

Biblioshiny-R Application to Map Hajj Management Research

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Hajj is an act of worship that must be performed by all Muslims who have the ability both outwardly, inwardly, and also financially. The obligation to perform the Hajj is only done once in a lifetime. There is an external assessment that the management of the implementation of the Hajj pilgrimage has not been effective in terms of institutional aspects, financial management, and improvement of facilities and infrastructure in providing services to pilgrims. Therefore, there is a need for management of the Hajj pilgrimage as an effort to improve the system of organizing Hajj that is better, professional, and accountable. This study aims to determine the development map and trend of Hajj Management published by reputable journals. The data analyzed were more than 243 Google Scholar indexed research publications. The export data was then processed and analyzed using the R Biblioshiny application program to find out the bibliometric map of Hajj Management development. The results showed that We have identified two research networks in Hajj Management literature using co-occurrence network. These research networks are "Hajj" and "Crowd Management".

Keywords: Hajj Management, Biblioshiny, R, Islamic Pilgrimage

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INTRODUCTION

Hajj is an act of worship that must be performed by all Muslims who have the ability both outwardly, inwardly, and also financially. The obligation to perform Hajj is only done once in a lifetime. The Prophet Muhammad performed Hajj during his lifetime only once, namely Wada Hajj. The implementation of Hajj from time to time has extraordinary historical value. Because the ritual of Hajj has been carried out since the time of Prophet Adam *'alaihis Salam*. Until now, it is still carried out by Muslims in all parts of the world (Muslim, 2020).

Rosyid (2017) states that the practice of hajj travel for Indonesian Muslims began in the 16th century. However, after the return of the Indonesian pilgrims to the archipelago, the spirit of nationalism of the pilgrims increased, so that at that time the archipelago which was being controlled by the colonizers made rules that tightened the process of traveling to Makah and Medina. Under the pretext of resistance, the colonizers, in this case the Dutch government, made quite complicated bureaucratic rules, this aimed to facilitate the monitoring of pilgrims who would leave for Makah and also when they returned to their homeland. The policies set during the colonial period regarding the pilgrimage were not without reason. Effendi (2012) reinforces the results of this study by stating that during the time the archipelago was controlled by the Dutch colonial government, they set several policies regarding Islam with fear and excessive expectations. The establishment of Dutch policies for Muslims was not based on objective facts in the field. Darmadi (2018), in his journal, said that the Hajj also played an important role in the political and economic fields during the pre- and post-colonial periods.

Based on the mandate of the 1945 Constitution, the state or government is the sole authority responsible for organizing the Hajj. According to (Zubaedi, 2016), this is because: *First*, the problems of the Hajj are very complex, including centralized regulation and operation in one institution, ad hoc work units, APBN / APBD subsidies, BPIH determination, services (accommodation, transportation, catering, and health), cross-agency coordination and Stake Holders, waiting lists. *Second*, the Hajj is an investment in the powerful syiar and power of Islam. *Third*, the Hajj is performed in Saudi Arabia. *Fourth*, the Hajj is the peak ritual of the pillars of Islam that integrates all levels of sharia in it. *Fifth*, the Hajj must be organized in a complete (professional) manner. *Sixth*, there is an external

assessment that the management of the Hajj pilgrimage is still ineffective in terms of institutional aspects, financial management, and improvement of facilities and infrastructure in providing services to pilgrims. *Seventh*, the Corruption Eradication Commission (KPK) provides data that there are 48 weak points in the implementation of the Hajj pilgrimage, including regulations, institutions, governance and human resource management, thus placing the Ministry of Religious Affairs as one of the ministries with the lowest integration index (KPK version in 2011). *Eighth*, the neglect of prospective pilgrims by KBIH or special Hajj organizers. Therefore, there is a need for management of the Hajj pilgrimage as an effort to improve the system of organizing a better, professional, and accountable Hajj.

Hajj management is a process of regulating or managing Hajj activities using management functions which include planning, organizing, actuating, controlling and evaluating, so that the Hajj pilgrimage is carried out effectively and efficiently. Management is very necessary in carrying out the Hajj pilgrimage. There needs to be planning regarding the determination and appointment of Team Leaders, Group Leaders, planning for the management of Hajj pilgrims during the Hajj in Mecca, and planning for accommodation during the Hajj in Mecca.

Studies related to Hajj and Umrah Management review and also learn about various things regarding Hajj and Umrah. Starting from the history of the Hajj, Umrah, Hajj and Umrah jurisprudence, Hajj and Umrah management, Hajj and Umrah administration, and other things. The scope of management of Hajj and Umrah services as regulated in the Law of the Republic of Indonesia is 3, namely: 1) Development, 2) Service, 3) protection.

