

Review on Shariah Supervisory Board Studies using Bibliometrix

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The rapid development of the Indonesian economy is influenced by the emergence of both sharia and non-sharia financial institutions. In Islamic banking, so that all parties' interests can be met properly, the management and supervision structure will involve four parties, namely: shareholders (board of commissioners), bank management, Sharia Supervisory Board (DPS) and/or National Sharia Council (DSN), and depositors. In an effort to purify the services of Islamic financial institutions to be truly in line with the provisions of Islamic sharia, the existence of a Sharia Supervisory Board (DPS) is absolutely necessary. DPS is a key institution that ensures that the operational activities of Islamic financial institutions are in accordance with sharia principles. This study aims to determine the development map and trend of Shariah Supervisory Board published by reputable journals in the field of Economics and Islamic finance. The data analyzed were more than 114 publications of research publications indexed by Scopus. The export data was then processed and analyzed using the R Biblioshiny application program to determine the bibliometric map of the development of the Shariah Supervisory Board.

Keywords: Shariah Supervisory Board, Bibliometrics, R

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INTRODUCTION

The rapid development of the Indonesian economy is influenced by the emergence of both sharia and non-sharia financial institutions. These financial institutions appear as mediators between financiers and entrepreneurs. But unfortunately, the working practices of these financial institutions do not implement the principles of Islamic sharia. Where a lot of usury practices they run for the sake of making as much profit as possible without regard to the success of other people's businesses and not even afraid of the threat of Allah SWT.

Financial institutions, especially Islamic banks, have three main functions, namely collecting funds from the public in the form of deposits and investments, channeling funds to people who need funds from banks and providing services in the form of Islamic banking services (Ismail, 2013).

Islamic banks in carrying out their operations have two risks: first, the risk of material loss in every contract made; second, the risk of violation of sharia compliance. The development of Islamic banking today creates opportunities as well as challenges, and the most fundamental challenge is sharia compliance in every Islamic banking operation. The sharia supervisory board has a fundamental contribution to the sharia compliance of Islamic banks, due to the delegation of the full authority of the National Sharia Council (DSN) of the Indonesian Ulema Council (MUI) to the Sharia Supervisory Board (DPS) in each Islamic bank.

Muhammad in his book *Sharia Bank Analysis of Strengths, Opportunities, Weaknesses and Threats*, he explained that the majority Muslim population of Indonesia is a captive market that is favorable for the development of Islamic banking. Captive market means that the majority of the population has a psychological sentiment to prefer the use of Islamic bank services because of the guarantee of security (halal) offered, of course with a note that the services and facilities owned by Islamic banks are also not disappointing (Muhammad, 2006).

Islamic banking in its operations must carry out its functions properly, to ensure the implementation of sharia principles in Islamic financial activities there are affiliated parties, namely the Sharia Supervisory Board (DPS) which provides its services to Islamic banks or Sharia business units that are responsible for sharia compliance in the management of Islamic banks (Suryani, 2011). As mandated by Law No. 21 of 2008 concerning Islamic Banking which states that Islamic banks must have three Sharia Supervisory Board (DPS). The role of the Sharia Supervisory Board (DPS) is fundamental in the

implementation of sharia compliance of Islamic banks in Indonesia.

In an effort to purify the services of Islamic financial institutions to be truly in line with the provisions of Islamic sharia, the existence of the Sharia Supervisory Board (DPS) is absolutely necessary. DPS is a key institution that ensures that the operational activities of Islamic financial institutions are in accordance with Sharia principles (Briefcase, 2005). Referring to the decree of the National Sharia Council No. 3 of 2000, the Sharia Supervisory Board (DPS) is part of the Islamic financial institution concerned, and its placement is approved by the National Sharia Council (DSN). In order to streamline the implementation of the duties of the Sharia Supervisory Board, it is necessary to increase the knowledge of the DPS about banking operations, as well as the intensity of its involvement in socialization/promotion programs to the local population.

Apart from that, the birth of supervisory institutions such as DSN and DPS is a step forward in the world of finance in the country, especially when there is moral hazard among financial practitioners, where they arbitrarily cheat, cheat and raise money, which not only results in a financial crisis, but also results in the loss of public trust in several financial institutions in Indonesia.

The definition of Sharia Supervisory Board (DPS) according to the Decree of the MUI Leadership Council on the Composition of the DSN-MI Management No. Kep-98/MUI/III/2001 explains: *The Sharia Supervisory Board* is a body that exists in Islamic financial institutions and is tasked with overseeing the implementation of DSN decisions at the Islamic financial institution. The Sharia Supervisory Board is appointed and dismissed at the Islamic Financial Institution according to the GMS after receiving a recommendation from the DSN.

The duty of the DPS is to discuss the problems and business transactions that are presented to it; and it determines that the transaction or problem is in accordance or not in accordance with sharia. While the authority of DPS are: (a) to provide sharia guidelines to the bank for the mobilization of funds, distribution of funds, and other bank activities; and (b) to make improvements if a product that is run is considered not in accordance with Sharia (Perwataatmadja and Antonio, 1992).

DPS members consist of sharia experts who are at least somewhat familiar with the applicable commercial laws and are familiar with business contracts. DPS members are independent, in the sense that they are not subject to the leadership of the bank they supervise. In order to ensure the independence of

the DPS, things that must be considered are: (a) DPS members are not bank staff; they are not subject to the administrative power of the bank; (b) they are elected by the General Meeting of Shareholders (GMS); (c) their honorarium is determined by the GMS; and (d) DPS has a work system and certain tasks like other supervisory bodies (Perwataatmadja & Antonio, 1992).

RESEARCH METHOD

The review process was conducted on October 5, 2021. Figure 1, illustrates the three steps in identifying research documents, namely eligibility, screening, and inclusion, involved in the systematic review process. The keywords that will be used in this study try to answer the research questions above. Some general statistics of the data set are presented to get an

overview of research related to good governance. All articles that met the search query were evaluated from the aspect of text analysis.

Then the research documents were analyzed using bibioshiny software, a free software supported by the R environment ((CRAN, The Comprehensive R Archive Network, <https://cran.r-project.org/>) which provides a set of tools for quantitative research in bibliometrics and scientometrics (Aria & Cucurrolo, 2017). In the bibliometric literature, the greatest attention has been on the construction of bibliometric maps. Research related to the effect of differences on similarity measures (Ahlgren et al., 2003), and they were tested with different mapping techniques (Boyack et al., 2005). Next, a text analysis of bibliometrix mapping results related to "word" will be conducted.

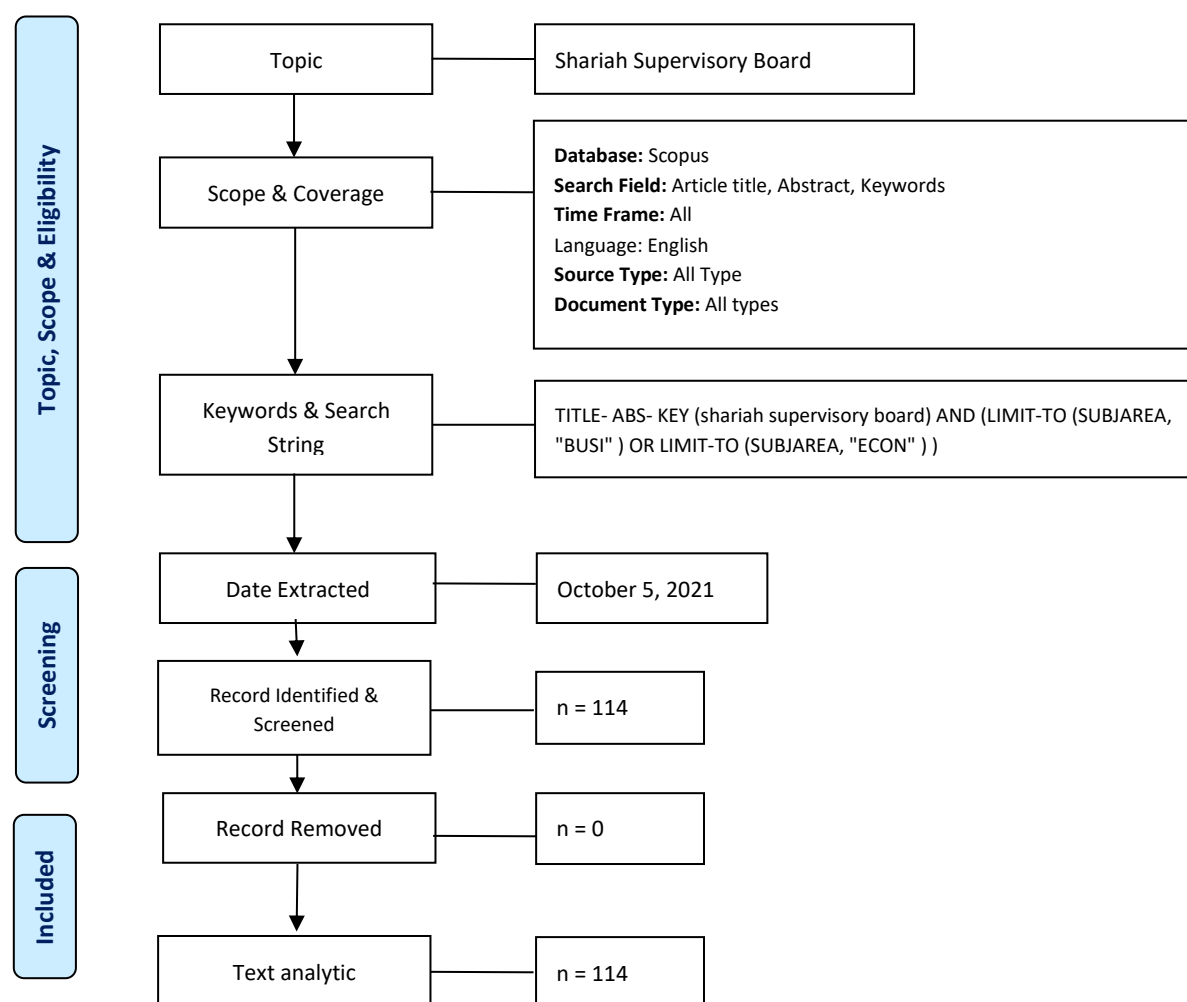


Figure 1: Flow diagram of the search strategy

RESULT AND ANALYSIS

Source

The following is a table of document types used in research with the keyword Shariah Supervisory

Board The number of documents analyzed is 114 documents which are divided into 4 document types, including journal articles (99 documents), anthologies/book chapters (4 documents), conference papers (2 documents), and reviews (9 documents).

