

Bibliometric Analysis in Sukuk Market: Global Findings and Innovative Prospects for Iran

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Abstract

This research aims to provide a detailed and comprehensive analysis of trends and developments in scientometrics and bibliometrics in the sukuk market in order to present global findings and outline new perspectives and practical strategies for the improvement and development of Iran's capital market in this area. In this study, a scientometric analysis of the sukuk domain was conducted on 391 selected documents, using a scientific search method in the Web of Science database, spanning from 2010 to 2023. For this purpose, Biblioshiny, a web-based application using the R language, which includes bibliometric interpolation, was utilized. Prominent journals, authors, countries, papers, and topics were identified through this software workflow, and citation analysis, co-citation, and social network analyses were performed. In the Iran section,

papers and books on sukuk were extracted and examined. The findings indicate that the field of sukuk has emerged as a developed domain over time. The bibliometric and scientometric analysis of sukuk in the capital market clarifies the field's conceptual framework and delves into the existing intellectual and social structural patterns. This analysis illustrates the alignment of global experiences with current developments in the sukuk market and emphasizes the importance of suggestions for improving and developing Iran's capital market. Moreover, the current research examines the intellectual and social structures associated with the field and provides insights into its conceptual framework. This research, through the bibliometric and scientometric analysis of the sukuk market, elucidates the developments and intellectual and social patterns in this field and effectively contributes to the development of knowledge and improvement of Iran's capital market by offering suggestions based on global experiences.

Keywords: Sukuk, Bibliometric Analysis, Scientometrics, Scientific Developments.

Introduction

In the contemporary era, the significance and role of financial markets in the economic development of countries have gained increased attention. Among these financial instruments, Sukuk, prominent in Islamic financial markets, plays a crucial role in attracting capital and financing projects. Despite their importance, there needs to be a more comprehensive bibliometric analysis of the Sukuk market, especially within the context of Iran. This study aims to address this gap by conducting a detailed bibliometric analysis of global Sukuk research and presenting innovative prospects for Iran's capital market.

In recent years, bibliographic studies on Sukuk have focused on topics such as the Sukuk market (Ali, 2011), electronic Sukuk (Kalsi, 2010), green Sukuk (Al Mheiri & Nobanee, 2020), comparison of Sukuk and bonds (Abdullah & Terebessy, 2014), and Sukuk in the capital market (Ali, 2011). Therefore, reviewing these studies to identify the trends of research advancement and existing gaps appears essential. Paltrinieri et al.'s (2019) research represents an exceptional example of bibliographic investigation in the field of Sukuk, regarded as the most comprehensive review of the past decade. Benefiting from data collected until 2018, this study focuses on 80 articles in the "Sukuk, Islamic Financial Securities, and Sharia-Compliant Stock Market." Considering a limited time frame from the inception of Sukuk research to 2018 and a restricted number of articles (80), the necessity for a

comprehensive and up-to-date analysis of Sukuk and an examination of articles related to this field in Iran became evident. This research scrutinizes the trend of article growth in the global domain (416 articles). It delves into articles and books related to Sukuk in Iran (314 titles), providing a comprehensive roadmap for future researchers in this field. Simultaneously addressing the significance of Sukuk's growth in Iran, this endeavor can contribute to formulating developmental strategies in this area.

Within the framework of this research, due to data limitations and insufficient information in specific subsets of Sukuk, especially "Sukuk lease" and "Sukuk SRI," the focus has been solely on Sukuk as the main subject of the study. This limitation arises from the restricted access to a limited number of articles on "Sukuk lease" (8 articles) and "Sukuk SRI" (12 articles). While acknowledging the constraints of obtaining limited data, this deliberate narrowing of the analysis ensures more accurate and efficient information acquisition for bibliographic research. Consciously considering the quality of the investigation, this focus enhances the precision and depth of the analyses and presents the relevant literature on Sukuk for readers' critique and consideration. Additionally, this decision contributes to improved conceptual differentiation and enhances the quality of the research outcomes.

This study first addresses the definition and concept of Sukuk. Sukuk, known as Islamic securities, represent a specific share in assets or designated projects and are designed and offered based on the principles of Islamic Sharia. These financial instruments are devised to create a more just and transparent financial system free from interest and usury. Sukuk enables the financing of projects and businesses without violating Islamic financial principles, allowing investors to participate directly in the profits and losses of the projects.

Next, we explore global developments and trends in the Sukuk domain. Islamic financial markets have seen significant growth in recent years, with Sukuk establishing itself as a primary instrument in these markets, solidifying its position as a preferred option for financing various projects and businesses. International market analysis indicates that Sukuk is rapidly becoming a global option for Islamic financial investments.

The focus of this paper then shifts to Iran's capital market and the role of Sukuk therein. Given that Iran's economy is based on Islamic principles, Sukuk can play a significant role in the country's economic development. This section of the research examines the challenges and opportunities in Iran's capital market and analyzes the role of Sukuk in this market.

In line with the scientific objectives of this study, two main research goals

are defined. First, the study aims to identify and extract trends and patterns that have emerged over time in the development of knowledge related to the Sukuk domain. This includes a precise analysis of advancements and changes in conducted studies, research trends, and focal subjects in this field. Second, the research examines the structure of existing knowledge in the Sukuk domain and extracts various aspects and knowledge compositions employed in these studies. This objective pursues the identification of interrelations and mutual influences among different subjects and how they integrate to form a comprehensive and cohesive knowledge in the Sukuk domain.

One of the primary goals of this study is to provide recommendations for improving and developing Iran's capital market. In conclusion, by summarizing its findings, the research elucidates Sukuk's future outlook in Iran and the global capital markets. This section aims to present a general perspective on the future of this market, emphasizing the growing importance of Sukuk in the global financial system and the need for increased attention to these financial instruments in Iran.

The primary research problem addressed in this study is the need for a better understanding of research trends, influential works, and intellectual structure within the Sukuk market due to the need for comprehensive bibliometric analysis. This gap hinders policymakers, researchers, and market practitioners from fully leveraging Sukuk's potential for economic development, particularly in Iran.

To bridge this gap, this study sets forth two main objectives:

1. **Global Bibliometric Analysis****: To conduct an extensive bibliometric and scientometric analysis of the global Sukuk market. This involves identifying research trends, key journals, influential authors, and significant papers and analyzing the intellectual and social structures within the field.
2. **Innovative Prospects for Iran****: To derive new perspectives and practical strategies for enhancing Iran's capital market based on global findings. This includes providing actionable recommendations for leveraging Sukuk to foster economic development in Iran.

In pursuit of these objectives, the study employs a scientometric analysis of 391 selected documents from the Web of Science database, covering the period from 2010 to 2023. The research methodology involves using Biblioshiny, a web-based application in R, to perform citation analysis, co-citation, and social network analyses. These analyses help identify the most influential works and uncover the intellectual and social structures within the

Sukuk domain. The findings reveal the evolution and current trends in Sukuk research, emphasizing the alignment of global experiences with developments in Iran's Sukuk market. The study concludes with recommendations for enhancing Iran's capital market through strategic utilization of Sukuk, highlighting the importance of adopting global best practices and innovative approaches.

Overall, this research, aiming for a detailed and comprehensive analysis of developments and trends related to the Sukuk market in Iran, offers new perspectives on the development of Iran's capital market. Through bibliometric and scientometric analysis reveals the conceptual framework and existing intellectual and social patterns in this field, which can guide policymakers, researchers, and market practitioners in Iran and other countries.

Sukuk

Sukuk, recognized as one of the most significant financial instruments in Islamic financial markets, is a type of securities legally identified as a share of joint assets. These securities, issued for financing through capital markets (Asl et al., 2023), are designed and offered based on the principles and laws of Islamic Sharia. The primary difference between Sukuk and other bonds is that Sukuk is issued based on asset sharing in specific assets, projects, or businesses rather than paying interest.

Sukuk has been introduced as an alternative to traditional bonds, allowing investors to invest directly in various projects and activities (Asl et al., 2023). Consequently, investors share in the profits and losses of the projects they invest in. This feature makes investing in Sukuk compliant with Sharia principles and Islamic ethics.

Furthermore, as a crucial instrument in Islamic financing, Sukuk facilitates access to capital markets for significant and large projects. These securities can finance various activities, including construction, infrastructure development, and even governmental initiatives. Governments and companies can attract substantial financial resources through Sukuk, while investors equitably distribute investment risks (Yang et al., 2023).

A key aspect of Sukuk is its diversity. There are various types of Sukuk, each designed based on different Islamic financial contracts like leasing (Ijarah), partnership (Musharakah), and cost-plus financing (Murabaha). For instance, Ijarah Sukuk is issued based on the leasing of assets, where investors periodically receive lease payments. On the other hand, Musharakah Sukuk is based on joint investment in a project or business, sharing the profits and losses

incurred.