The management of the Hajj needs to be reformulated, so that the government is taken seriously in preparing and organizing the Hajj procession. This has implications for public trust in the government. Thus, the discourse on the need for privatization in the organization of Hajj in Indonesia can be eliminated. This is because past experience has proven that the government has successfully managed the organization of Hajj in a professional and accountable manner. This study will then try to map research related to Hajj management with a bibliometric approach using the Biblioshiny-R tool and also elaborate on studies related to Hajj management.

RESEARCH METHOD

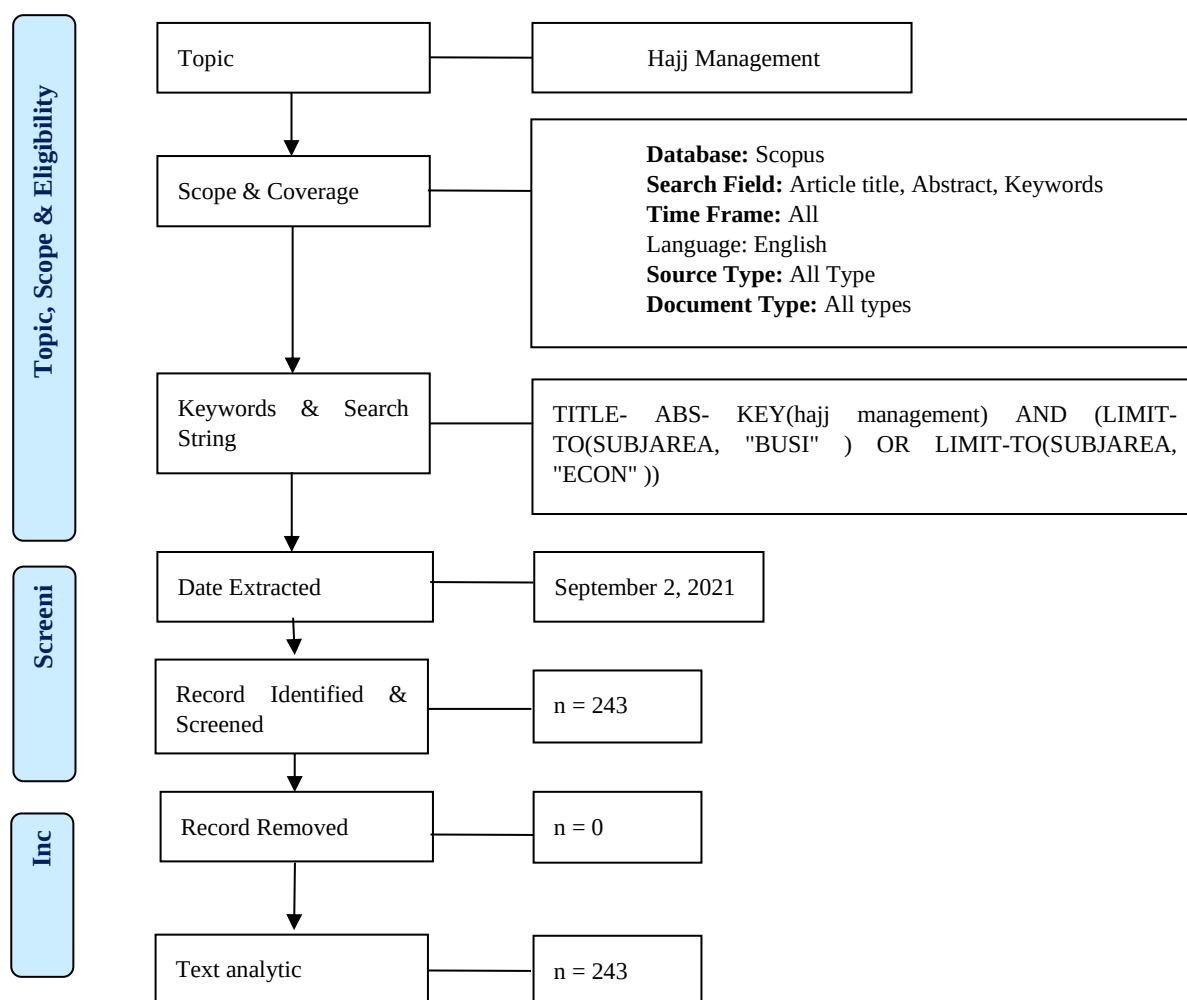


Figure 1: Flow diagram of the search strategy

Source: Zakaria et al. (2020), modified

The review process was conducted on September 2, 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 biblioshiny 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 bibliometric mapping results related to "word" will be conducted. Other studies using bibliometric analysis for the example can be seen at Uula & Ikhwan (2022), Nasution et al., (2022), Maulida & Ali (2023), Uula & Maziyyah (2022), and also Puspita (2023).