Table 1: Document Types

| No. | Document Type | Number of Articles | Percentage |
|-------|------------------|--------------------|------------|
| 1 | Journal Article | 99 | 86.84% |
| 2 | Book Chapter | 4 | 3.50% |
| 3 | Conference Paper | 2 | 1.77% |
| 4 | Review | 9 | 7.89% |
| Total | | 114 | |

Based on the results of the document type grouping above, the document type most widely used as a research subject with the keyword "Shariah Supervisory Board" is a document in the form of a journal article with a percentage of 86.84% or as many as 99 documents, and the document with the smallest percentage is a conference paper where the percentage is 1.77% or as many as 2 documents. Based on the type of document, it can be concluded that the references used are quite valid because most of them come from scopus indexed scientific journals.

Text Analysis

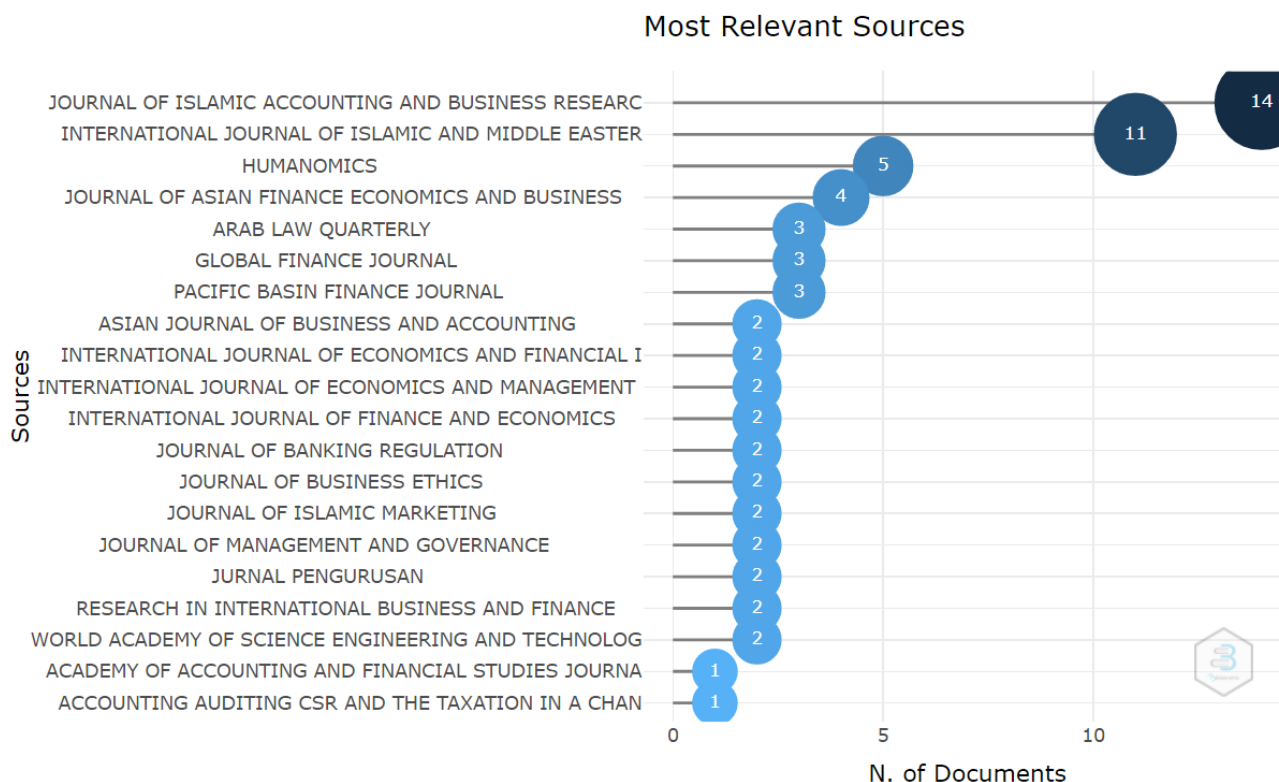
Text analysis was conducted using R-studio and biblioshiny software developed by Massimo Aria and Corrado Cuccurullo from the University of Naples and Luigi Vanvitelli from the University of Campania (Italy). Text analysis is carried out by analyzing more

deeply on searches related to words that often appear in the theme of the Shariah Supervisory Board. This is intended to add references that can be done by the government in tackling economic problems based on existing research from all over the world.

To explore the results of the meta-analysis, this section will present a visual mapping chart of 114 documents related to the Shariah Supervisory Board. The results of the keyword mapping analysis become the basis for mapping together important or unique terms contained in a particular document. Mapping is a process that allows one to recognize knowledge elements and their configurations, dynamics, interdependencies, and interactions.

SOURCES ANALYSIS

Most Relevant Sources

**Figure 2:** Most Relevant Sources

The figure above shows the number of research documents published by each journal based on their level of relevance to the theme of Shariah Supervisory

Board in Islamic economics and finance research. The data lists the top journals published and the interval of the number of documents published with a blue bar

chart. The darker the blue color indicates the greater quantity and relevance of the research theme, the number of documents published by all journals ranges from 0 to 14 documents.

Journal of Islamic Accounting and Business Research is a journal that is in the top position with the number of published documents of 14 documents displayed in a dark blue bar graph compared to other journal bars. This is because the journal is relevant to the theme discussed.

An example of a paper published by the Journal of Islamic Accounting and Business Research is a paper entitled "Rationality of fourth party in legitimacy theory: Shariah governance of Islamic financial institutions" written by (Alam M.K., 2021). The paper discusses the purpose of this paper is to focus on the conceptualization of the origin of legitimacy, the legitimacy process and its trust in society, regulators, society and stakeholders. In achieving the research objectives, an inclusive research gap regarding the role

of the Shariah Supervisory Board (DPS) as a Shariah regulatory authority or internal Shariah Governance Framework (SGF) mechanism in the development and establishment of Islamic financial institutions (IFIs) will also be addressed. This study proposes an additional legitimizing authority, namely the DPS/Sharia regulatory authority, along with regulators, professionals and the public. This could come from the internal mechanisms of the Shariah Governance (SG) practices of the IFIs. The study also proposes another type of legitimacy (ethical/Sharia legitimacy) derived from an organization's SG practices through its internal mechanisms. The establishment of SSB is mandatory and more significant for the identification of isomorphic IFIs, SG systems, legitimacy and wider acceptance to stakeholders.

Source Impact

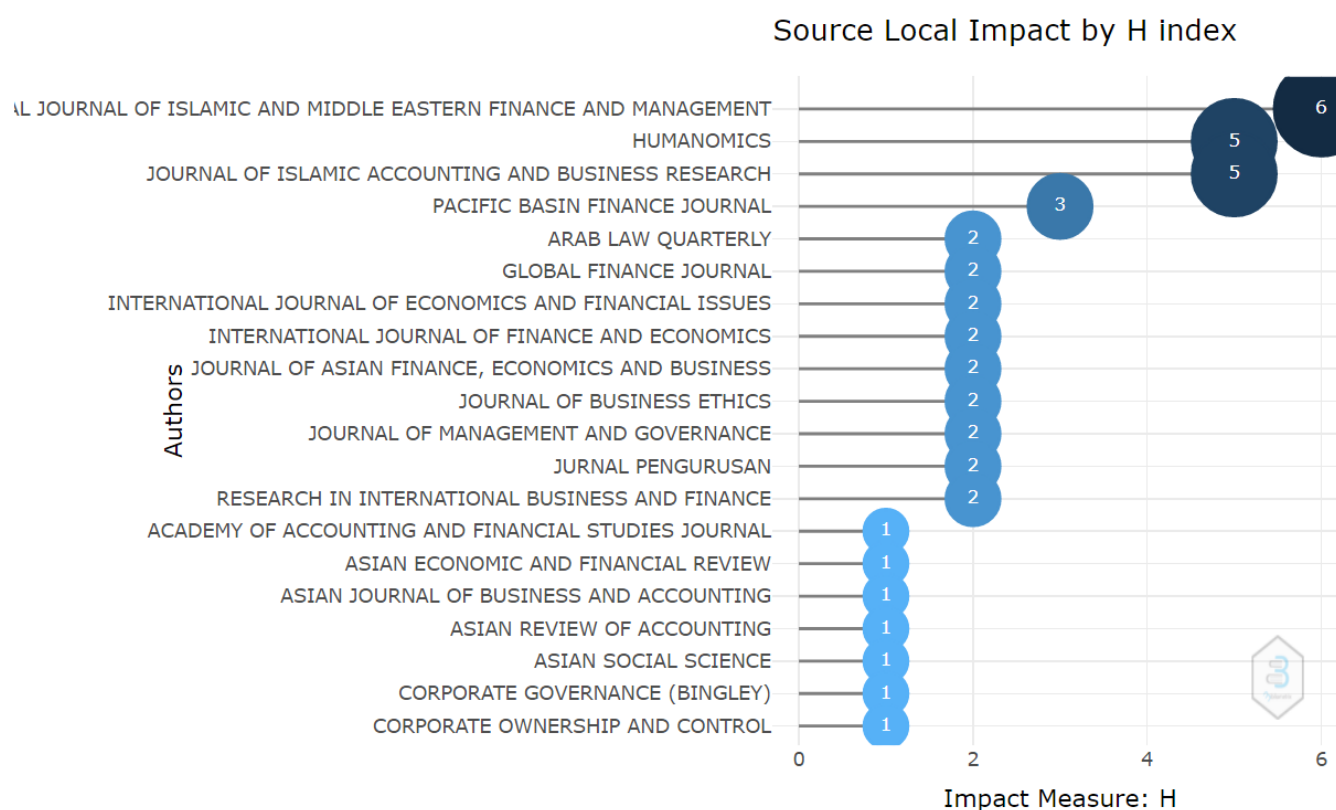


Figure 3: Source Impact

The calculation of journals is not only done based on the quantity produced or their relevance. However, this research is also conducted based on the impact of each journal that publishes Shariah Supervisory Board-themed papers by calculating the journal's h-Index which is depicted in a blue bar graph. In addition to showing the h-Index value obtained, the diagram above also illustrates the impact produced by the journal through the blue color displayed. The darker the blue color on the diagram, the greater the

impact of the journal. Then the interval of the journal h-index in this study ranges from 0.0 to 6.0.