The growing popularity of Sukuk worldwide indicates the increasing acceptance of these Islamic financial instruments. International markets are gradually opening up to Sukuk; however, the largest Sukuk markets are concentrated in Islamic countries such as Malaysia, Bahrain, and the United Arab Emirates. These markets are now recognized as the main centers of innovation and development in Islamic finance.

In terms of regulation, Sukuk is overseen by various Islamic financial institutions and Sharia councils. These bodies ensure that Sukuk is issued in compliance with Sharia principles (Kalimullina & Orlov, 2020). Moreover, some countries have adopted specific laws and regulations to facilitate the issuance and trading of Sukuk, reflecting these financial instruments' growing acceptance and prominence worldwide.

Overall, Sukuk plays a significant role in expanding and developing Islamic financial markets and is recognized as one of the key financing tools in this field. With investors increasingly leaning towards ethical and Sharia-compliant investment approaches, Sukuk is emerging as an attractive and reliable option in global financial markets. Additionally, the diversity and flexibility of Sukuk enable them to meet the varied needs of investors and financial institutions, thereby playing a central role in the economic and financial development of Islamic countries and beyond.

Bibliometric Analysis

Bibliometric studies utilize computational and statistical techniques to analyze patterns in published research. In the domain of Sukuk, these studies examine completed research and chart a roadmap for the future of this field. This research, employing bibliometric analysis tools, aims to identify scattered studies in the Sukuk area. The progression and main trends will be examined from various perspectives. This study seeks to answer questions such as the trend of scientific production, leading researchers and centers, less-explored areas, and future research prospects in Sukuk.

Research Questions

- 1) What are the most influential journals and authors in the Sukuk field?
- 2) What is the rational structure of the Sukuk community?
- 3) What are the collaboration networks in the Sukuk area?

- 4) How has the concept of Sukuk evolved, and what are the most discussed issues in recent research?

Descriptive and network analysis will be used to answer these questions. The subsequent sections of the research are organized as follows: The next section is dedicated to the research methodology, followed by a section presenting data analysis. The fourth section is devoted to discussing the research findings. Future research directions and conclusions are presented in the final section.

Research Methodology

The research analysis begins with identifying the database, followed by data collection based on the research strategy (Figure 1).

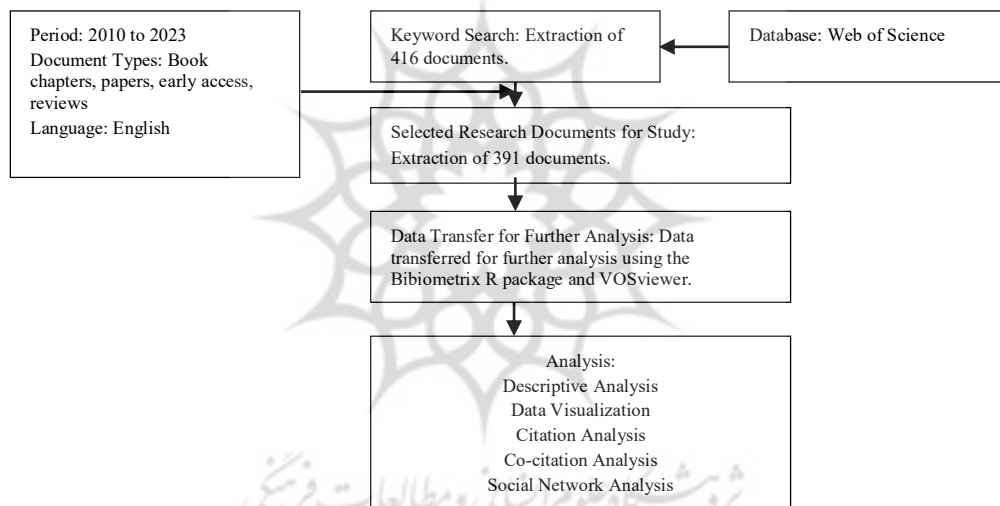


Figure 1. Flowchart for selection of documents for Bibliometric analysis

The necessary data for the research were extracted after identifying and selecting an appropriate database (Figure 1). Subsequently, a search was conducted using a precise combination of several keywords. After stabilizing the dataset with the required inclusion and exclusion criteria, software tools were utilized for data analysis. Initially, a descriptive data analysis was conducted from the perspective of sources, professors, and authors. Then, the data were subjected to reduction techniques such as principal component analysis and multiple analyses. Following this, network maps were designed for better visualization of the data and to reveal perceptual, rational, and social structures (Aria & Cuccurullom, 2017).

Database Selection

A structured description of the indexed authorities in the database is an important prerequisite for bibliometric analysis. Data retrieval was conducted from the Web of Science analytical database based on the coverage of papers and journal classification in the database and its compatibility with the bibliometric software from R Studio. According to Rodriguez-Ruiz and colleagues (2019), most studies use this database for bibliometric analysis because it encompasses highly reputable journals across various fields and excludes papers published in non-scientific journals and magazines. The Journal Citation Report (JCR) index of this database is considered an essential criterion in the research community concerning the credibility of papers (Dambiski et al., 2017; Liu et al., 2013; Rialti et al., 2019).

Data Preparation for Analysis

To support vosviewer software and the bibliometric package, data were downloaded in plain text format from the database. Documents were indexed based on the search criteria used in 2023.

Keywords for Search Strategy

Most selected papers contained the keyword "Sukuk," identified using keyword search criteria, resulting in the extraction of 416 documents. The keyword search criteria included "Sukuk" in the title, abstract, or the list of keywords in papers. The search strategy used for this research is presented below.

Search Strategy

- Keywords: "Sukuk"
- Document Types: (Paper, Early Access, Book Chapter or Review).
- Languages: English.
- Period: All years.

Selection of period

Considering the goal of identifying trends and prospects in the field of Sukuk, data included all published works from 2010 to 2023. This approach eliminated the risk of overlooking prominent papers in the dataset.

Selection of Document Types

Open access papers were excluded for data synchronization and to meet the research objectives; thus, the listed data comprised 391 documents, including book chapters, papers, early access, and reviews.

Selection of Language

Documents in the list were also screened through a language filter (English). The aim was to extract the final dataset from the 416 documents. Information related to these documents, such as titles, authors, abstracts, and keywords, was transferred to the Biblioshiny software based on the plain text data format. After refining the data for duplicates and format matching, the final bibliometric data comprised 391 documents (Figure 1).

Selection of Bibliometric Tools

For comprehensive scientific mapping, this research utilizes bibliometric techniques. This technique is an age-old research method for the statistical and computational analysis of scientific studies published in library and information sciences to enhance the efficiency and productivity of libraries (Tella & Aisha Olabooye, 2014). Various software like Bib Excel, Publish or Perish, CiteSpace (Jayantha & Oladinrin, 2019), HistCite (Garfield, 2004), and VOSviewer (Rialti et al., 2019) have been used for bibliometric studies in the past. The current research employs the Bibliometrix software designed by Aria and Cuccurullo (2017). This package facilitates a comprehensive bibliometric study, including data analysis and visualization. Most bibliometric analyses are complex due to the access limitations caused by software licensing and the extensive training required for researchers.

On the other hand, Bibliometrix is an open-source software designed for comprehensive scientific mapping analysis. This software is capable of continuous enhancement and integration with other statistical packages of R; hence, it has received good reception among users and gained popularity in the dynamic field of bibliometric analysis, both for network and descriptive analyses. This research analyzed data using Biblioshiny, a web-based program part of the Bibliometrix package. This user-friendly software is also utilized by non-programmers. This tool performs the process of scientific mapping analysis using key features related to the automatic workflow of the Bibliometrix package.

Results

The data analysis was conducted in the form of descriptive analysis and scientific mapping (Figure 2).

- 1) Descriptive analysis focuses on examining bibliographic data from the perspective of fundamental characteristics of the dataset, for instance, (1) Sources/Journals, (2) Authors, and (3) Documents.
- 2) Scientific Mapping is a comprehensive process of creating scientific maps using visualization techniques, such as network analysis, three-field plots, and thematic maps. This process extracts knowledge structures to facilitate analyses.

Bibliometric Analysis																		
In Iran					Globally													
Keyword cloud of Persian papers	Most active authors	Papers by number of authors	Number of published papers and books	Scientific productions	Institutional collaboration network	Geographic collaboration network	Network of shared citations - papers	Co-occurrence framework	Popular topics	Keyword cloud	Most cited global documents	Global collaboration map	Average citation per paper	Scientific production by countries	Authors with the most citations	Most related authors	Production of sources over time	Average citations per paper each year

Figure 2. Levels of Bibliometric analysis

Descriptive Analysis

This section discusses various dimensions of descriptive analysis.

Dataset

Table (1) provides a comprehensive overview of the bibliographic data framework of 391 documents collected through a systematic search in the Web of Science database. These documents were published in 658 sources with an average citation score of 16.44 and a collaboration index of 2.78. These values indicate extensive collaboration among researchers in this field.

