysis, with the consequences that their research might not directly related to the purpose. Our data is limited to the Scopus database; thus, we might have excluded some documents on green finance or green sukuk. It is worth exploring and making comparisons to the results of our bibliometric analysis.

**Declarations**

**Authors Contribution**

DEMH, FFS, ZAK and WYW conceived the study, participated in scrutinizing the literature and formulated the research gaps. DEMH and FFS formulated the methodology of this study to achieve the desired objectives. DEMH created the manuscript draft. FFS, ZAK, and WYW revised the original draft. All authors finalized the document. All authors read and reviewed the intermediate versions and approved the final version of the manuscript.

**Ethical approval**

Ethical approval for this study is not applicable as no direct data has been collected from the respondents.

**Competing interests**

The authors declare no competing interests.

**Funding Acknowledgement**

This study has not received any funding.

## REFERENCES

Ahmi, A. (2022a). *Bibliometrics Analysis for Beginners*. UUM Press.

Ahmi, A. (2022b). *Bibliometrics Analysis using R for Non Coders*.

Ahmi, A., & Mohamad, R. (2019). Bibliometric Analysis of Global Scientific Literature on Web Accessibility. *International Journal of Recent Technology and Engineering (IJRTE)*, *7*(6), 250–258.

Ahmi, A., Muse, O., Popoola, J., & Znaimat, A. (2022). *Discovering the Global Landscape of Fraud Detection Studies: A Bibliometric Review*. *29*(2), 701–720. https://doi.org/10.1108/JFC-03-2021-0052

Alam, N., Duygun, M., & Ariss, R. T. (2016). Green Sukuk: An Innovation in Islamic Capital. *Energy and Finance: Sustainability in the Energy Industry*, 167–183. https://doi.org/10.1007/978-3-319-32268-1_10

Alkadi, R. S. (2024). Towards a sustainable future: a comprehensive review of Green Sukuk. *Review of Accounting and Finance*, *23*(4), 467–488. https://doi.org/10.1108/RAF-03-2023-0105

Bhatnagar, S., & Sharma, D. (2022). Evolution of Green Finance and its Enablers: A Bibliometric Analysis. *Renewable and Sustainable Energy Reviews*, *162*. https://doi.org/https://doi.org/10.1016/j.rser.2022.112405

Chin, M. Y., Ong, S. L., Ooi, D. B.-Y., & Puah, C.-H. (2022). The impact of green finance on environmental degradation in BRI region. *Environment, Development and Sustainability*, *1–16*. https://doi.org/10.1007/s10668-022-02709-5

David, D., & Venkatachalam, A. (2019). A Comparative Study on the Role of Public–Private Partnerships and Green Investment Banks in Boosting Low-Carbon Investments. *Handbook of Green Finance*, 261–287. https://doi.org/10.1007/978-981-13-0227-5_25

Det, A., & Hallinger, P. (2020). A Bibliometric Review of Research on Sustainable Construction, 1994-2018. *Journal of Cleaner Production*, *254*, 120073. https://doi.org/10.1016/j.jclepro.2020.120073

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 36 Issue 1, Jan-June 2026, Pages: 869-883

Endri Endri, Hania, B. T., & Ma'ruf, A. (2022). Corporate Green Sukuk Issuance for Sustainable Financing in Indonesia. *Environmental Economics*, *13*(1), 38–49. https://doi.org/http://dx.doi.org/10.21511/ee.13(1).2022.04

Fahim, F., & Mahadi, B. (2022). Green supply chain management/green finance: a bibliometric analysis of the last twenty years by using the Scopus database. *Environmental Science and Pollution Research International*, *29*(56), 84714–84740. https://doi.org/10.1007/s11356-022-21764-z

G20 Green Finance Study Group. (2016). G20 Green Finance Synthesis Report 2016. In *G20 Green Finance Synthesis Report* (Issue 5 September 2015).

Hallinger, P., & Kovačević, J. (2019). A Bibliometric Review of Research on Educational Administration: Science Mapping the Literature, 1960 to 2018. *Review of Educational Research*, *89*(3), 335–369. https://doi.org/10.3102/0034654319830380

Keshminder, J. S., Abdullah, M. S., & Mardi, M. (2022). Green sukuk – Malaysia surviving the bumpy road: performance, challenges and reconciled issuance framework. *Qualitative Research in Financial Markets*, *14*(1), 76–94. https://doi.org/10.1108/QRFM-04-2021-0049

Kyoto Protocol to the United Nations Framework Confention on Climate Change, 1 (1998).

Lee, C.-C., & Lee, C.-C. (2022). How Does Green Finance Affect Green Total Factor Productivity? Evidence from China. *Energy Economics*, *107*. https://doi.org/10.1016/j.eneco.2022.105863

Liu, F. H., & Lai, K. P. (2021). Ecologies of Green Finance: Green Sukuk and Development of Green Islamic Finance in Malaysia. *Economic and Space*, *53*(8), 1896–1914. https://doi.org/DOI: 10.1177/0308518X211038349

Liu, F. H. M., & Lai, K. P. Y. (2021). Ecologies of green finance: Green sukuk and development of green Islamic finance in Malaysia. *Environment and Planning A*, *53*(8), 1896–1914. https://doi.org/10.1177/0308518X211038349

LSEG Data & Analytics. (2023). Green and Sustainability Sukuk Update 2023: Financing a Sustainable Future. In *LSEG Data & Analytics*.

Luigi, D. M., & Poggi, A. (2017). An Innovative Model for the Sustainability of Investments in the Wind Energy Sector: The Use of Green Sukuk in an Italian Case Study. *International Journal of Energy Economics and Policy (IJEEP)*, *7*(2), 53–60.