From the data above, it can be seen that the International Journal of Islamic and Middle Eastern Finance and Management is in the top position with hIndex 6.0 which is marked in dark blue. Furthermore, it can be seen that Humanomics and Journal of Islamic Accounting and Business Research are in the second position with the same hIndex of 5.0. As for journals with hIndex 1.0, there are 7 journals marked in bright

blue on the diagram, which indicates the low impact of the journal.

The highest impact journal International Journal of Islamic and Middle Eastern Finance and Management publishes quality, in-depth analysis of current issues in Islamic and Middle Eastern finance and management. The journal welcomes robust evidence-based empirical studies and outcome-focused case studies that share research in product development and clarify best practices. The journal is the only title that aims to provide an interdisciplinary and holistic view of Islamic finance and business management practices to inform these two interrelated communities. This title is also keen to consider work from new

authors. It is the only Impact Factor (IF) journal on Islamic finance: Islamic Finance: Fundamentals, trends and opportunities in Islamic Finance: Islamic banking and financial markets; Risk management; Corporate finance; Investment strategies; Islamic social finance; Financial planning; Housing finance; Legal and regulatory issues; Islamic Management: Corporate governance; Customer relationship management and service quality; Business ethics and corporate social responsibility; Management styles and strategies in Shariah environments; Labor and welfare economics; Political economy.

Source Growth

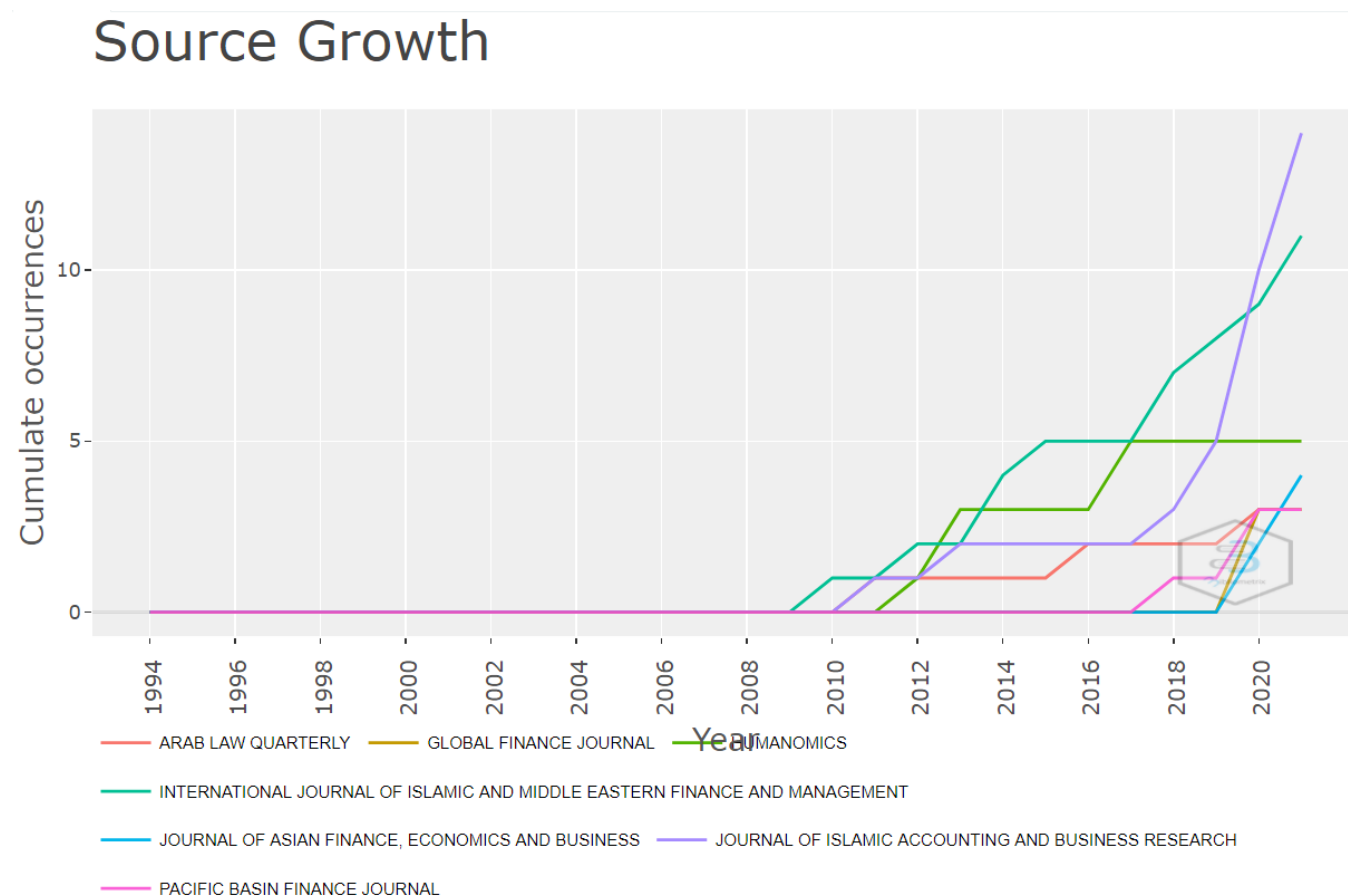


Figure 4: Source Growth

This study also discusses the development of journals that are the source of research on the theme of the Shariah Supervisory Board in Islamic economics and finance research. The curve above shows the development of the annual appearance of each journal from 1994 to 2021, so that an overview can be obtained whether the journal has increased or decreased with the curve line during the research period, especially in the publication of papers with the theme of the Shariah Supervisory Board. The curve illustrates that research on the theme of the Shariah Supervisory Board in Islamic economics and finance

research tends to experience fluctuating growth in its publication.

From the curve above, it can also be seen that there are 2 journals that are at the peak of publication in 2021. First, the Journal of Islamic Accounting and Business Research, which appeared in 2010, experienced little growth until 2017 when it began to experience very significant growth until its peak in 2021. The second is the International Journal of Islamic and Middle Eastern Finance and Management, which appeared in 2009 and tends to experience stable growth until 2021.

AUTHORS ANALYSIS

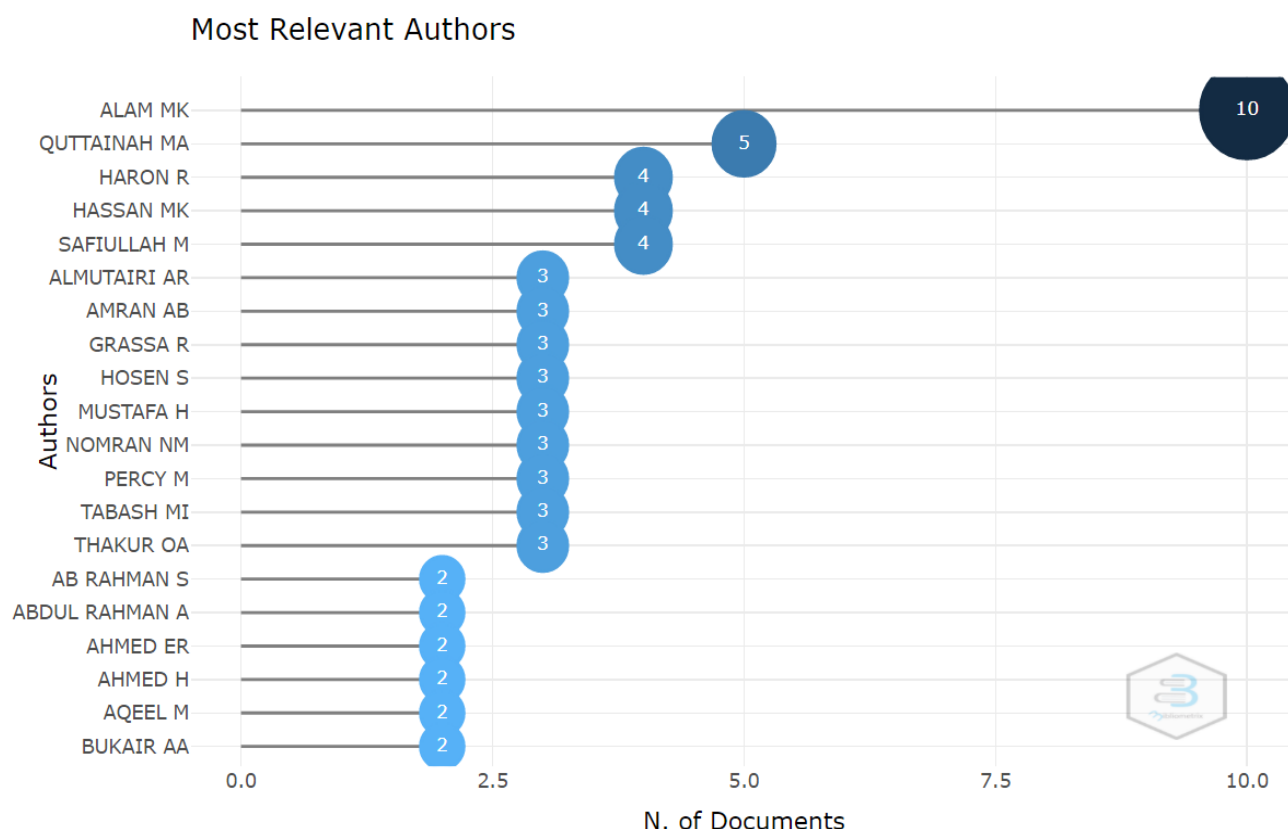


Figure 5: Most Relevant Authors

The figure above shows the number of research documents published by each author based on their level of relevance to the theme of Shariah Supervisory Board in Islamic economics and finance research. The data displays a list of the top published author names and the interval of the number of published documents with a blue-colored bar chart. The darker the blue color indicates the greater quantity and relevance of the research theme, the number of documents published by all journals ranges from 0 to 10.0 documents or articles.

Author Alam MK is the author who is in the top position with the number of published documents totaling 10.0 documents displayed in the dark blue bar graph compared to other journal bars. This is because the journal is relevant to the theme discussed. As for the authors who occupy the bottom position with the number of publications of 2.0 there are 6 authors who are marked in bright blue. This means that in terms of quantity and relevance, the Shariah Supervisory Board theme is still lacking. Also, a total of 20 authors are listed in the most relevant data sources.

Among Alam MK's writings is a paper entitled "Shariah supervisory boards of Islamic banks in

Bangladesh: expected duties and performed roles and functions", The main objective of this study is to ascertain the expected duties and performed roles and functions of the Shariah Supervisory Board (SSB) of Islamic banks in Bangladesh.