Table 1. Summary of data set

Description	Results
Documents	391
Sources (Journals, Books, etc)	183
Keywords Plus (ID)	483
Author's Keywords (DE)	1070
Timespan	2023-2010
Document Average Age	3/85
Authors	729
Authors of single-authored docs	76
Authors of multi-authored docs	653
Single-authored docs	100
Co-Authors per Doc	2.62
References	12082
Average citations per doc	7.581
Document Average Age	3.85

Three-Field Plots

The three-field plot (Figure 3) illustrates the relationship between three domains using Sankey diagrams. In this diagram, the size of each section is proportional to the value of the node (Riehmann et al., 2005). On the left side of the Sankey diagram are the authors; in the middle row are the keywords; and on the right side are the selected sources for analysis. Each of the 15 items represents a significant keyword related to Sukuk, alongside sources and authors of the papers. All 15 influential journals contain the topic of "Sukuk." "Islamic Finance," "Conventional Bonds," and "COVID-19" are identified as significant sub-topics in these journals.

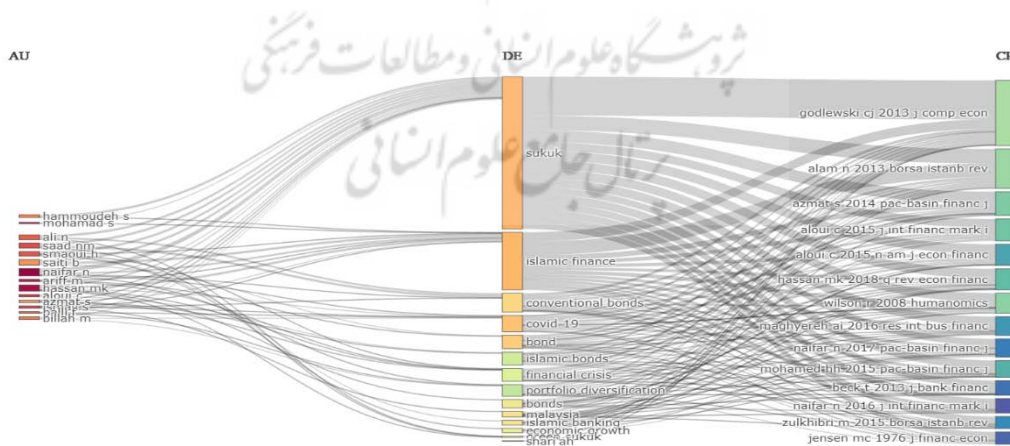


Figure 3. Three-field plot

Sources

The scholarly richness in studies from 2010 to 2023 indicates a forward trend in papers in this field (Figure 4).

Based on the presented data, the number of papers published in the field of Sukuk from 2010 to 2023 can be analyzed and interpreted as follows:

In 2010, only two papers were published in this field, indicating low attention to this topic in the academic community. However, the number of published papers increased to 5 in 2011, signifying a gradual growth in interest and research in this area.

A significant jump occurred in 2012 with the publication of 16 papers. This may be due to increased awareness and attention to Islamic financial instruments, especially following the global financial crisis 2008 2009, which led researchers and investors to seek alternative methods and more sustainable financial principles.

In 2013, the number of published papers unexpectedly decreased to 5, which could indicate political-economic changes or shifts in scientific publishing policies. However, an increasing trend resumed in 2014 and continued with relative stability until 2016.

From 2017 to 2022, a noticeable upward trend in the number of published papers is observed, increasing from 28 papers in 2017 to 62 papers in 2022. This increase may be due to greater acceptance and understanding of Islamic financial instruments globally and the expansion of Islamic financial markets in non-Islamic countries.

The year 2023 shows a decrease to 53 papers compared to the previous year, but considering that the year has not yet ended, this number could indicate a continuing interest in research in this field, and it is possible that more papers will be published by the end of the year.

Overall, these data indicate a growing trend and development in research in the field of Sukuk. This upward trend could be indicative of increasing interest in the Islamic financial space and a need for a deeper understanding of the mechanisms and effectiveness of these tools in global markets. Additionally, this increase may stem from greater attention to issues related to sustainability and ethics in investments, which have gained focus in recent decades.

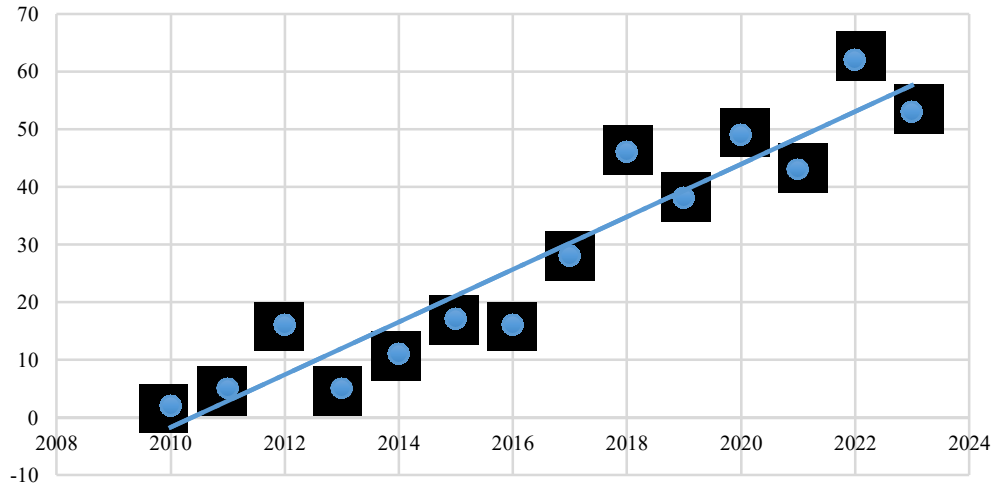


Figure 4. Scientific productivity

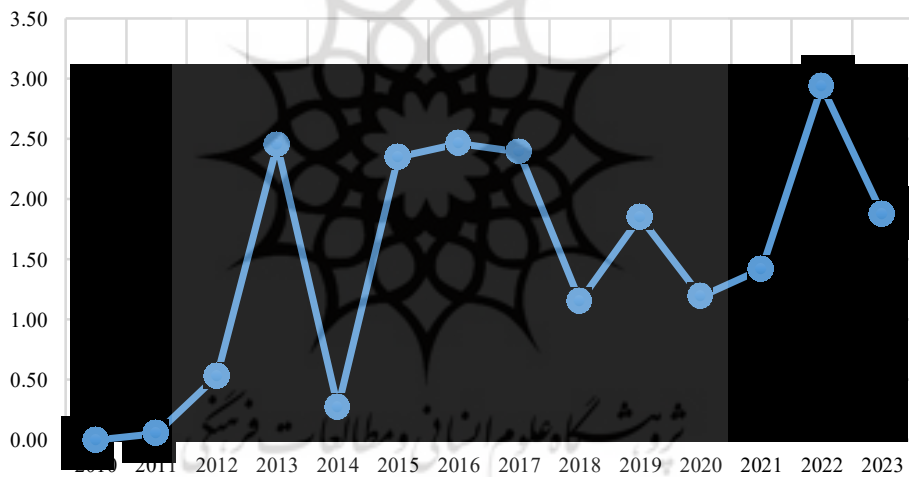


Figure 5. Average paper citations per year

The top 20 most-cited journals, indicative of the quality of journals in this field, are displayed in Figure (6), identifying the most influential journals in the financial domain. "Pacific-Basin Finance Journal," with 502 published papers, has the highest number of papers, suggesting its significant influence in specialized financial areas.

"Journal of Finance" and "Journal of Financial Economics," with a high number of papers, 338 and 314, respectively, signify their credibility and impact in the financial research community. These journals are widely recognized as reference sources among financial researchers and often publish

pioneering and innovative works in finance.

Among journals with a more specific focus, "The International Journal of Islamic and Middle Eastern Finance and Management," 244 papers, and "Journal of Islamic Accounting and Business Research," with 182 papers, play a significant role in expanding knowledge and understanding of Islamic finance. The number of papers indicates the attention and impact of these journals in promoting research in Islamic finance, likely due to growing global interest in Islamic financial practices.