RESULTS AND DISCUSSION

Source

The following is a table of document types used in research with the keyword Hajj Management. The number of documents analyzed is 243 documents which are divided into 4 document types, including journal articles (130 documents), anthologies/book chapters (4 documents), conference papers (68 documents), editorials (8 documents) and reviews (27 documents).

Table 1: Document Types

No.	Document Type	Number of Articles	Percentage
1	Journal Article	130	53.49%
2	Book Chapter	4	1.64%
3	Conference Paper	68	27.98%
4	Review	27	11.11%
5	Editorial	8	5.78%
Total		243	

Based on the results of the document type grouping above, the document type most widely used as a research subject with the keyword "Hajj Management" is a document in the form of a journal article with a percentage of 53.49% or as many as 130 documents, and the document with the smallest percentage is a book chapter where the percentage is 1.64% or as many as 4 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 Hajj Management. 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 243 documents related to Hajj Management. 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

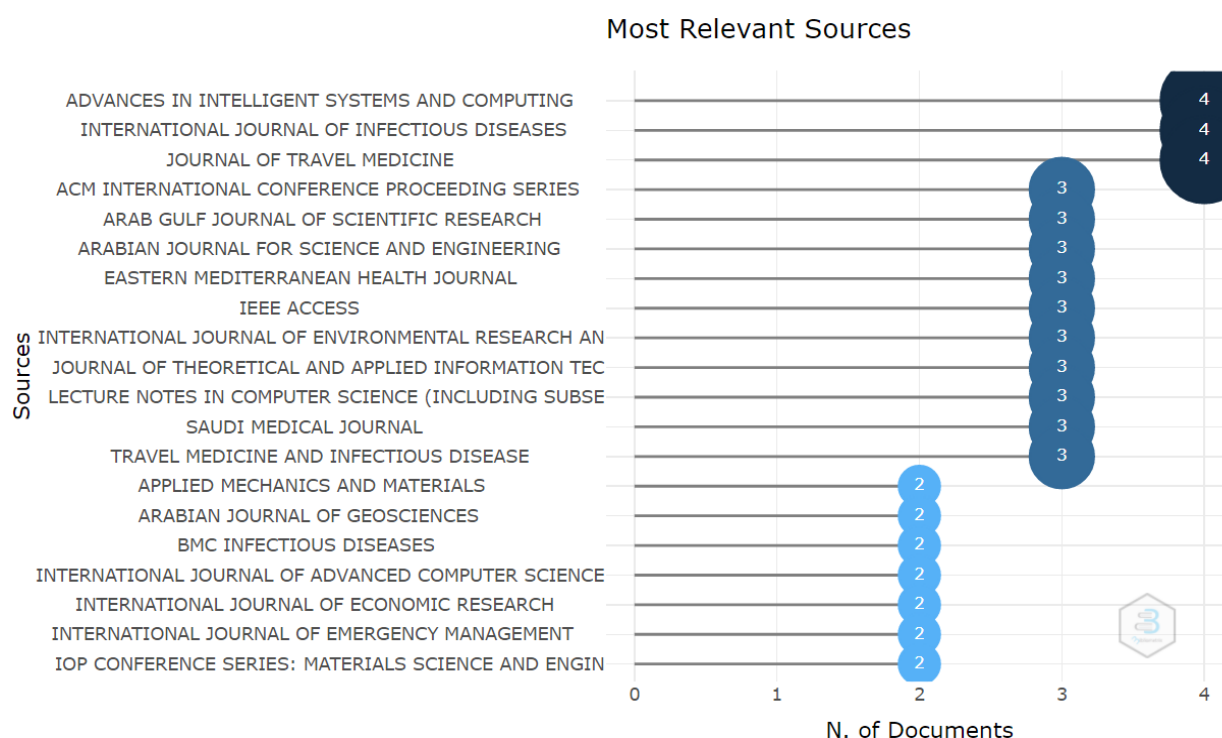


Figure 2: Most Relevant Sources

The figure above shows the number of research documents published by each journal based on their level of relevance to the theme of Hajj Management in Islamic economics and finance research. The data displays a list of the top published journal names and the interval of the number of published documents with a blue-colored bar chart. The darker the blue color indicates the more quantity and relevance of the research theme, the number of documents published by all journals ranges from 0 to 4 documents.