The study found that the expectations of Islamic banks towards DPS members are to provide opinions on Sharia issues, guidelines and decisions on modern banking, practices and delivery of fatwas on contemporary issues offered by management to meet the demands of various stakeholders. In addition, they can develop Shariah governance (SG) policies and implement such guidelines, approve and develop new products, observe and monitor banking functions, identify problems and outline solutions and ensure Shariah principles and compliance. DPS members perform roles and functions in monitoring and reviewing overall banking activities and functions; reviewing products, services and contracts; drafting Shariah governance guidelines; ensuring Shariah principles and compliance.

Top Author's Production over the time

Top-Authors' Production over the Time

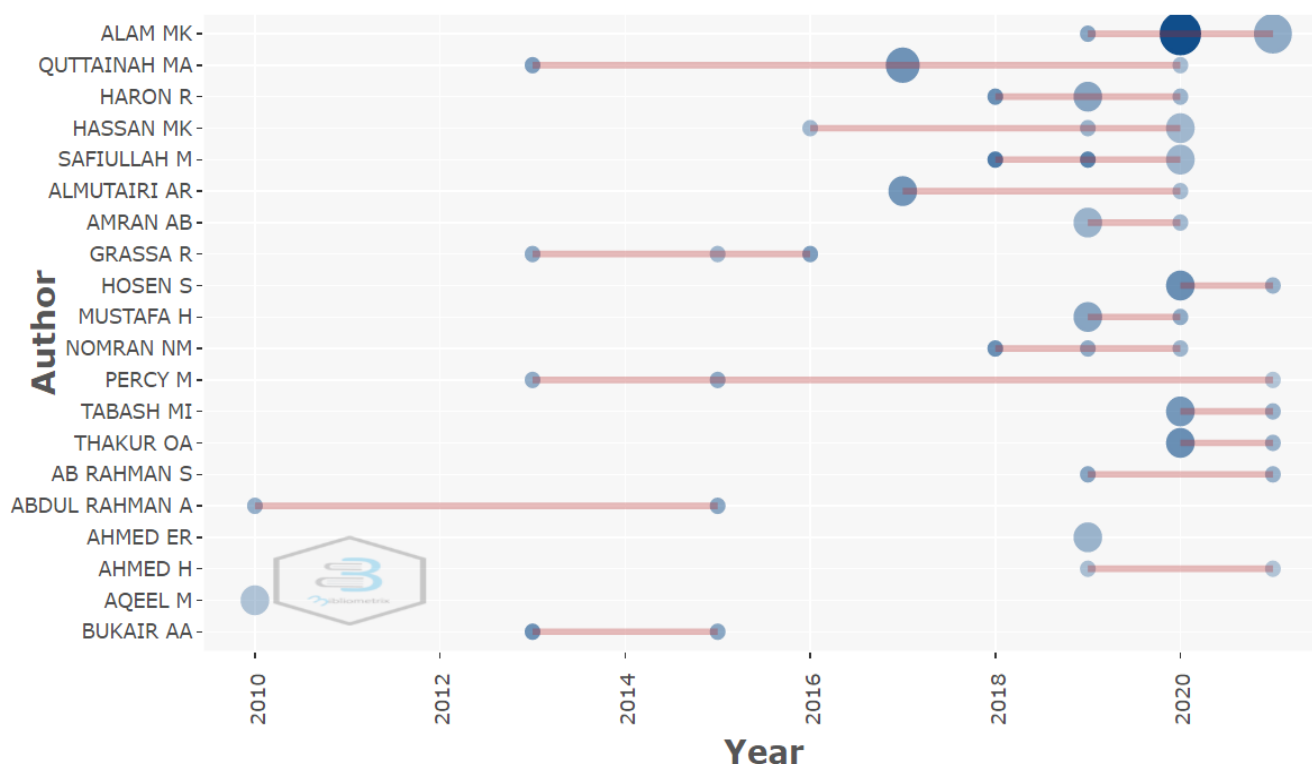


Figure 6: Top Author's Production over the time

Productivity can not only be measured in journals but specifically for authors. Where in the figure above shows the productivity of several top authors on this topic during the study period, namely from 2010 to 2021. This productivity is shown by the red line from the time the author published their research until the last year the author published their research. In addition, the circle on the red line shows the number of papers published according to the applicable year.

The figure above presents an overview of authors who have written research related to the theme of the Shariah Supervisory Board in Islamic economic and financial research since the past few years. Authors who have long published and have a long track record in research related to the Shariah Supervisory Board in Islamic economic and financial research, namely Percy M from 2013 to 2021, are still productive in writing. With a paper entitled "Voluntary adoption of AAOIFI disclosure standards for takaful operators: the role of governance" published by the Journal of Islamic Accounting and Business Research in 2021. This paper aims to determine the role of governance in the voluntary adoption of Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) Disclosure Standards by Islamic insurance

(takaful) operators in the Southeast Asia (SEA) and Gulf Cooperation Council (GCC) regions. The results show that CG strength has a positive and significant effect on the voluntary adoption of AAOIFI Disclosure Standards by takaful operators, suggesting that CG plays an important role in the disclosure of information in takaful operators' annual reports. However, the results show a lack of relationship between SSB strength and voluntary adoption of AAOIFI Disclosure Standards. Our results suggest that SSBs may not be as involved as other CG mechanisms (such as boards of directors and audit committees) in reviewing financial statements.

On another note, the level of political rights and civil liberties has a negative and significant effect on the voluntary adoption of the AAOIFI Disclosure Standard, suggesting that stakeholders in communities with greater freedom tend to be more active in pressuring takaful operators to provide more information to justify their existence in society. Similar to the strength of SSB, the legal system was also found to have no significant relationship with the voluntary adoption of AAOIFI disclosure standards.

Most Relevant Affiliations

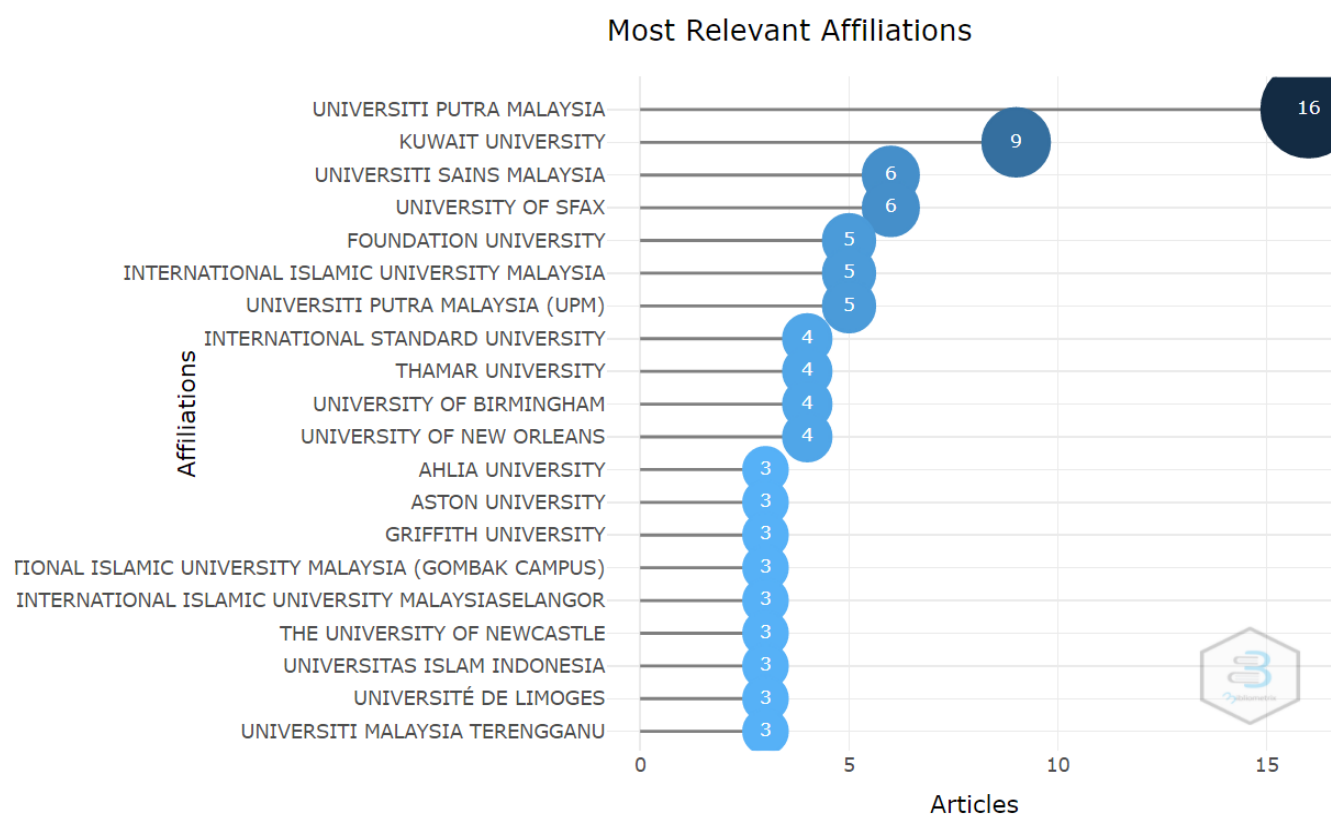


Figure 7: Most Relevant Affiliations

Most relevant affiliation shows the number of research documents with the theme of Shariah Supervisory Board in Islamic economics and finance research based on the author's affiliation. The figure displays the top 20 affiliations and the interval number of published documents with a blue bar chart. The darker the blue color indicates more researcher affiliations. The number of published documents ranges from 0 to more than 16 documents.

Universiti Putra Malaysia is the author's affiliation in the top position with more than 16 publications. In the second position there is Kuwait University with a total of 9 publications. And in the third position there are Universiti Sains Malaysia and University of SFAX with a total of 6 publications. One of the journals published by Universiti Putra Malaysia was written by Alam M.K., Miah M.S., Siddiqui M.N., Hossain M.I. (2020) with the title 'The influences of board of directors and management in Shariah governance guidelines of the Islamic banks in Bangladesh. The purpose of this paper is to determine the influence of the board of directors (BOD) and management in the decision making of the Shariah supervisory board (DPS) and the implementation of their decisions.

The study found that Islamic bank management indirectly influences DPS practices and functions, decision-making, and other activities. However, whether from ethical or moral grounds, management cannot influence SSBs; management has no legitimate

power to control their activities. Sometimes Boards and management use DPS and *Shariah* executives as showcases and rubber stamps to achieve their objectives and to maximize profits either partially or fully. Management assumes that *Shariah* officers achieve and minimize their income and impede business functions without any contribution.