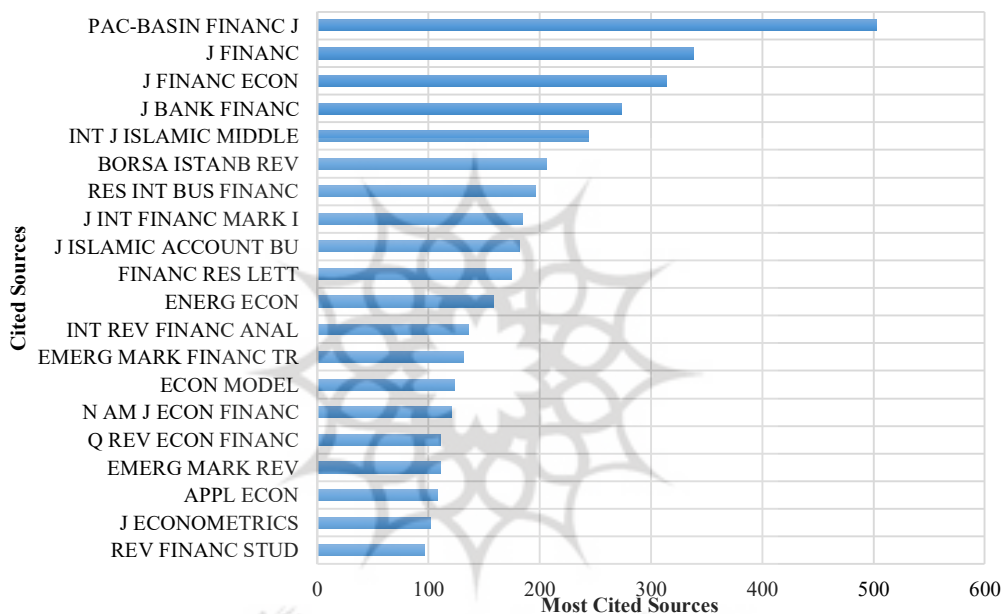


Figure 6. Top 20 cited sources

Figure (7) presents the 20 most influential journals in this field (based on the h-index). This metric provides the ability to rank the relative quality of journals based on citation impact and productivity. The h-index refers to the maximum value "n" - n refers to the number of journals that have published n papers with a minimum of n citations. Journals with the highest number of papers in this field and those with the maximum number of citations are not necessarily contributing to journals in this field. The h-index is a better indicator of a journal's quality and quantity of impact.

"Pacific-Basin Finance Journal" tops this table with an h-index of 11, indicating its significant influence and high citation of published papers. This

journal is clearly recognized as one of the most important publications in finance internationally.

"International Journal of Islamic and Middle Eastern Finance and Management" with an h-index of 8 also indicates considerable influence, especially among researchers in the Middle East in Islamic finance and financial management.

Journals with an h-index of 5, such as "Emerging Markets Finance and Trade" and "Journal of Islamic Accounting and Business Research," signify a good and reputable impact in their specialized fields, indicating that other researchers regularly use papers published in these journals.

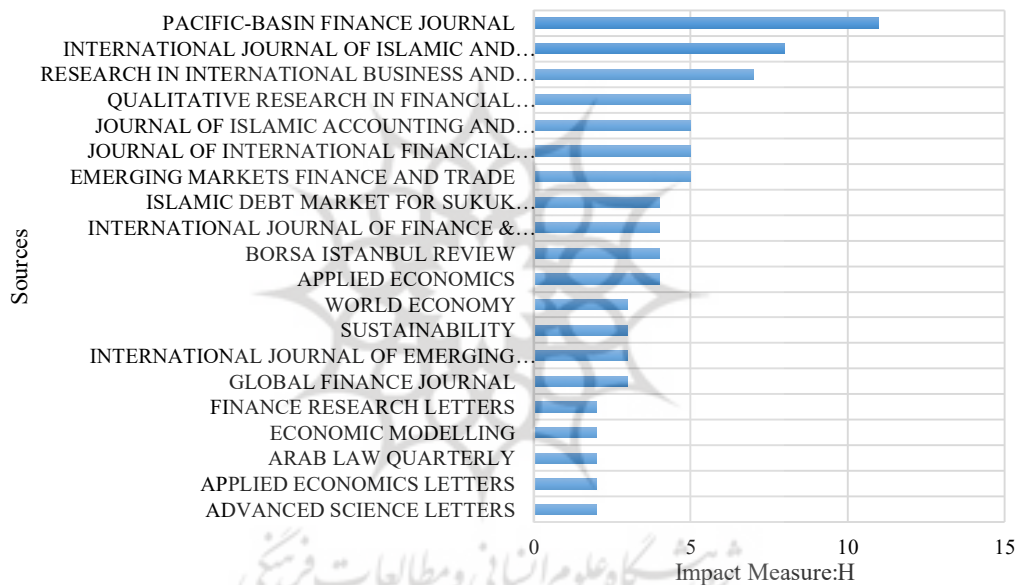


Figure 7. Top 20 impactful resources

Figure (8) uses the LOESS tool to refer to the source-oriented dynamics of the top five journals. This index points to the number of works published in a specific period.

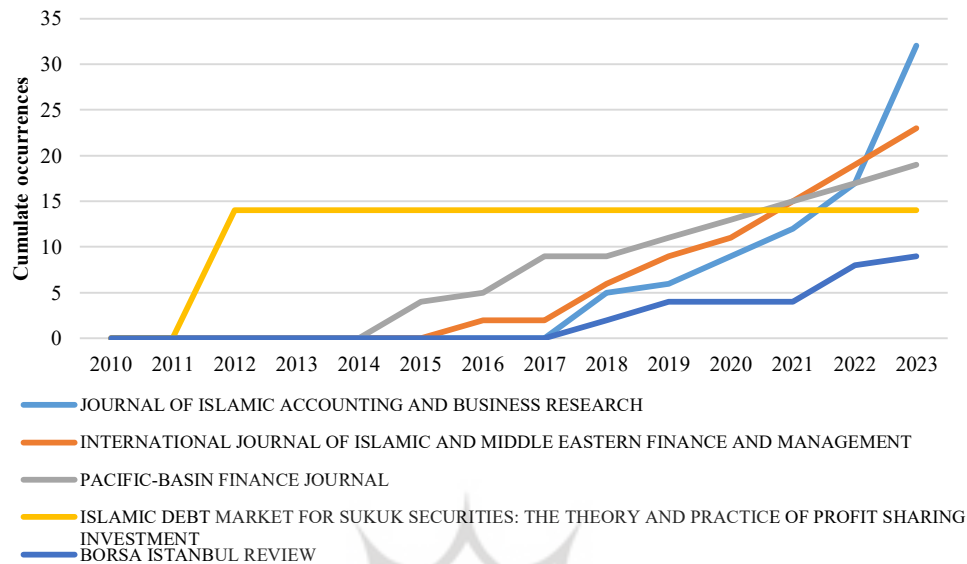


Figure 8. Source dynamics

This table shows the publication trend of papers in several specialized journals from 2010 to 2023. Data analysis reveals that:

- "Journal of Islamic Accounting and Business Research" experienced significant growth from 2018 to 2023, increasing from 5 papers in 2018 to 32 papers in 2023, indicating a considerable increase in attention to Islamic accounting and business.
- "International Journal of Islamic and Middle Eastern Finance and Management" also showed a growing trend from 2016 to 2023, increasing from 2 papers to 23 papers. This rise may indicate the development and expansion of Islamic finance and interest in financial management in the Middle East.
- "Pacific-Basin Finance Journal" consistently grew throughout this period, from 4 papers in 2015 to 19 papers in 2023, suggesting a stable influence and growing attention to finance in the Pacific region.
- For "Islamic Debt Market for Sukuk Securities: The Theory and Practice of Profit Sharing Investment," the number of papers has been stable since 2012, with 14 papers published yearly. This stability may indicate a sustained and specialized interest in the Sukuk and Islamic debt markets.
- "Borsa Istanbul Review" has seen gradual growth since 2018, increasing

from 2 papers in that year to 9 papers in 2023. This may indicate growing attention to finance in Turkey and emerging markets.

Overall, these data suggest that interest in topics related to Islamic finance and regional financial markets is increasing, and specialized publications in these areas are experiencing a growth trend.

Authors

NAIFAR, HASSAN, ARIFF, MOHAMAD, and SMAOUI were among the most influential authors with the maximum papers in this field (Figure 9). LUSARDI and MITCHELL had more than 12 papers in this area. The h-index analysis of authors shows that HAMMOUDEH, NAIFAR, and WEILL were the most influential authors (Figure 10). Their research output is exceptionally prominent. These papers are of great importance from the perspective of future research.