Advances in Intelligent System and Computing, International Journal of Infectious Diseases and Journal of Travel Medicine are journals that are in the top position with the number of published documents of 4 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 Advances in Intelligent System and Computing is a paper entitled "Analyzing Pedestrian Cross flow Through Complex Transfer Corridors" written by (Felemban E., Rehman F.U., Ahmad A., Obaidi S.S., 2021). The paper presents an ongoing research on pedestrian movement of very

large annual gatherings, such as Hajj, where the topographical nature of the host city Makkah offers a complex network of straight, circular, Y, L, T shape transfer corridors. In addition, the diversity of Hajj pilgrims in terms of race, age and language makes it more difficult for host authorities to cope with pedestrian crossing flows to avoid possible stampedes. As part of our study, we have analyzed the mobility of a group of pilgrims approaching the Jamarat bridge through a less complex route containing an L-shape transfer corridor. The movement of pilgrims was captured through GPS sensory data with timestamps by deploying a mobile application, during the 2019 Hajj event. Preliminary results led us to model and then simulate several scenarios of pedestrian movement through the complex corridor network. We aim that our findings will support in designing an optimized mobility plan considering route capacity and available time to accommodate all groups in the 2019 Hajj event.

AUTHORS ANALYSIS

Most Relevant Authors

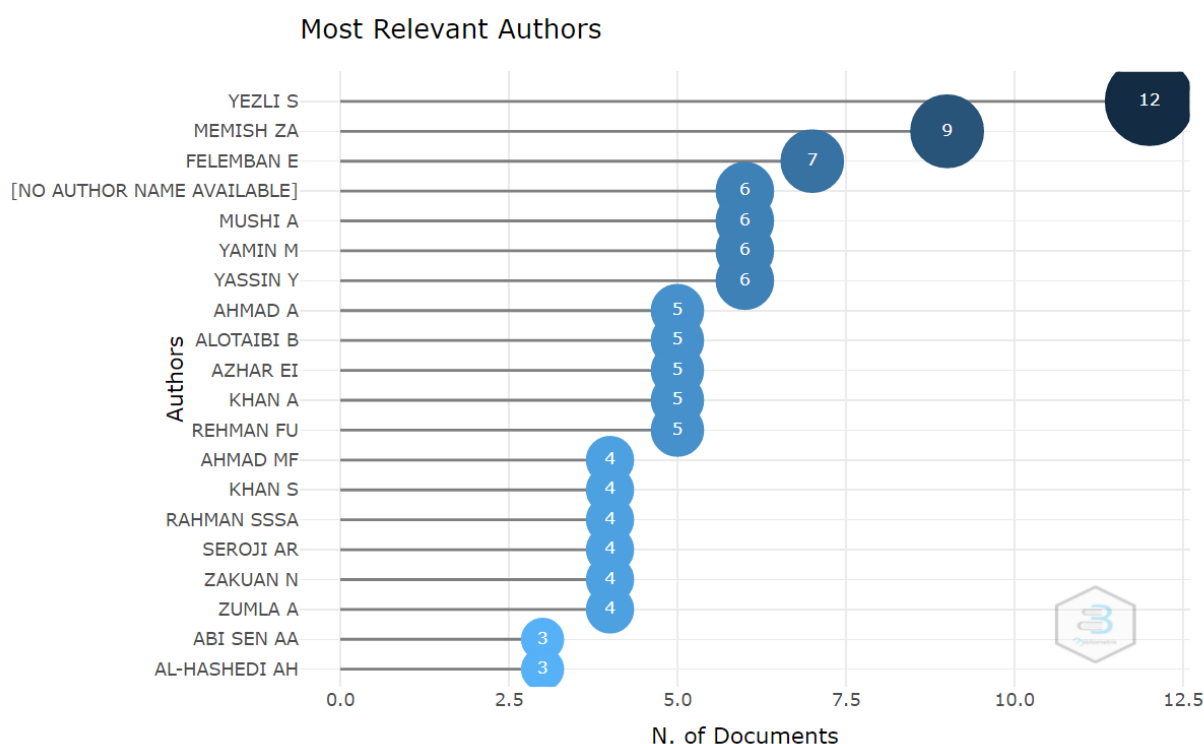


Figure 3: Most Relevant Authors

The figure above shows the number of research documents published by each author based on their level of relevance to the theme of Hajj Management 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 more quantity and relevance of the research theme, the

number of documents published by all journals ranges from 0 to 12.0 documents.