Corresponding Author's Country

The term "corresponding author country" typically refers to the country from which the corresponding author of a research paper, article, or academic publication originates. The corresponding author is the individual responsible for handling correspondence related to the manuscript, such as communication with journal editors, responding to queries from readers or reviewers, and overseeing the publication process.

In academic publishing, especially in scientific journals, it is common to identify the corresponding author's affiliation or country. This information can provide insights into the geographical location of the primary contributor responsible for the paper and can be valuable for understanding the global distribution of research contributions.

The corresponding author's country might also be mentioned in the publication for purposes of acknowledgment, recognition, or to signify the research's origin.

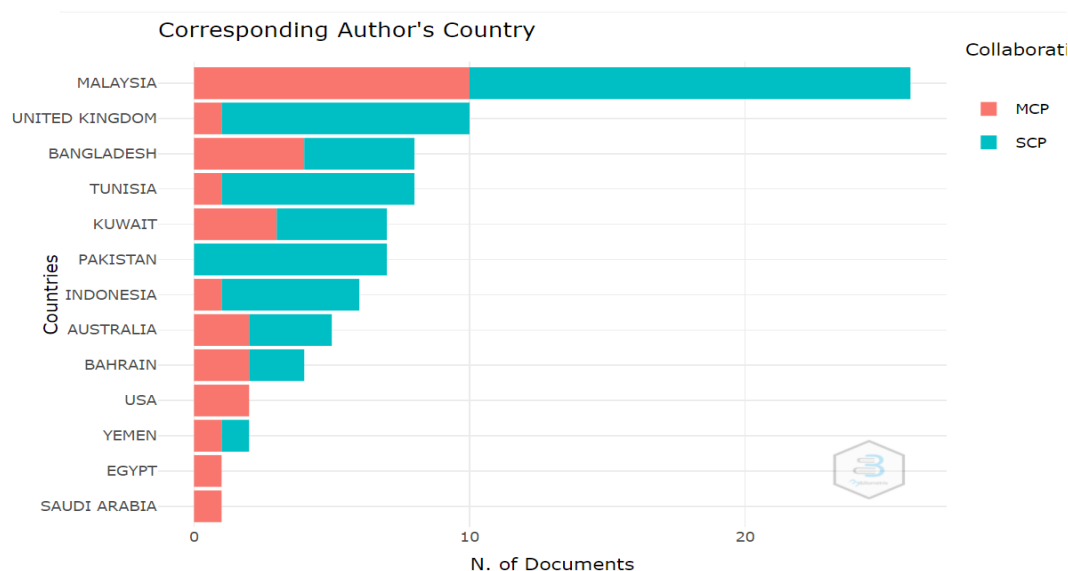


Figure 8: Corresponding Author's Country

The figure above shows the countries of author correspondence contained in each article with the calculation of the total form of collaboration between SCP (singlecountry collaboration) or single country collaboration and MCP (multiple country collaboration) or collaboration between multiple countries. There are 13 top countries included in this data and the document quantity interval is between 0 to more than 27.0 paper documents published under the Shariah Supervisory Board theme.

The results obtained are Malaysia ranked first as the country with the highest number of correspondence authors with more than 27.0 published papers. Furthermore, the second rank was achieved by the United Kingdom with the number of papers published more than 10.0 papers. The rest of the countries published less than 10.0 papers. The figure above shows the results that almost all countries have a

form of MCP collaboration while for SCP it is only owned by 1 country namely Pakistan.

One of the papers with authors from Malaysia is a paper entitled "Corporate governance, SSB strength and the use of internal audit function by Islamic banks: Evidence from Sudan" written by [Sulub S.A.](#), [Salleh Z.](#), [Hashim H.A.](#) (2020). This paper aims to identify the effects of several corporate governance (CG) mechanisms and the strength of the Sharia Supervisory Board on the voluntary use of the internal audit function (IAF) by Islamic banks in Sudan. The paper finds that the IAF is likely to be used by Islamic banks with higher CG disclosure and a strong SSB. While the findings suggest that audit committees and IAFs are likely to be used as substitutes, the paper also shows that there is a negative relation between the ownership level of Unrestricted Investment Account Holders and the use of IAFs. However, the evidence does not find an impact of board strength on the use of IAFs.

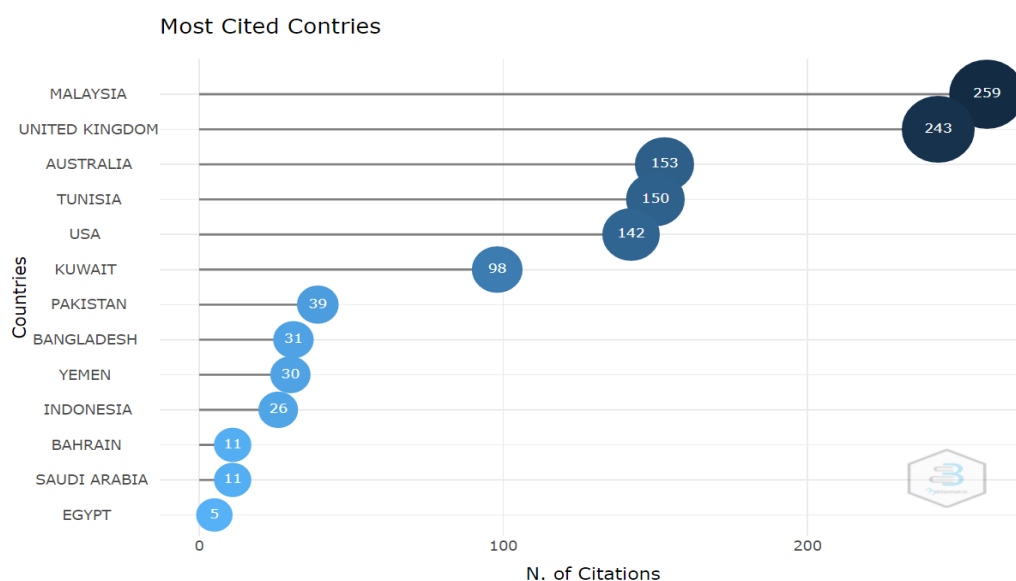


Figure 9: Most Cited Countries

This study also classifies Shariah Supervisory Board-themed research based on the country of origin of the most cited authors. The number of citations of published documents is shown through a blue bar chart. The gradation of the blue color indicates that the darker the blue, the greater the quantity of citations in Shariah Supervisory Board research. There are some words with occurrence quantity between 0 to more than 259 occurrences. The top 13 countries listed in the blue bar chart show a comparison of the number of citations and their relevance to the theme of Shariah Supervisory Board in Islamic economics and finance research.

Based on the graph above, the country whose articles are most cited is Malaysia with a total of 259 citations. Then followed by the United Kingdom which is the country in second place with less than 243 citations. Among the papers from Malaysia which is the most active country is a paper written by Algabry L., Alhabshi S.M., Soualhi Y., Othman A.H.A. in 2020, with the title Assessing the effectiveness of internal Shari'ah audit structure and its practices in Islamic financial institutions: a case study of Islamic banks in Yemen. This study aims to explore and assess the key *sharia* governance factors that may have an influence on

the *sharia* internal audit structure and its practices in Islamic financial institutions in Yemen, particularly in the Islamic banking sector. The author observed that the key factors that help in assessing *Shariah* internal audit structure and practice are the *Shariah* auditor's charter, audit plan, and audit manual. In addition, the author observed that, in general, internal *Shariah* audits tend to be subjective in Yemeni banks as they rely on the qualifications and experience of *Shariah* internal auditors more than formal guidelines and regulations. This is because there is no detailed *Shariah* internal audit plan or detailed audit manual. In addition, the internal *Shariah* auditor's charter is not comprehensive in describing the required duties of the internal Shariah auditor, and is mixed with the *duties of the Shariah Supervisory Board (SSB)*. This means the internal *Shariah* auditor lacks an essential tool that enables it to achieve the desired audit manual objectives by which the effectiveness of internal *Shariah* auditing can be measured.

DOCUMENT ANALYSIS

Most Cited Documents

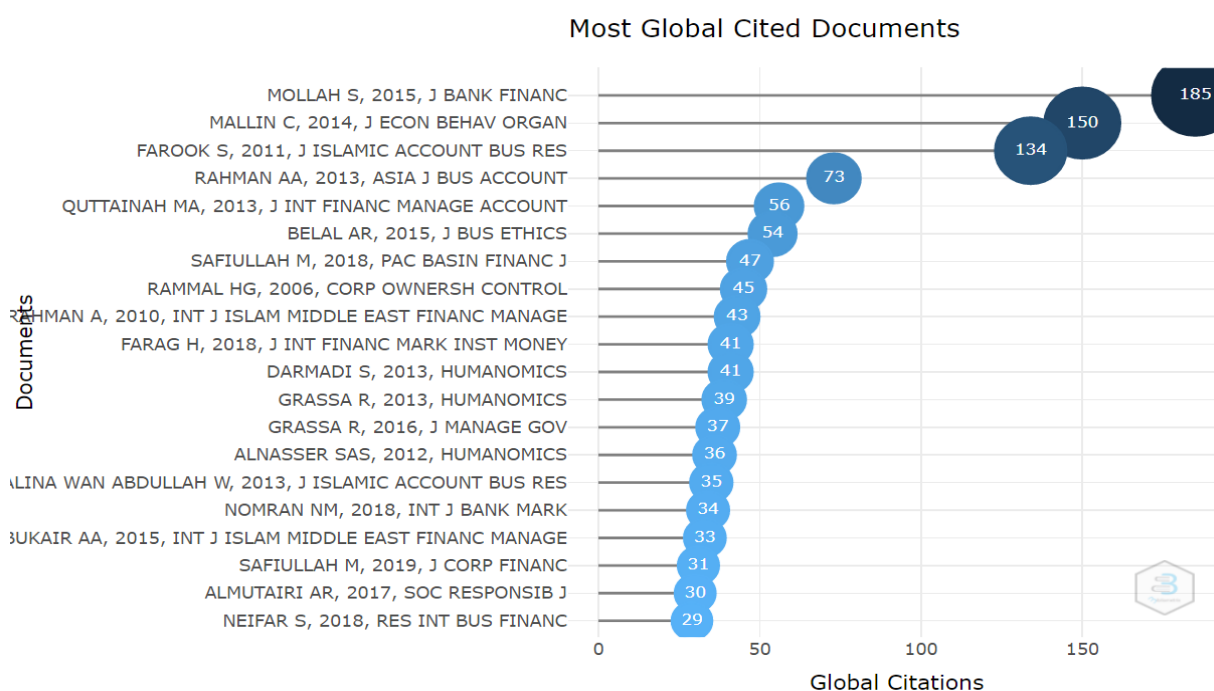


Figure 10: Most Cited Documents

Most cited documents show the order of article citation data in the Shariah Supervisory Board theme which contains the author's name, year of publication and the journal that published it in the form of a blue bar chart. The darker the blue color, the more the number of citations. The number shown in the total citations is between 0 to more than 185.