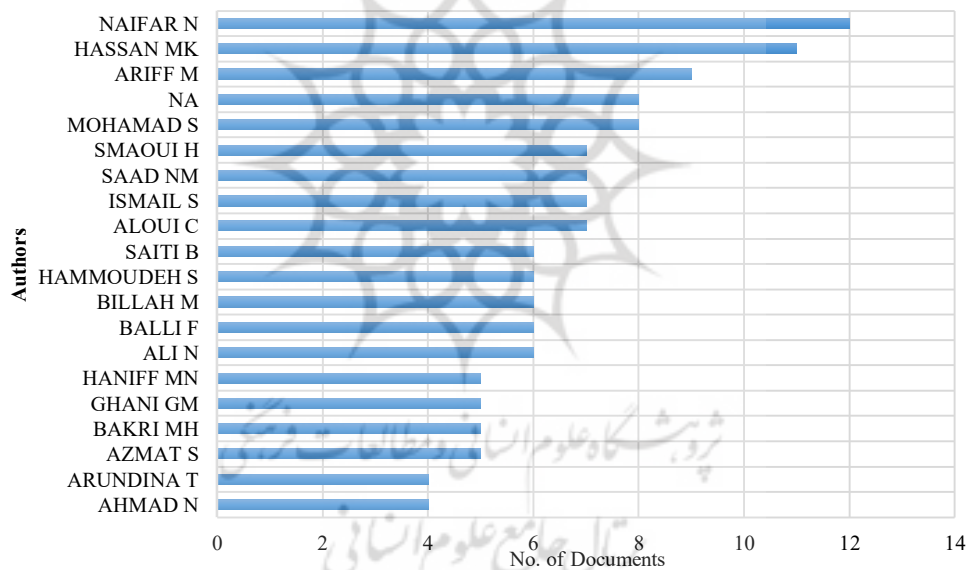


Figure 9. Most relevant authors

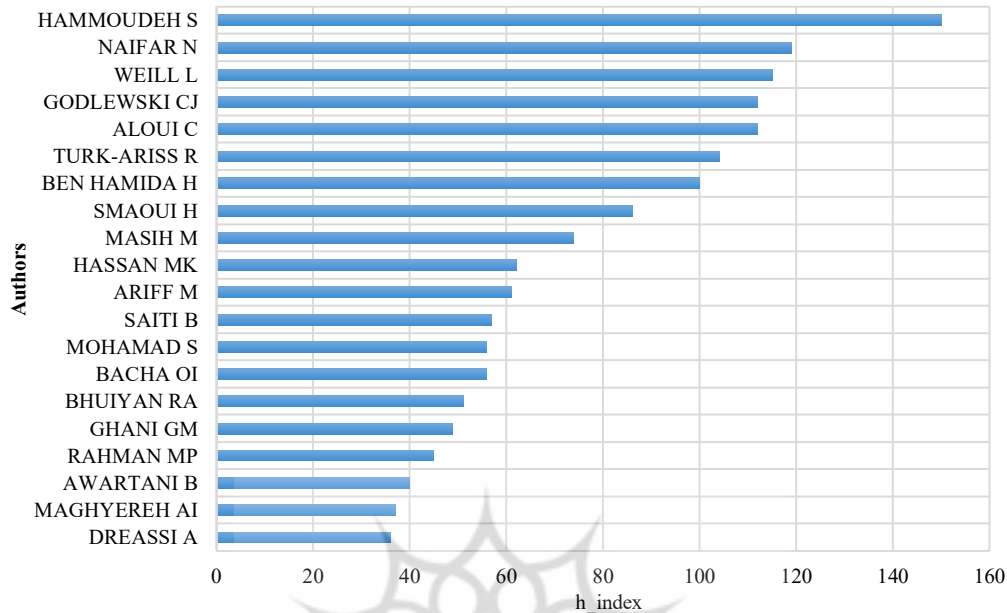


Figure 10. Author impact

Country Contributions

Table (2), dedicated to the contributions of different countries in the research field, shows that developed countries have had the most significant participation in producing studies in this area.

With 232 papers, Malaysia has the highest scientific output, but the average citations per paper are relatively low (6.60). This indicates that Malaysia is active in this field, but the quality or global impact of their papers might be lower.

Despite having fewer papers, the United States and France have higher average citations (18.10 for the USA and 23.90 for France). This suggests that the papers published by these countries are of high quality and impact.

Spain, with an average citation of 67.00 per paper, has the highest impact among the countries. Although the number of papers published by Spain is less (45 papers), this statistic indicates the prominence and importance of their papers in the academic community.

Overall, these data show that some countries may excel in the number of papers while others stand out in terms of the quality and impact of their papers. These differences may be due to various factors, including each country's research policies, financial resources, and research focus.

Table 2. Top 10 countries: Productivity and citations

The country's scientific production		Most cited countries		
region	Frequency	Country	Total citations	Average Paper Citations
MALAYSIA	232	MALAYSIA	621	6.60
INDONESIA	70	USA	343	18.10
SAUDI ARABIA	63	FRANCE	239	23.90
PAKISTAN	62	U ARAB EMIRATES	177	13.60
USA	56	SAUDI ARABIA	160	7.00
AUSTRALIA	51	QATAR	136	17.00
UK	45	SPAIN	134	67.00
FRANCE	34	PAKISTAN	113	7.10
TUNISIA	26	TURKEY	113	7.10

Documents

Figure (11) depicts the 20 most cited documents in the research field. Many of these papers have more than 50 citations. (Godlewski et al., 2013), with over 120 citations, and (Shahzad et al., 2017), with around 110 citations, are the most cited papers in this field. These leading papers can be considered as reference papers in the research domain.

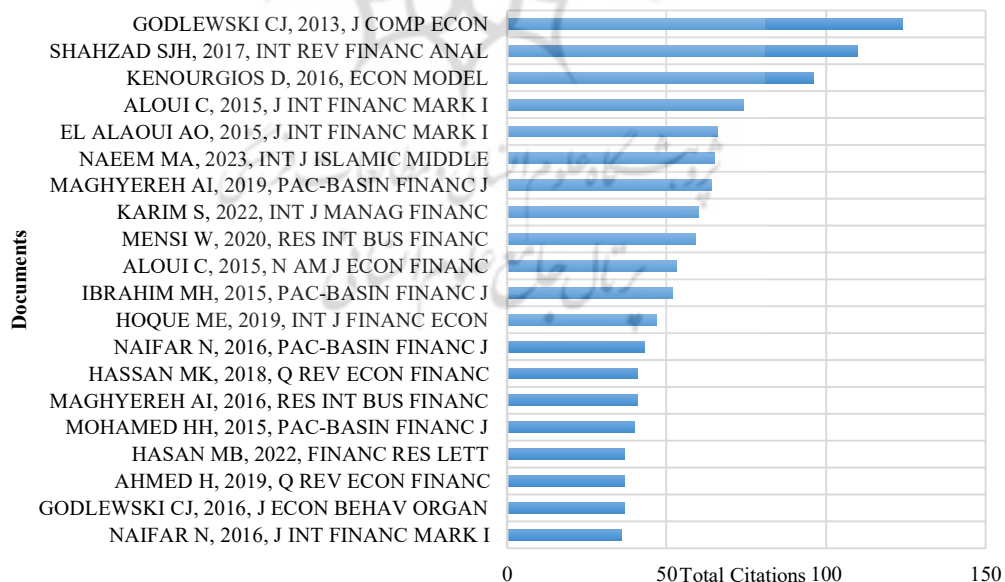


Figure 11. Most cited documents

Keywords

The word cloud for the Sukuk domain displays a collection of keywords and concepts frequently used in research related to Islamic securities. Words such as "Sukuk," "Risk," "Markets," and "Performance" are more significant and at the center of the word cloud, indicating their significance and high frequency in Sukuk-related research. "Volatility" and "Co-movement" are also prominently visible, referring to the study of market fluctuations and the correlation of Sukuk with other financial assets.

The word "Sharia" emphasizes the importance of compliance with Sharia principles in Sukuk-related research and how Sukuk, as an Islamic financial instrument, should align with Sharia laws and guidelines. Words like "Determinants," "Impact," and "Investment" point to factors affecting the issuance and returns of Sukuk and their impact on investments. This word cloud can map key and significant research areas in Sukuk studies, including risk analysis, asset management, and investment strategies.

Other words such as "Corporate Governance," "Capital Structure," and "Conventional Bonds" refer to research comparing Sukuk to traditional bonds and examining the impact of Islamic securities on capital structure and corporate governance. Overall, this word cloud provides a picture of the diversity and range of research topics in the field of Sukuk, encompassing theoretical, practical, and empirical aspects (Figure 12).



Figure 12. Word dynamics

Important Topics

Figure (13) displays the evolution of important topics on a two-dimensional scale. In this Figure, the vertical axis corresponds to the logarithmic value of the sequence, and the horizontal axis relates to the years of publication. A review of topics over the past five years' points to an interesting pattern.