Author Yezli S. is the author who is in the top position with the number of published documents totaling 12.0 documents displayed in a dark blue bar graph compared to other journal bars. This is because the journal is relevant to the theme discussed. Among his writings is a paper entitled "Prevalence of diabetes and hypertension among hajj pilgrims: A systematic review" which discusses the Hajj mass gathering attended by more than two million Muslims each year, many of whom are elderly and have underlying health conditions. Data on the number of Hajj pilgrims with health conditions will help public health planning and improve health services at the event. We conducted a

systematic review of the literature based on structured searches in MEDLINE/PubMed, SCOPUS and CINAHL databases, and Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, to estimate the prevalence of diabetes and hypertension among Hajj pilgrims.

As for the authors who occupy the bottom position with the number of publications 3.0 there are 2 authors marked in bright blue. This means that in terms of quantity and relevance, the theme of Hajj Management is still lacking. Also, a total of 20 authors are listed in the most relevant data sources.

Most Relevant Affiliations

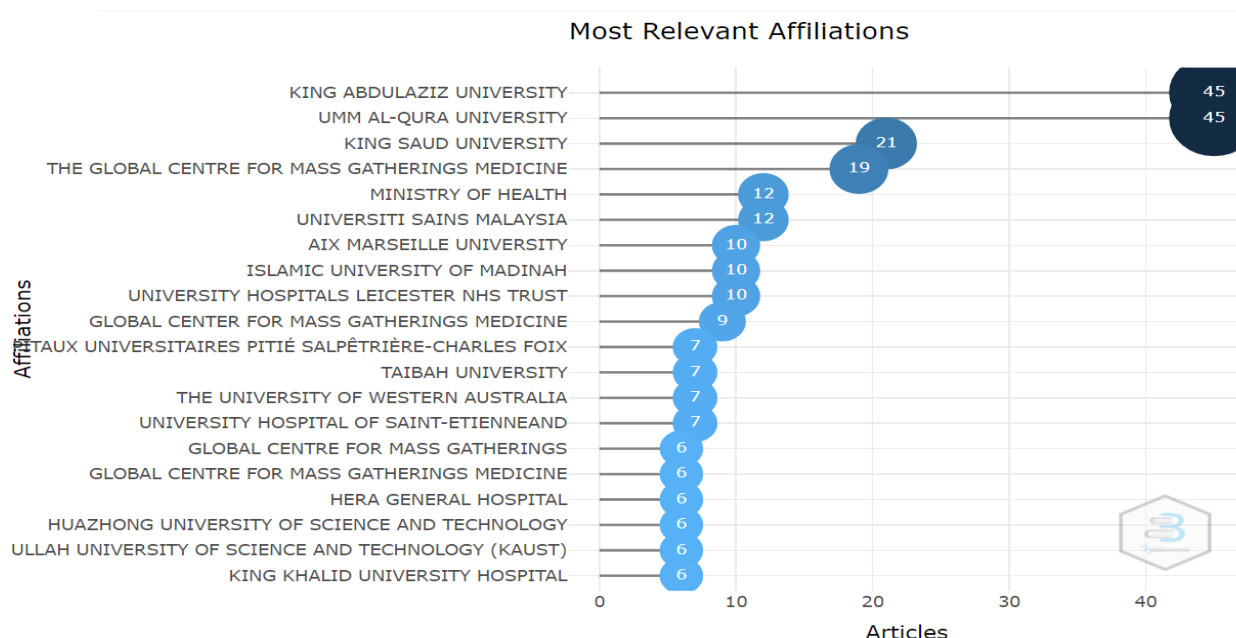


Figure 4: Most Relevant Affiliations

Most relevant affiliation shows the number of research documents on the theme of Hajj Management in Islamic economics and finance research based on the author's affiliation. The figure displays the top 20 affiliations and the interval of the 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 45 documents.