It was found that Mollah, S. (2015) became the top-cited article with more than 185 citations. The paper entitled "Shari'ah supervision, corporate governance and performance: Conventional vs. Islamic banks" discusses the performance and accountability of the board of directors and the effectiveness of governance mechanisms continue to be a concern. Focusing on the differences between conventional and

Islamic banks, we examine the effect of (i) sharia supervisory board, (ii) board structure and (iii) CEO power on performance over the period 2005-2011. We find Islamic supervisory boards have a positive impact on the performance of Islamic banks when they perform a supervisory role, but the impact is negligible when they only have an advisory role. The effect of

board structure (board size and board independence) and CEO power (CEO seat duality and internally recruited CEO) on the overall performance of Islamic banks is negative.

Most Relevant Words

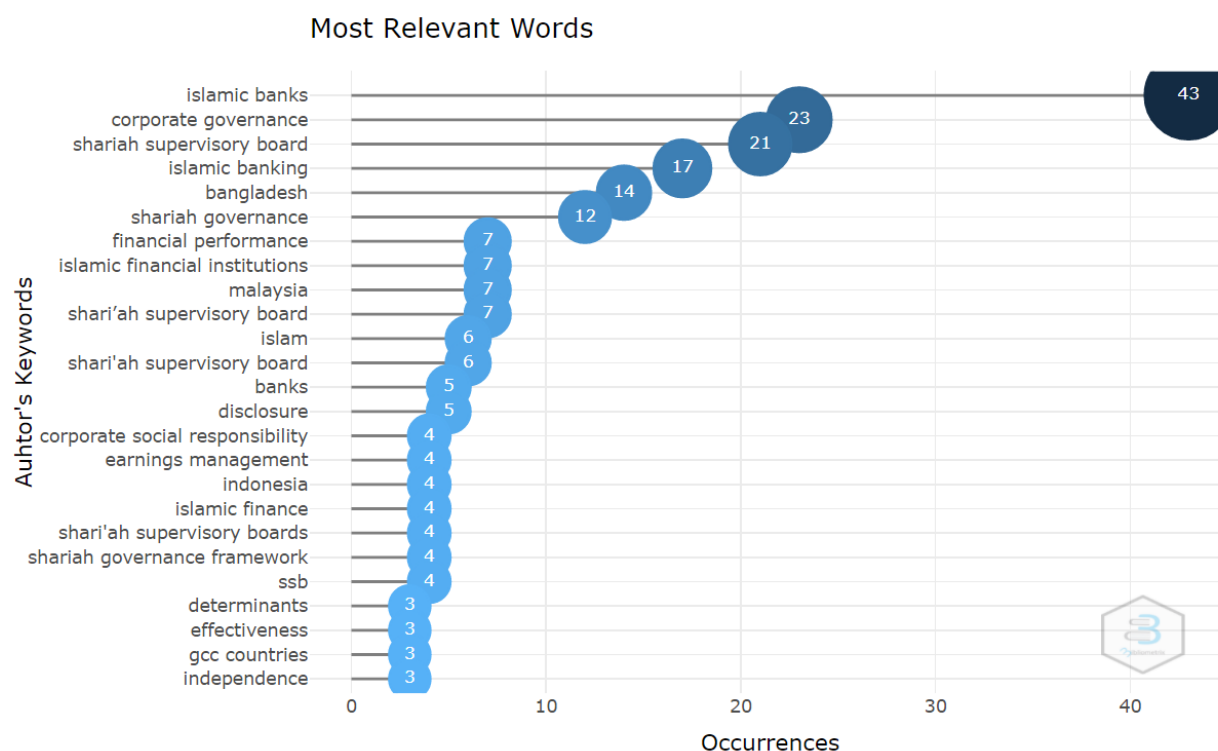


Figure 11: Most Relevant Words

The most relevant word analysis was conducted on the keywords of each document, where there were several words with a quantity of occurrences between 0 to 43 occurrences. The figure above shows the 25 most relevant words used in the research collection related to the keyword "Shariah Supervisory Board".

The top word with the highest quantity of occurrences and most relevant to the keyword Shariah Supervisory Board is the word Islamic Banks, with the highest quantity of occurrences 43 times. The second most relevant word related to the theme of Shariah Supervisory Board is Corporate Governance with 23 occurrences. Furthermore, the third and fourth most relevant words related to the theme of the Shariah Supervisory Board with the appearance of words 21 and 17 times, namely the words Shariah Supervisory Board and Islamic Banking.

The research entitled Independence and effectiveness of Shariah supervisory board of Islamic banks: evidence from an emerging economy (Alam M.K., Miah M.S., 2021). The main objective of this study is to ascertain the level of independence and effectiveness of Shariah Supervisory Board (SSB) members of Islamic banks in Bangladesh. This is because only DPS members are empowered to supervise and authorize the overall business functions

of Islamic banks. The study found that the position of the DPS of Islamic banks is mostly similar to the Board of Directors (BOD) of the bank. Furthermore, the study found that in recruiting/selecting DPS members, some banks did not follow central bank guidelines. The study found mixed evidence regarding the independence of DPS members. Most respondents were of the opinion that SSBs lack power; in some cases, DPS members are not independent and appear powerless as the BOD selects and recruits them. Instead, they are dependent on management with respect to strategy implementation.

Word Cloud

Furthermore, relevant words in research related to the theme of Shariah Supervisory Board will be displayed on the document title in the form of a word cloud. Word cloud is a description of the words that often appear in the collection of paper data studied with the keywords of the title with the theme "Shariah Supervisory Board". Word cloud displays a picture of words displayed with various sizes according to the quantity of the word that appears. In terms of placement, word clouds tend to be random but the dominating words are placed in the center so that they are more visible with a relatively larger size. In this

research, the results of the world cloud are obtained

based on the analysis of document titles.



Figure 12: Word Cloud

Based on the picture of the results of the analysis of the document title, it is found that the most dominant word is related to the Shariah Supervisory Board, namely Islamic, Banks, Shariah, Governance, Corporate. Most of the current research on the Shariah Supervisory Board discusses "Islamic Banks" because in Islamic banking, all transactions must comply with the teachings of sharia. If any non-halal funds or profits are obtained unintentionally, then it must be given to social funds. Therefore, every bank syariah Islamic must have a Sharia Supervisory Board whose duty is to oversee the products and transactions carried out. Research conducted on the Shariah Supervisory Board includes Does Sharia compliance affect financial

reporting quality? An evidence from Muslim majority countries (Can G., 2021), Islamic banks' equity financing, Shariah supervisory board, and banking environments (Meslier C., Risfandy T., Tarazi A., 2020) and Performance of Islamic banks: Do the frequency of Shari'ah supervisory board meetings and independence matter? (Musleh Alsartawi A., 2019).

Furthermore, relevant words in research related to the theme of SSB will be displayed in the document abstract in the form of a word tree map. Word Tree Map displays words that often appear in boxes similar to regions or areas on a map, where the more the word appears, the larger the square area.

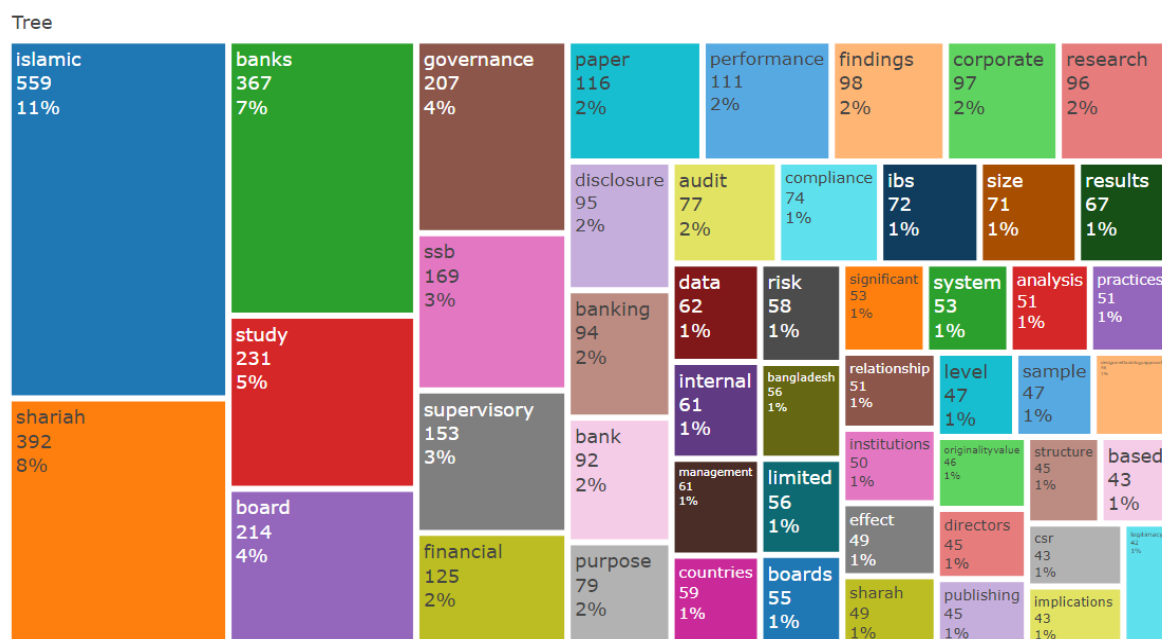


Figure 13: Word Tree Map

Based on the picture of the results of the analysis of document abstracts, it is found that the most dominant words for research on the theme of Shariah Supervisory Board are Islamic, Shariah, Banks, Board. Most of the research related to the theme of the Shariah Supervisory Board currently discusses "Islamic Banks". because in Islamic banking, all transactions must comply with the teachings of sharia. If any non-halal funds or profits are obtained unintentionally, then it must be given to social funds. Therefore, every bank syariah Islamic must have a Sharia Supervisory Board whose duty is to oversee the products and transactions carried out.