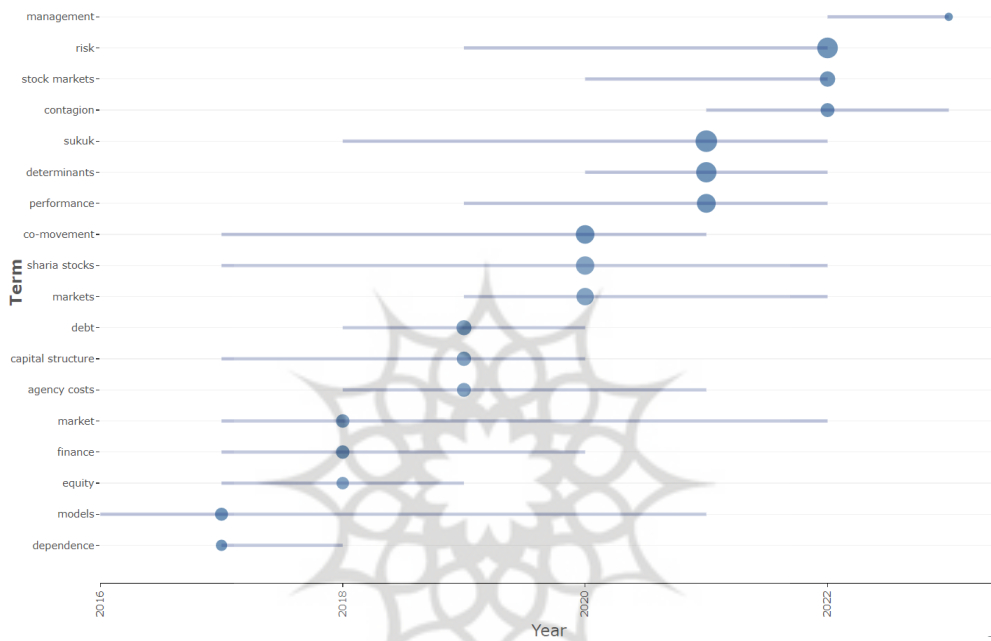


Figure 13. Trend topics

Data Visualization

Sukuk has attracted significant attention recently, leading to many studies in this area. This section relates to the thematic evolution of this field. Data visualization uses network analysis to quantitatively evaluate the number of clusters, number of occurrences, and connections between different analytical units, the strength of overall links, as well as the number of citations (Low and Siegel, 2019). This process utilizes various approaches of analytical units, like documents, authors, and keywords, to extract networks. These networks consist of nodes connected by links. The data visualization process is dedicated to the statistical analysis of maps and the display of different metrics of the entire network (Aria & Cuccurullo, 2017).

Social Network Analysis

Social network analysis is conducted to understand the interrelationships within the research domain (Low and Siegel, 2019). Nodes represent actors such as authors, institutions, or sources of work. The collection of nodes refers to the existing relationships in the social network. The dynamics of the network are shown through the connectors linking these areas. The geographical distribution and collaboration were analyzed using collaboration networks from 44 countries. Regionally, Malaysia dominates the research area and collaborates with most Islamic countries. The diversity in the knowledge base has been comprehensively examined using cluster analysis. If a document is identified within a specific cluster, the texts within that cluster establish a strong link with each other based on common sources (Aria & Cuccurullo, 2017) (Figure 21).

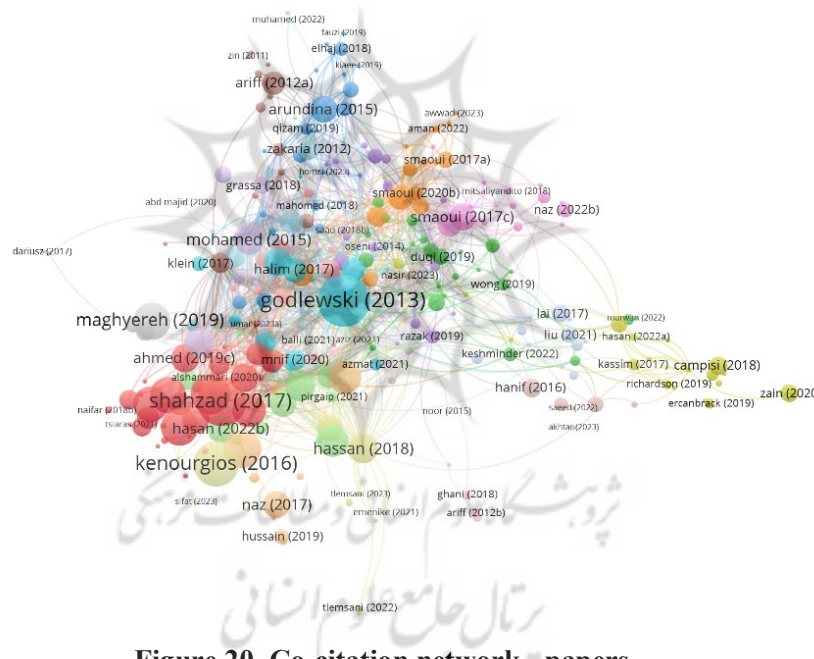


Figure 20. Co-citation network - papers

As shown in Figure 22, the collaboration network between institutions indicates the dominance of the cluster led by Univ Sfax in collaboration with Drexel Univ and Massey Univ (Figure 22).

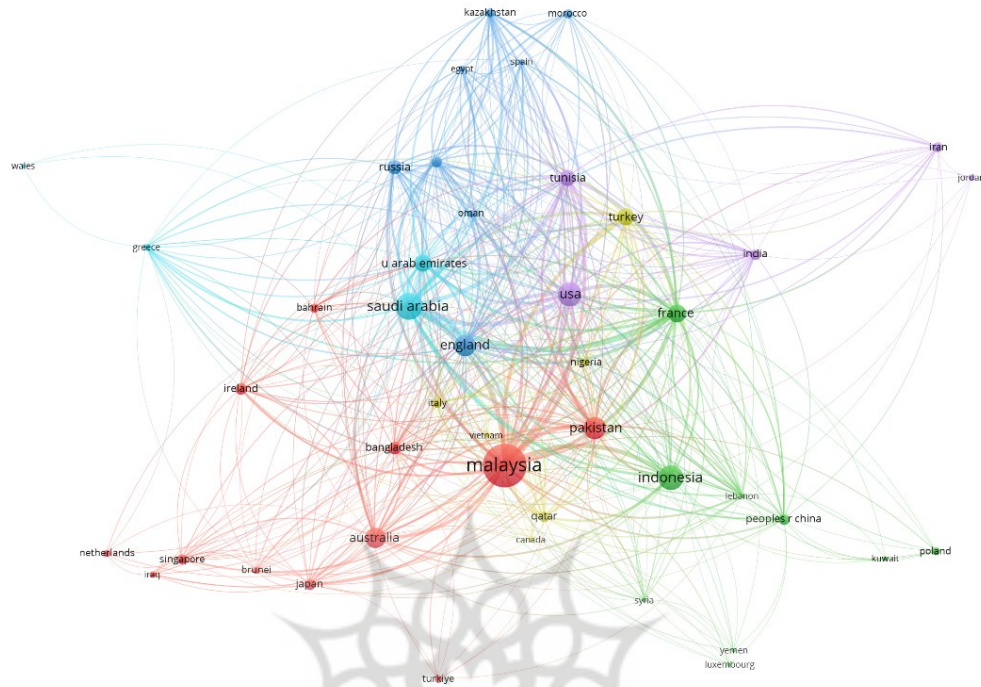


Figure 21. Geographical collaboration network

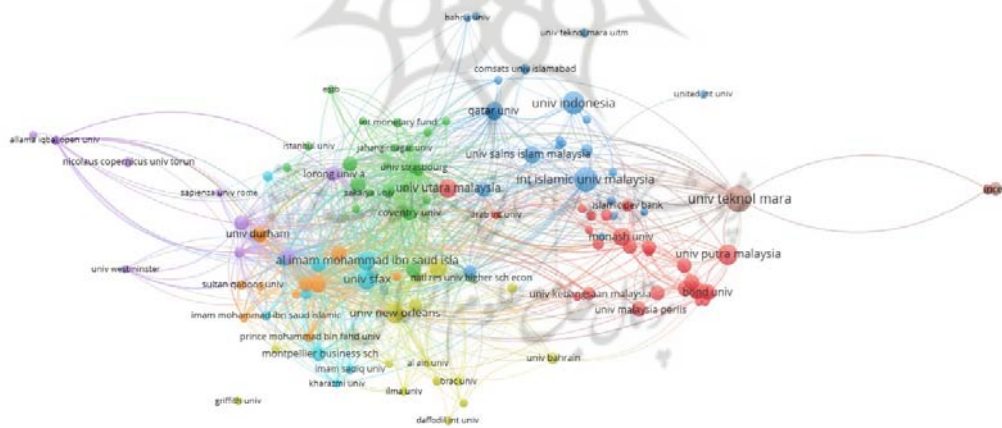


Figure 22. Institutional collaboration network

Sukuk in Iran

Sukuk is a type of security used in Islam as an alternative to non-Islamic financial instruments like interest-free bonds. These securities are designed based on Islamic Sharia principles and are used as investment tools and

financing for various projects (Shahzad et al., 2017). The first Sukuk in Iran was issued as participation papers by the Tehran Municipality in 1994 (Mohseni et al., 2015). These participation papers have been used as financial tools to fund various industrial and manufacturing projects. This financing was related to completing resources for the Industrial and Mining Development National Company, wholly owned by the National Development Group, and used for projects like the construction of concentrate and pellet factories.

The volume and variety of Sukuk in Iran are increasing. For example, in 1401 (2022-2023), the volume of Sukuk issuance in Iran's capital market experienced a 217% growth. Also, in the first nine months of 1400 (2021-2022), the volume of Sukuk issuance increased by 50% compared to the same period last year. This shows that Sukuk is being recognized and utilized as a financial tool. Additionally, Iran's capital market has an acceptable variety in the Sukuk domain, indicating that the diversity of Sukuk in Iran is increasing, and this financial tool is being used as a preferred option for financing projects and investments.