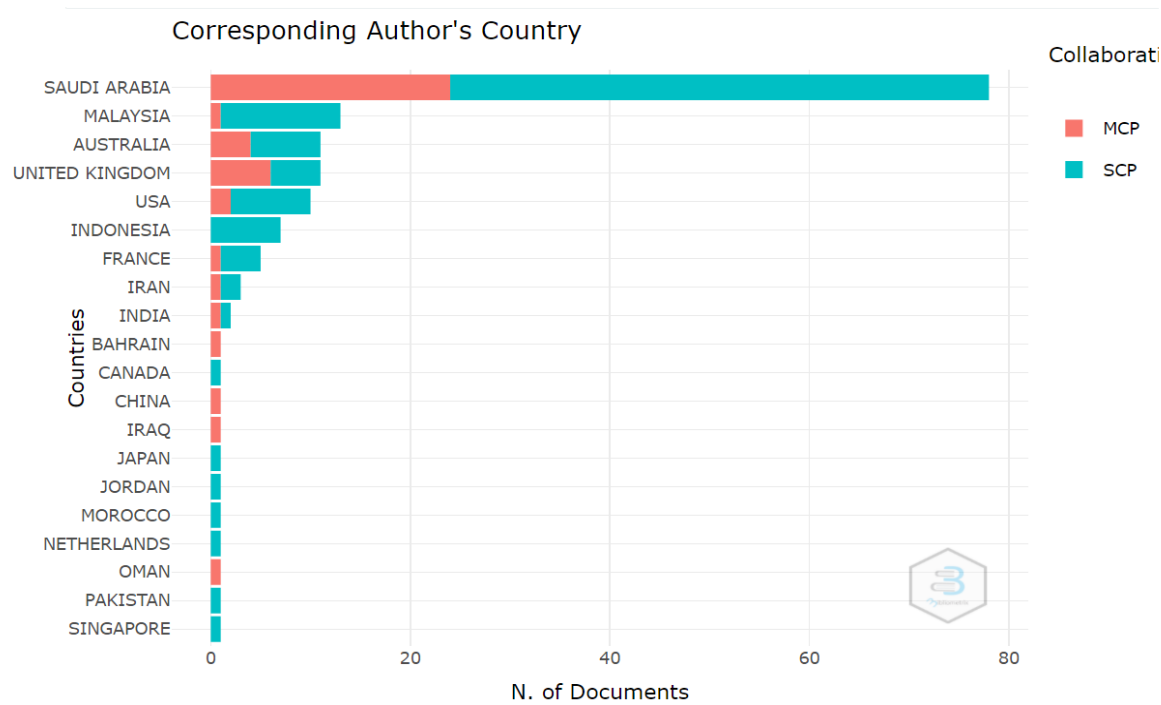
King Abdulaziz University and UMM Al-Qura University are the author affiliations that are in the top position with 45 publications each. In second place is King Saud University with 21 publications. King Abdulaziz University Journal has the honor of being the first professional journal in the field of Islamic

economics. It began publication in 1403H (1983) under the title, "*Journal of Islamic Economic Research*". Over the years, it published several classic articles written by pioneers of the emerging discipline of Islamic economics. The contributions published in the journal, whose scope included Islamic finance, generated great interest in this field. For practical reasons, Islamic finance developed much faster than "pure" Islamic economics, especially in the 1980s, although, in general, finance is part of economics. Some of the most interesting debates on *riba* (bank interest); Islamic banking, and to a lesser extent on *zakat*, *amqāf*, etc., were published in this journal. In this way, the journal spearheaded the development of a new industry. The journal began to be published under its present name,

"*King Abdulaziz University Journal: Islamic Economics*", in 1409H (1989) in accordance with the standardization of journal titles at the University, and since then it has been published regularly in English and Arabic. In 1424H (2003), the Journal started publishing twice a year, and since 1435H (2014), the Journal publishes three issues: two in English and one in Arabic. In 2009, the journal

won a listing in Scopus, one of the most prestigious indexing services. The Journal also has the honor of being listed in the indexing service (EconLit) of the American Economic Association since 1989.

Corresponding Author's Country



5: Corresponding Author's Country

Figure

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 several countries. There are 20 top countries included in this data and the document quantity interval is between 0 to more than 80.0 paper documents published on the theme of Hajj Management. The results showed that Saudi Arabia ranked first as the country with the highest number of correspondence authors with more than 80.0 published papers. The rest of the countries published less than 20.0 papers. The figure above shows the results that almost all countries have a form of MCP collaboration while SCP is only owned by 8 countries namely Singapore, Pakistan, Netherlands, Morocco, Jordan, Japan, Canada and Indonesia.