Research conducted on the Shariah Supervisory Board includes 'The effect of Islamic banks' specific corporate governance mechanisms on compliance with AAOIFI governance standards (Mnif Y., Tahari M., 2021). The purpose of this paper is to examine the effect of specific Islamic banks' corporate governance

(CG) mechanisms (IB) on compliance with the disclosure requirements of the governance standards (GSs) of the Accounting and Auditing Organization for Islamic Financial Institutions governance standards. The results of this study reported substantial non-compliance (the average level of compliance with AAOIFI GSs during the years covered for all IBs in the sample was 52.1%). The findings showed that DPS remuneration, DPS members with only industry expertise, DPS members with combined industry expertise and accounting and finance expertise, the existence of an Internal Shariah Audit Department and the level of investment account holders' funds were positively associated with the level of compliance with AAOIFI's SGS.

Word Dynamic

Word Growth

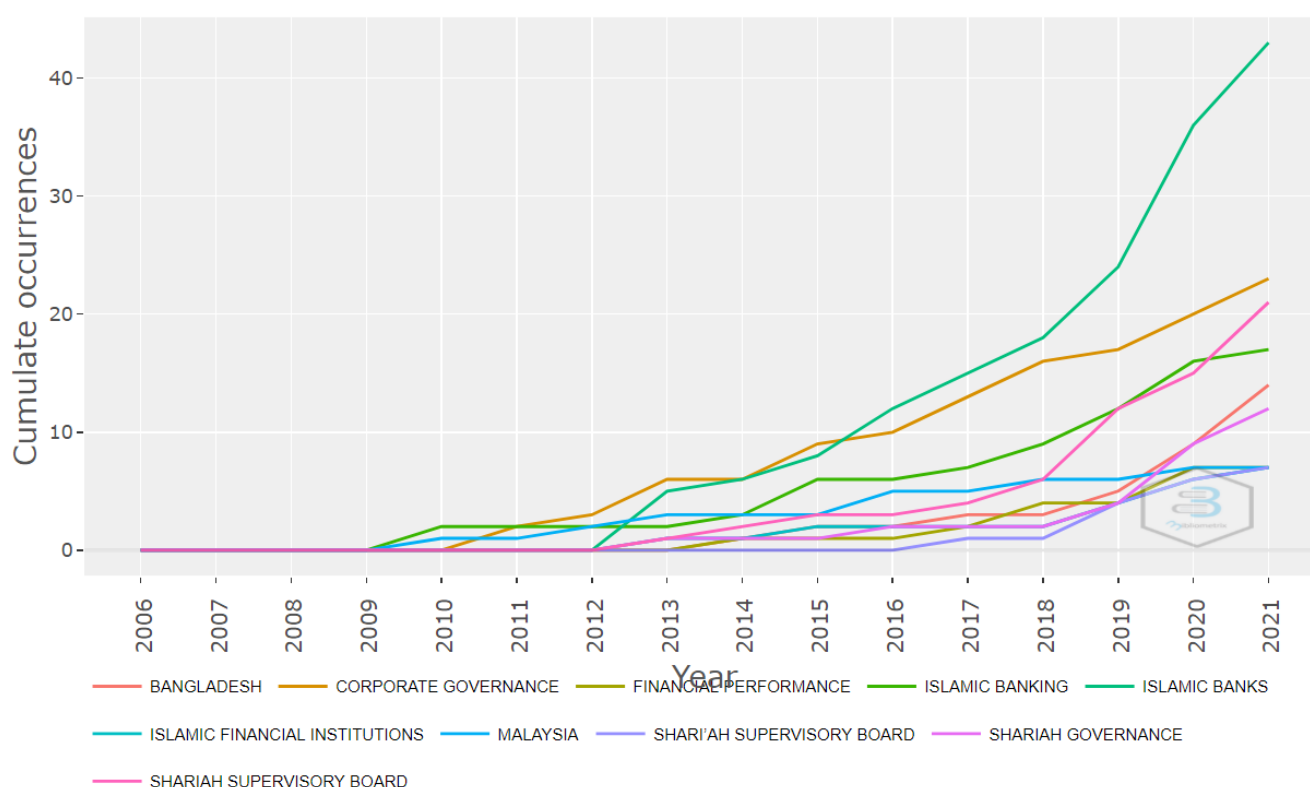


Figure 14: Word Dynamic

Based on the picture of the analysis results of document keywords, in research with the theme of Shariah Supervisory Board, the words that often appear are also described in the form of a development curve for each year with the annual occurrence value. Where the results show the average quantity of occurrence of these keywords in the data collection studied in the research on the theme of Shariah Supervisory Board

each year. Figure 14 shows that the majority of words that often appear and begin to develop since 1966, and continue to increase until 2021. From the figure above, it can be concluded that the research with the most significant increase in occurrence is keywords related to Islamic Banks and has a very significant potential to continue to grow.

Trend Topics

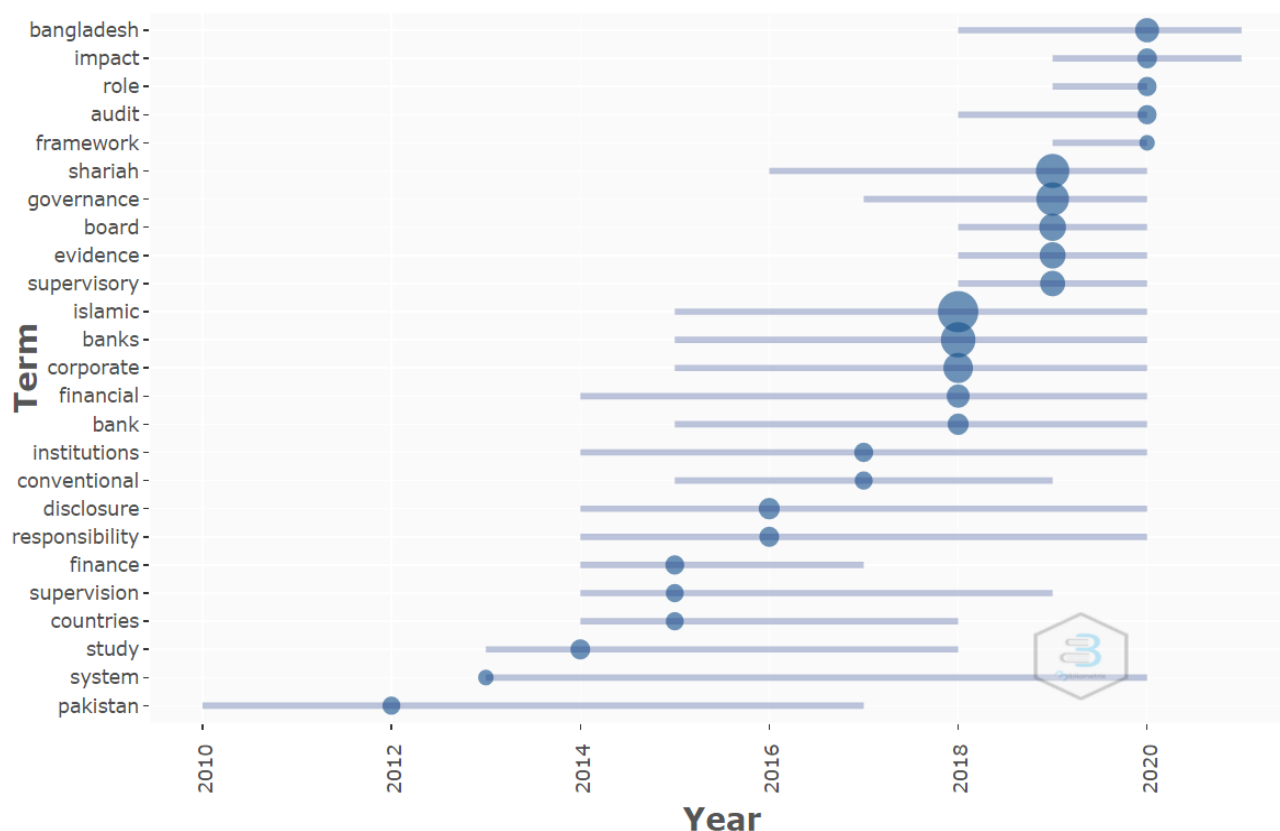


Figure 15: Trending Topics

Based on the image of the results of the analysis of document titles in research on the theme of the Shariah Supervisory Board, topic trends are also an important part of this study. Where the figure above displays an overview of the development of topics related to the Shariah Supervisory Board from time to time with a division per year, so that it is known what topics have been used for a long time and what topics have been used recently. This topic trend also considers the frequency value of each word shown by the log axis.

Thus, in addition to looking at the annual trend, the topic occurrence is also adjusted to the frequency of the quantity of the word appearing in the research theme related to the Shariah Supervisory Board. The higher indicates the more the word is used, and the more to the right, the more recently the word is used. The development of the Shariah Supervisory Board theme began to experience a significant increase since 2010.

Based on the description of the data above, the most recent and most used topics related to the theme of Shariah Supervisory Board are Bangladesh, Impact, Role, Audit, Framework. The journal entitled "Does shirkatul melk promote the Shari'ah compliance in

Bangladesh? Evidence from Islamic banks" written by [Uddin M.N. \(2021\)](#) discusses environmental protection and sustainability is part of Islamic finance to ensure the fulfillment and formation of the spirit of Islamic tenants. The need to protect the environment and the forms of life that Allah created on this earth includes the proper utilization of natural resources (Al-Fajr: 11-14). Green finance involves allocation of funds to environmentally friendly projects that help humanity from harm and compliance with 'Shariah' rules. The main objective of this study is to examine the role of 'Shariah'-based banking in green finance in Bangladesh. The study revealed that 'Shariah' based banking has made significant contributions in green financing promoting the preservation of natural resources and the need to respect all living beings. The study seems to carry immense academic value as few studies have been conducted in this area. The results can be beneficial to the government, Bangladesh Bank, NGOs, Donors, international agencies, World Bank, IMF, Academic researchers and national policy makers who have been making efforts to save the environment in developing countries as well as Bangladesh as a whole.