Given the economic development that Iran has experienced in recent decades, there is a clear need for sustainable and diverse financial resources. In this context, Sukuk can play a crucial role in financing large economic projects, including infrastructure and industrial plans. Unlike bonds based on interest payments, Sukuk operates based on shared profit and loss, which makes them an ethical financial option in line with Islamic values.

Meanwhile, Iran's capital market is also looking for ways to incorporate Sukuk as part of its investment portfolio. This inclination is particularly noticeable in light of international sanctions and the resulting limitations. By offering new methods for capital attraction, Sukuk can significantly help improve economic conditions and reduce adverse economic effects.

Bibliometric and scientometric studies in Iran indicate that researchers' attention to the field of Sukuk is increasing. These studies, often examining the number of published papers, citation rates, as well as network analysis of authors and institutions involved, can provide new insights into research directions and their impact on the academic and economic community.

Topics of interest in studies related to Sukuk include risk assessment, returns, comparison with conventional securities, financial innovations, and the impact of Sukuk on economic growth. Additionally, topics such as adherence to Sharia principles, the role of Sukuk in sustainable financing, and corporate social responsibility have also received special attention.

In this section on bibliometrics, we briefly delve into studies conducted on Sukuk in Iran.

Published Papers and Documents on Sukuk in Iran by Type

Based on the review in the Civilica database (scientific conference and journal papers), SID (Scientific Information Database), Magiran (Iran's Journal Information Bank), and the portal of the Iranian National Library and Archives, the following table was extracted. The table represents research activities and scientific publishing in recent years among Iranian researchers and authors. In this period, from 1385 (2006-2007) to 1402 (2023-2024), there are 314 scientific and research works in Persian in the field of Sukuk. A brief review of the data indicates the following patterns:

- There is an increasing trend in the number of published papers and books, indicating growing interest and research focus on Sukuk.
- In recent years, particularly between 1390 (2011-2012) and 1400 (2021-2022), there has been a significant increase in the number of journal and conference papers, indicating scientific and research growth in this area.
- The increase in the number of books may indicate the expansion of literature and reference sources in this field.
- Yearly fluctuations in publications may reflect various factors, such as changes in government policies, research tendencies, and shifts in the financial market.
- In 1395 (2016-2017), there was the highest number of published books, possibly due to the need for new resources following legal changes or financial innovations.
- Between 1396 (2017-2018) and 1400 (2021-2022), there is a notable increase in the number of journal papers, indicating greater maturity in the Sukuk field and its reflection in scientific research.

Table 3. Papers and books on Sukuk in Iran

Year	Number of Journal Papers	Number of Conference Papers	Number of Books	Total
1385 (2006-2007)	1	0	0	1
1386 (2007-2008)	7	0	0	7
1387 (2008-2009)	3	2	1	6
1388 (2009-2010)	5	1	1	7
1389 (2010-2011)	7	0	1	8
1390 (2011-2012)	4	6	1	11
1391 (2012-2013)	17	6	1	24
1392 (2013-2014)	12	8	1	21
1393 (2014-2015)	15	10	0	25
1394 (2015-2016)	8	12	0	20
1395 (2016-2017)	13	9	4	26
1396 (2017-2018)	15	16	1	32
1397 (2018-2019)	13	9	2	24
1398 (2019-2020)	14	0	1	15
1399 (2020-2021)	14	2	2	18
1400 (2021-2022)	22	10	0	32
1401 (2022-2023)	19	3	3	25
1402 (2023-2024)	6	6	0	12
Total	195	100	19	314

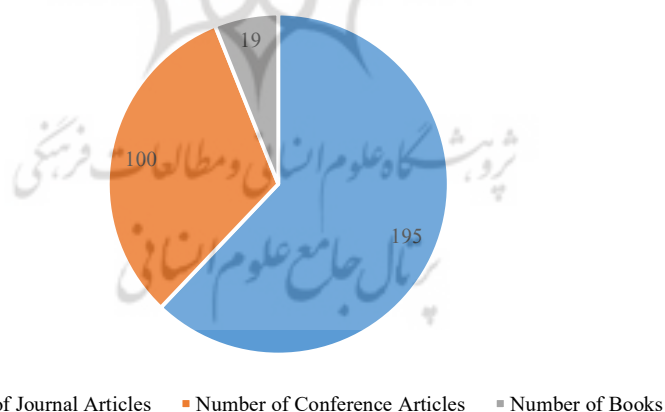


Figure 23. Papers and Books on Sukuk in Iran

Published Papers and Documents on Sukuk in Iran by Year

In the field of research and development of Sukuk in Iran, a considerable number of papers and scientific documents are published annually, indicating the progress in this field over different years. The number of papers and documents published in the field of Sukuk in Iran, categorized by year, is as follows. With the onset 1394 (2015-2016), the number of published papers and documents in this field increased to 24. This rise indicates the importance and growth of Sukuk research during this period. These papers and documents reflect the efforts of researchers and authors in enhancing knowledge and research in the field of Sukuk in Iran and have played a significant role in the development of this area in the country.

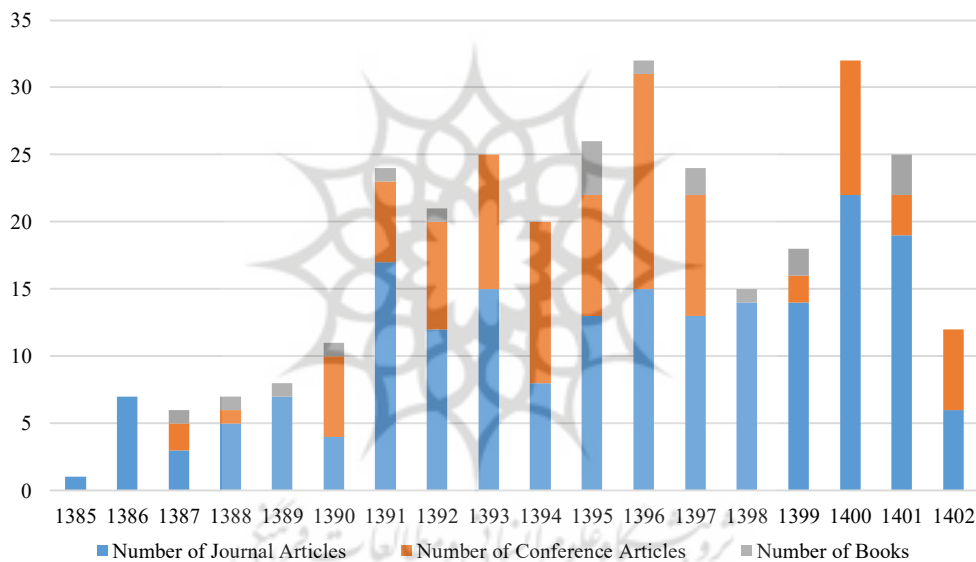


Figure 24. Papers and books published in the Sukuk field in Iran by year

Papers Based on the Number of Authors in the Field of Sukuk in Iran

These statistics show that papers by two authors and single authors constitute the majority of publications in the field of Sukuk in Iran. Additionally, papers with five and four authors are less common than those with fewer authors. The proportional distribution of papers in these categories indicates the level of collaboration among authors in producing papers in the field of Sukuk.

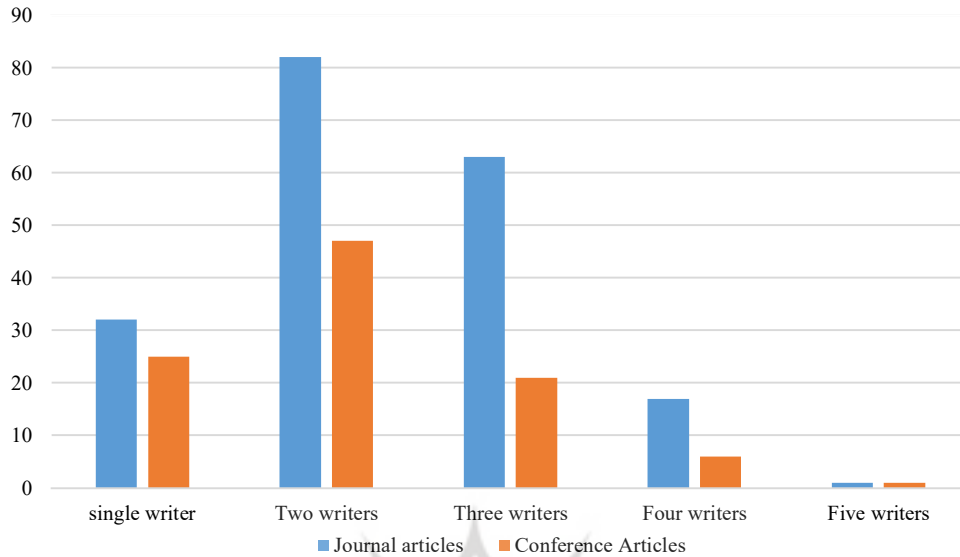


Figure 25. Papers based on the number of readers in the field of Sukuk in Iran

Papers by Authors in the Field of Sukuk in Iran

According to the reviews conducted in the four databases examined for papers and books, Sayyid Abbas Mousavian, Mohammad Tavahedi, and Mojtaba Kavand have each published three papers on Sukuk in Iran. These papers may cover various topics in the field of Sukuk and contribute to the enhancement of knowledge and research in this area.