Lv, W., Zhang, Z., & Zhang, X. (2023). The role of green finance in reducing agricultural non-point source pollution—an empirical analysis from China. *Frontiers in Sustainable Food Systems*, *7*(July). https://doi.org/10.3389/fsufs.2023.1199417

Mohsin, M., Taghizadeh-Hesary, F., Panthamit, N., Anwar, S., Abbas, Q., & Vo, X. V. (2021). Developing Low Carbon Finance Index: Evidence From Developed and Developing Economies. *Finance Research Letters*, *43*(March 2020), 101520. https://doi.org/10.1016/j.frl.2020.101520

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *The BMJ*, *372*. https://doi.org/10.1136/bmj.n71

Paul, J., & Criado, A. R. (2020). The art of writing literature review: What do we know and what do we need to know? *International Business Review*, *29*(4). https://doi.org/10.1016/j.ibusrev.2020.101717

Pritchard, A. (1969). Statistical Bibliography or Bibliometrics? *Journal of Documentation*, *25*(4), 348–349.

Sachs, J. D., Woo, W. T., Yoshino, N., & Taghizadeh-Hesary, F. (2019). Handbook of Green Finance. In P. Chander & E. Quah (Eds.), *Handbook of Green Finance*. Springer. https://doi.org/10.1007/978-981-13-0227-5

Saeed Meo, M., & Karim, M. Z. A. (2022). The role of green finance in reducing CO2 emissions: An empirical analysis. *Borsa Istanbul Review*, *22*(1), 169–178. https://doi.org/10.1016/j.bir.2021.03.002

Shang, Q., & Jin, X. (2023). A Bibliometric Analysis on Climate Finance: Current Status and Future D irections. *Environmental Science and Pollution Research International*, *30*(57), 119711–119732. https://doi.org/10.1007/s11356-023-31006-5

Siswantoro, D. (2018). Performance of Indonesian green sukuk (Islamic bond): A sovereign bond comparison analysis, climate change concerns? *IOP Conference Series: Earth and Environmental Science*, *200*(1). https://doi.org/10.1088/1755-1315/200/1/012056

Taghizadeh-Hesary, F., & Yoshino, N. (2019). The Way to Induce Private Participation in Green Finance and Investment. *Finance Research Letters*, *31*, 98–103. https://doi.org/10.1016/j.frl.2019.04.016

The Paris Agreement, 1 (2015). https://doi.org/10.4324/9789276082569-2

The UNEP Inquiry. (2016). Definitions and Background Concepts: Background Note Inquiry Working Paper 16/13. In *United Nations Environment Programme* (Issue September).

Tolliver, C., Keeley, A. R., & Managi, S. (2019). Green bonds for the Paris agreement and sustainable development goals. *Environmental Research Letters*, *14*(6). https://doi.org/10.1088/1748-9326/ab1118

Turnbull, D., Chugh, R., & Luck, J. (2023). Systematic-narrative hybrid literature review: A strategy for integrating a concise methodology into a manuscript. *Social Sciences and Humanities Open*, *7*(1), 2021–2024. https://doi.org/10.1016/j.ssaho.2022.100381

Ulfah, I. F., Sukmana, R., Laila, N., & Sulaeman, S. (2023). A Structured Literature Review on Green Sukuk (Islamic Bonds): Implications for Government Policy and Future Studies. *Journal of Islamic Accounting and Business Research*. https://doi.org/10.1108/JIABR-10-2022-0255

Umme Habiba, & Xinbang, C. (2022). The impact of financial development on CO2 emissions: new evidence from developed and emerging countries. *Environmental Science and Pollution Research*, *29*(May 2022), 31453–31466. https://doi.org/https://doi.org/10.1007/s11356-022-18533-3

UNCTAD. (2014). World Investment Report 2014 Investing in The SDGs: Action Plan. In *Transnational Corporations* (Vol. 19, Issue 2). United Nations Conference on Trade and Development.

UNDP Indonesia. (2018). *Indonesia's Green Bond & Green Sukuk Initiative*. 1–32.

United Nations. (2015). *Transforming Our World: The 2030 Agenda for Sustainable Development*.

Wahyudi, M. (2022). *Examining Trends, Themes and Social Structure of Zakat Literature: A Bibliometric Analysis*. *12*(1), 40–67.

Ye, J., & Dela, E. (2023). The Effect of Green Investment and Green Financing on Sustainable Business Performance of Foreign Chemical Industries Operating in Indonesia: The Mediating Role of Corporate Social Responsibility. *Sustainability (Switzerland)*, *15*(14). https://doi.org/10.3390/su151411218

Yu, C. H., Wu, X., Zhang, D., Chen, S., & Zhao, J. (2021). Demand for green finance: Resolving financing constraints on green innovation in China. *Energy Policy*, *153*(March), 112255. https://doi.org/10.1016/j.enpol.2021.112255

Zhang, D., Mohsin, M., Rasheed, A. K., Chang, Y., & Taghizadeh-Hesary, F. (2021). Public spending and green economic growth in BRI region: Mediating role of green finance. *Energy Policy*, *153*(March), 112256. https://doi.org/10.1016/j.enpol.2021.112256

Zhang, D., Zhang, Z., & Managi, S. (2019). A Bibliometric Analysis on Green Finance: Current Status, Development, and Future Directions. *Finance Research Letters*, *29*, 425–430. https://doi.org/https://doi.org/10.1016/j.frl.2019.02.003

Zhao, T., Zhou, H., Jiang, J., & Yan, W. (2022). Impact of Green Finance and Environmental Regulations on the Green Innovation Efficiency in China. *Sustainability (Switzerland)*, *14*, 1–17. https://doi.org/10.3390/su14063206