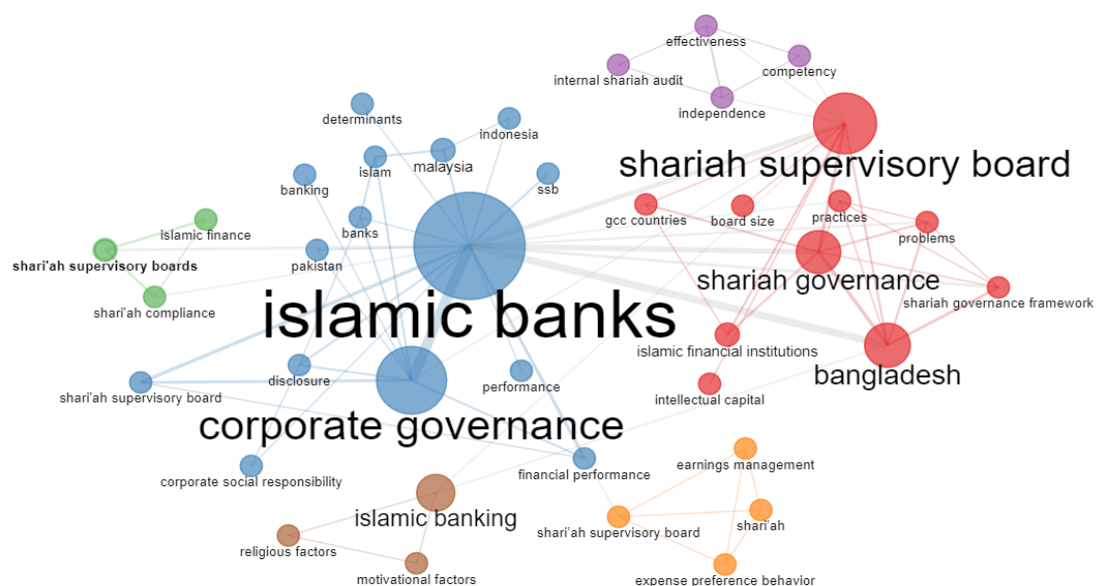


Figure 16: Co-occurrence Network

The co-occurrence network displays words related to the keywords of documents related to the Shariah Supervisory Board theme, in the form of colored clusters by considering the relationship between one word and another. Some keywords that often appear in research on the theme of Shariah Supervisory Board are divided into 4 clusters, namely: Cluster 1 in red consists of the keywords: Shariah Supervisory Board, GCC Countries, Board Size, Practice, Problems, Shariah Governance, Shariah Governance Framework, Islamic Financial Institutions, Intellectual Capital.

Cluster 2 in green consists of the keywords: Shari'ah Supervisory Boards, Islamic Finance, Shari'ah Compliance. Cluster 3 purple color consists of keywords: Effectiveness, Competency, Independence, Internal Shariah Audit.

Cluster 4 in blue color consists of keywords: Islamic Banks, Corporate Governance, Shari'ah Supervisory Board, Corporate Social Responsibility, Disclosure, Performance, Financial Performance, SSB, Islam, Determinants, Banking, Banks. Cluster 5 brown color consists of keywords: Islamic Banking, Religious Factors, Motivational Factors.

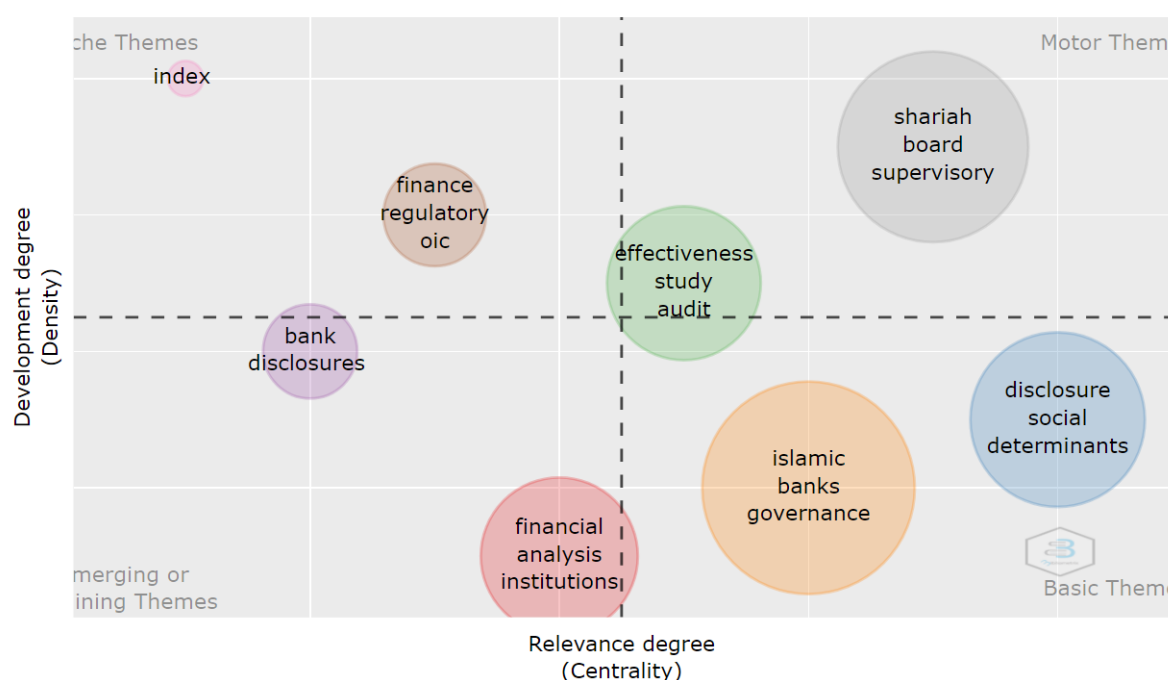


Figure 17: Thematic Map

This research will also analyze thematic maps that appear based on density and centrality which are analyzed based on document titles with the Shariah Supervisory Board research theme which is divided into 4 quadrants. These results are obtained from a semi-automatic algorithm by reviewing the titles of all references to the object of research.

The upper left quadrant represents *highly developed and isolated themes*. The quadrant shows themes that are specific and rarely researched, but highly developed, as indicated by high density but low centrality. Themes in this quadrant are Index, Finance, Regulatory, OIC. While the lower left quadrant is *emerging or declining themes*, this quadrant shows themes that have been used for a long time but are experiencing an increasing or decreasing trend with low density and centrality. The themes in this quadrant are Bank, Disclosures, Financial, Analysis, Institutions. Looking at the

development of the Shariah Supervisory Board sub-theme in recent years, the trend of words in this quadrant has increased.

While the upper right quadrant is a *motor theme* or driving theme characterized by high density and centrality, so it needs to be developed and is important to be studied in further research. The themes that appear in this quadrant are Shariah, Board, Supervisory, Effectiveness, Study, Audit. Finally, the bottom right quadrant is the *basic and transversal themes* characterized by high centrality but low density. These themes are important to include in the research because they are common topics that are commonly used. The themes that appear in this quadrant are Islamic, Banks, Governance, Disclosure, Social, Determinants.

Thematic Evolution

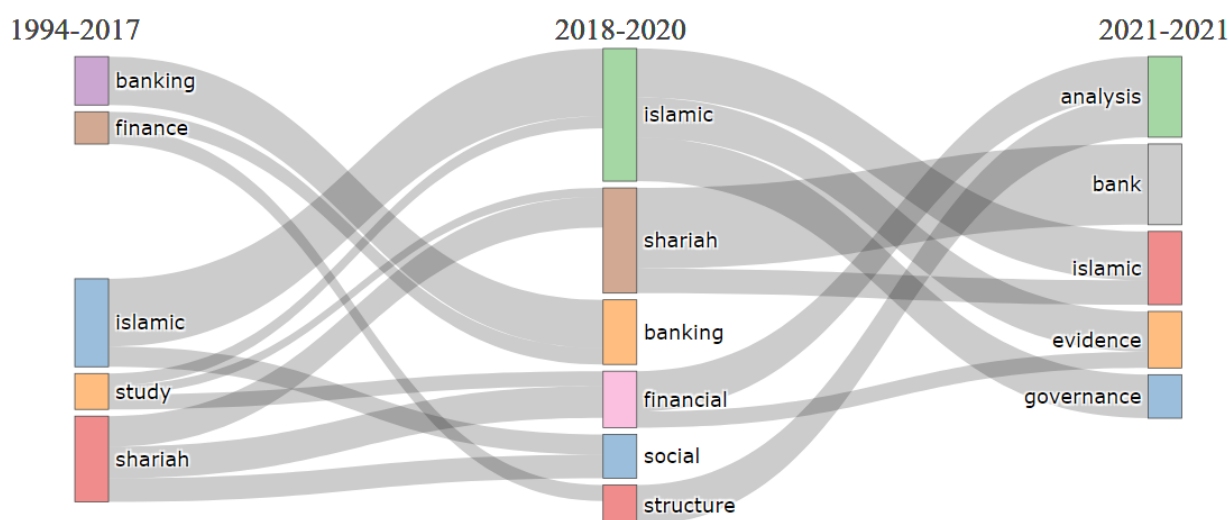


Figure 18: Thematic Evolution

The themes used in the papers that are the object of research continue to change, especially from recently published papers when compared to papers that have been published for a long time. The figure above shows the evolution analyzed by theme with research related to the Shariah Supervisory Board consisting of themes depicted by a rectangle with the larger size, the more it is used. Although the theme of this research is about the Shariah Supervisory Board, the data obtained shows that there are several sub-themes that are widely used.

Thematic Evolution is divided into 3 sections. Where the left side shows some of the most widely used themes from 1994 to 2017, there are 5 themes listed with different sizes depending on the quantity of use of the theme. The "Islamic" theme ranks first, followed by the "Shariah" theme.

The second or middle section shows the most frequently used themes in the period between 2018-

2020. 6 themes are listed, of which 3 are evolutions of themes that appeared in the previous period, namely the themes "Islamic", "Shariah", "Banking" which are extensions of some of the themes shown by the colorful grooves.

The last or right section shows the widely used themes from 2020-2021. There are 5 themes, of which there is 1 evolutionary theme from the previous period, "Islamic", which is an extension of several themes shown by the colorful grooves.

CONCLUSION

This research attempts to evaluate the topic of Shariah Supervisory Board using text analysis from 1994-2021. The conceptual structure of R 'biblioshiny' provides key research networks and themes. We have identified two research networks in the Shariah Supervisory Board literature using co-occurrence

network. These research networks are "Islamic Banks" and "Shariah Supervisory Board". Combining these two research networks will address many environmental issues.

Furthermore, in the conceptual structure, this study has deployed thematic maps to place themes and subthemes on the graph and divide them into four clusters (dropping or emerging themes, basic themes, highly developed and isolated themes, motor themes). The highly developed and isolated themes quadrant is represented by the Index, Finance, Regulatory, OIC themes. Furthermore, themes in the emerging or declining themes quadrant are Bank, Disclosures, Financial, Analysis, Institutions. In the motor themes or driving themes quadrant, the emerging themes are Shariah, Board, Supervisory, Effectiveness, Study, Audit. Finally, the basic and transversal themes quadrant is represented by the themes Islamic, Banks, Governance, Disclosure, Social, Determinants.

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