Figure 26. Papers based on authors in the field of Sukuk in Iran

Keyword Cloud Based on the Keywords of Papers in the Field of Sukuk in Iran

We have extracted the keywords from Persian papers and created a keyword cloud based on Sukuk topics. These can serve as the principal axes in research and studies on Sukuk. The keyword cloud is as follows:



Figure 27. Word dynamics

Discussion and Conclusion

The bibliometric and scientometric analysis in the Sukuk market, which are Islamic securities, is of special importance, especially in Islamic financial markets like Iran. This analysis includes a review of studies and research conducted globally and evaluates the current position and prospects of this market in Iran. The present paper focuses on the evolution of the Sukuk domain between 2010 and 2023 globally and in Iran from 2006 to 2023. Furthermore, a comprehensive assessment of the perceptual, rational, and social structure of the research topic is presented. The primary contribution of this research lies in systematizing scattered studies in this field and emphasizing important sources, authors, and documents.

Using the R Bibliometrix package, the study offers a user-friendly tool for advancing bibliometric analysis. The research dataset was collected from the Web of Science database, chosen for its formal structure, quality search

resources, and compatibility with research software. The dataset shows a gradual increase in published works in the early years, followed by a sudden rise in 2018. Most studies in this field have been conducted by Malaysian researchers, followed by active Indonesian researchers.

Global findings in this domain show that Sukuk, an Islamic financial instrument, has experienced significant growth and created a special attraction for religious and non-religious investors. Structural diversity, compliance with Sharia principles, and high potential for returns are features that distinguish Sukuk. Reviews indicate that international markets are increasingly moving towards integrating Sukuk into their portfolios.

Regarding new prospects for Iran, the development of the Sukuk market can be considered a strategy for attracting domestic and foreign investments and financing large economic projects. Given its cultural and religious background, Iran can pave the way for economic development and innovation in its financial market by utilizing Islamic principles and mechanisms in Sukuk. Establishing appropriate laws and regulations, educating and raising public awareness, and strengthening financial infrastructure can contribute to Sukuk's broader development and acceptance in Iran.

Attention to bibliometrics and scientometrics in this area can help identify current trends, challenges, and future opportunities in the Sukuk market. These analyses provide a more accurate assessment of the current situation and predict future market developments, leading to more informed decision-making in policy-making and investment. Ultimately, looking at global experiences in bibliometrics and scientometrics of Sukuk can help Iran achieve significant improvements in its capital market and positively impact its national economy, moving towards sustainable development and progress.

Research Gaps and Future Strategies

The identified research gaps in this study are presented in this section. Future research pathways in the field of Sukuk, due to the complexities and innovations in Islamic financial markets and the changing economic and social needs of societies, can encompass several vital aspects, some of which are mentioned below:

1. **Compliance with International Standards:** One of the main future research directions is efforts to harmonize and align Sukuk with international financial standards. Given the fundamental differences between Sharia principles and conventional financial regulations, future research should seek ways to integrate these two systems to achieve financial benefits while

- adhering to Islamic principles. This requires extensive studies in jurisprudential, financial, and legal fields to lead to the formulation of new financial instruments that are internationally competitive while adhering to Sharia principles.
2. **Development of Risk and Return Models:** Given the importance of risk and return in investment decision-making, future research should aim to develop and improve models for assessing risk and predicting the returns of Sukuk. This requires the use of advanced econometric methods, financial modeling, and big data analysis to identify factors affecting Sukuk price fluctuations and their performance in different market conditions.
 3. **Social Impact and Sustainability:** With the growing importance of sustainability and corporate social responsibility, future research should examine the impact of Sukuk on sustainable development and its socio-economic effects. Studying how Sukuk can finance projects contributing to social and environmental improvement can promote responsible and sustainable investments.
 4. **Product and Service Innovations:** In the era of digitalization, future research should focus on creating innovative financial products and services based on Sukuk. This includes using cutting-edge technologies like blockchain for increased transparency and efficiency in the issuance and trading of Sukuk, as well as developing digital platforms for easier investor access to this market.
 5. **Comparative and Interdisciplinary Research:** To better understand Sukuk's position among other financial instruments, future research should conduct comparative studies between Sukuk and other securities, such as bonds and stocks. Additionally, interdisciplinary research can explore the relationship between Sharia principles, economics, sociology, and law to better understand existing challenges and propose more effective solutions.
 6. **Financial Technologies (FinTech):** Research on the role of financial technologies in developing the Sukuk market can lead to new methods for increasing accessibility and innovation in this field. Research could include examining the impact of technologies like artificial intelligence, machine learning, and robotics on the analysis and management of Sukuk.
 7. **Exploring New Markets:** Studying emerging markets and determining their potential for issuing and trading Sukuk can lead to identifying new opportunities for expanding the Sukuk market. Research can explore the challenges and opportunities associated with Sukuk issuance in non-Islamic

countries and developing markets.

These are just some of the possible paths for future research in the field of Sukuk, and undoubtedly, with continuous changes in the global economic and technological landscape, other new pathways will emerge for researchers.

Recommendations for the Development of Iran's Capital Market in the Field of Sukuk

1. **Development of Legal and Regulatory Frameworks to Facilitate Sukuk Issuance:** A key proposal is the revision of legal and regulatory frameworks. The government and regulatory bodies must enhance the legal frameworks for the issuance and trading of Sukuk. These reforms could involve streamlining the bureaucratic processes associated with Sukuk issuance and transactions, making such processes simpler and faster for companies and financial institutions. Additionally, providing tax incentives to encourage Sukuk issuers and investors is crucial. These incentives may include tax exemptions or special tax privileges for individuals and organizations participating in the Sukuk market, serving to encourage greater participation. Ensuring judicial support for dispute resolution may enhance the speed and certainty of Sukuk transactions, bolstering investor confidence.
2. **Development of Awareness and Knowledge in Sukuk:** Promoting knowledge and awareness of the advantages and features of Sukuk is vital for market development. This includes organizing educational courses, specialized workshops, and awareness seminars. Conducting training courses aimed at introducing the technical and operational details of Sukuk to investors and financial institutions can significantly increase awareness and confidence in these financial tools. Establishing specialized courses in universities to educate experts and financial managers in the field of Sukuk is also essential.
3. **Strengthening Financial Infrastructure in the Sukuk Market:** Strengthening financial infrastructure is crucial for the growth of the Sukuk market in Iran. This includes developing electronic transaction systems to enhance the speed and efficiency of Sukuk transactions. Establishing comprehensive databases for Sukuk-related information can also provide valuable resources for investors and companies, increasing transparency, efficiency, and market accessibility.
4. **Development of Sukuk-Based Products and Services:** Developing new products and services based on Sharia principles is essential. Encouraging

banks and financial institutions to offer diverse financial products based on Sukuk, such as Exchange-Traded Funds (ETFs) and insurance products, can attract more investors and foster innovation in the market.

5. **Strengthening International Relations in the Sukuk Market:** Enhancing international relations with other Islamic financial markets is important for the expansion of the Sukuk market. Establishing effective communications and strategic partnerships with global Islamic financial markets can facilitate the exchange of knowledge and best practices. These partnerships can contribute to the development of Sukuk projects and strengthen institutions in Islamic financial markets.
6. **Governmental Support Assurance:** Recognizing the government's vital role as a primary issuer of Sukuk and ensuring necessary support for this market is fundamental. Financing public and infrastructural projects through government-issued Sukuk can attract capital and foster national economic development. Positive tax measures and supportive legal concepts can enhance the attractiveness of Sukuk investments.
7. **Establishment of Specialized Sukuk Institutions:** Creating specialized Sukuk institutions can significantly contribute to the research, development, and oversight of the Sukuk market. These institutions can transfer global patterns and standards to the local market, foster innovation, and ensure the proper implementation of laws and regulations related to Sukuk, enhancing market efficiency and transparency.
8. **Financial Support for Research and Innovation:** Providing financial support for Sukuk-related research and innovations can expedite market development. Allocating budgetary resources to research and endorsing financial innovations can lead to the creation of new products and services based on Sharia principles, strengthening the Sukuk ecosystem.

These proposals can be part of a comprehensive strategy to strengthen the Sukuk market in Iran and facilitate greater participation of the private and public sectors in this market.

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