One of the papers with authors from Saudi Arabia is a paper entitled "Vehicular emissions on main

roads in Makkah, Saudi Arabia-a dispersion modeling study" written by [Munir S., Habeebullah T.M. \(2018\)](#). The paper discusses that particulate matter (PM) is an atmospheric pollutant of major concern in Makkah; therefore, effective monitoring, modeling, and management are required. In this study, the Atmospheric Dispersion Modeling System (ADMS)-Urban model was used, which is a well-known atmospheric dispersion modeling system. Traffic data was collected for several years (2007-2012) on six main roads in Makkah during Ramadan and Hajj. Data analysis shows that on average, there are 83% light vehicles and 17% heavy vehicles on Makkah roads; however, these percentages vary slightly both spatially and temporally. The number of vehicles showed an increasing trend from 2007 to 2012 on the six roads.

Most Relevant Words

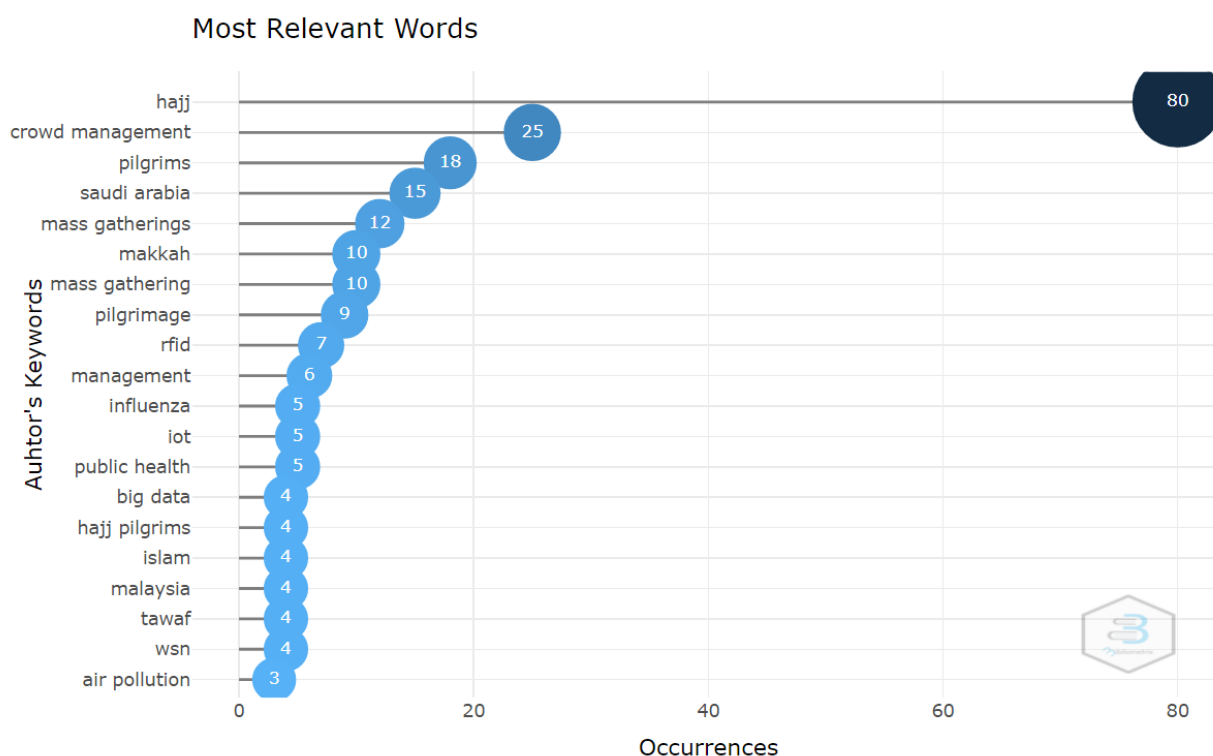


Figure 6: Most Relevant Words

The most relevant word analysis was performed on the keywords of each document, where there were several words with a quantity of occurrences between 0 and 80 occurrences. The figure above shows the 20 most relevant words used in the research collection related to the keyword "Hajj Management".

The top word with the highest quantity of occurrences and most relevant to the keyword Hajj Management is the word Hajj itself, with the highest quantity of occurrences of 80 times. The second most relevant word related to the theme of Hajj Management is Crowd Management with 25 occurrences. Furthermore, the third and fourth most relevant words related to the theme of Hajj Management with the appearance of words as many as 18 and 15 times are the words Pilgrims and Saudi Arabia.

Research entitled Hajj crowd management and navigation system: People tracking and location based services via integrated mobile and RFID systems (Mitchell R.O., Rashid H., Dawood F., Alkhalidi A., 2013) explains about Every year there is an influx of more than three million Muslims to Makkah, Saudi Arabia to perform the Hajj. As these large groups of pilgrims move between different religious places, safety and security become issues of major concern. This research looks at the integration of different mobile

technologies to serve the purpose of crowd management, people tracking, and location-based services. It explores solutions to track the movement of worshipers through RFID technology. Location-aware mobile solutions will also be integrated into this. These will be made available to pilgrims with smartphones to improve the accuracy and tracking time of pilgrims and provide them with location-based services for Hajj.

Word Cloud

Furthermore, relevant words in research related to the theme of Hajj Management will be displayed in the title of the document 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 "Hajj Management". 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 word cloud are obtained based on the analysis of document titles.



Figure 7: Word Cloud

Based on the picture of the results of the analysis of document titles, it is found that the most dominant words are related to Hajj Management, namely Hajj, Management, Crowd, Pilgrims. Most of the current research on "Hajj Management" discusses "Hajj". This is because the word "Hajj" is relatively closely related to current economic problems in society. Research conducted on Hajj Management includes The effect of demographics on customer satisfaction amongst

Malaysian hajj pilgrims: Survey results (Ahmad M.F., Arif M.S.M., Zakuan N., Rahman S.S.S.A., Abdullah T.A.R., Fadzil N. 2014), Characteristics of heat illness during hajj: A cross-sectional study (Abdelmoety D.A., El-Bakri N.K., Almowalld W.O., Turkistani Z.A., Bugis B.H., Baseif E.A., Melbari M.H., AlHarbi K., Abu-Shaheen A. 2018), and Evaluation of air quality in the Holy Makkah during Hajj season 1425 H (Al-Jeelani H.A. 2009).

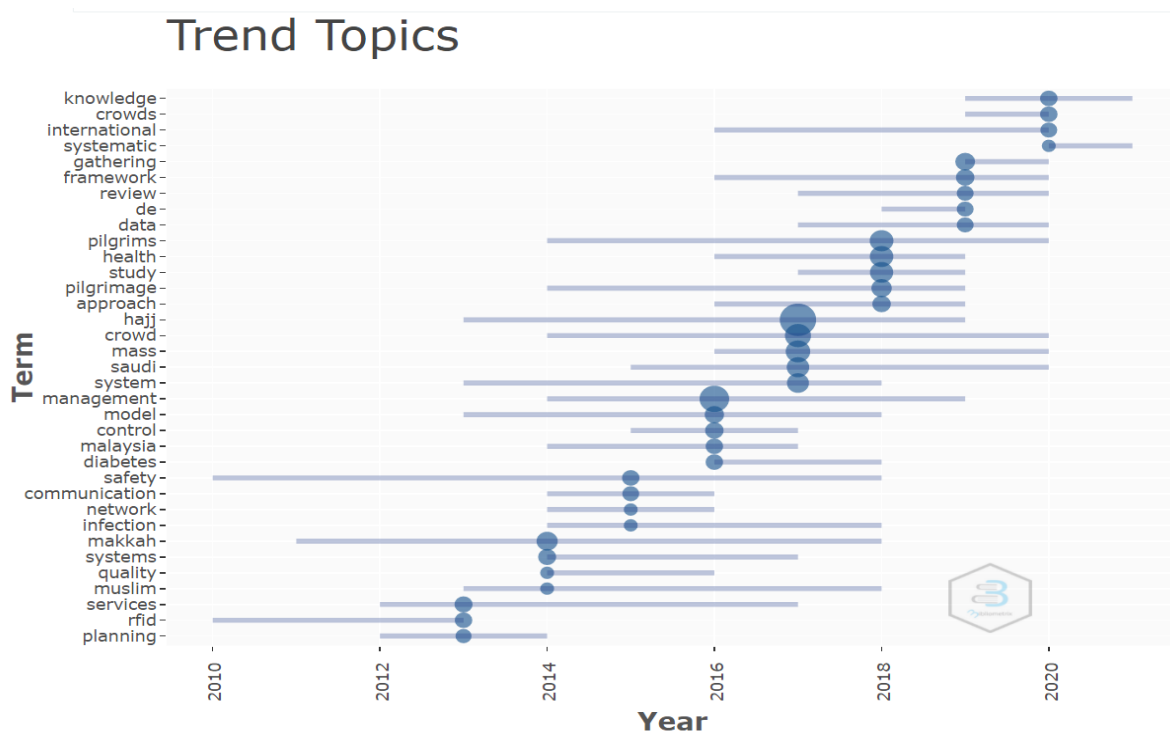


Figure 8: Trends in Topics

Based on the image of the results of the analysis of document titles in research on the theme of Hajj Management, topic trends are also an important part of this research. Where the figure above displays an overview of the development of topics related to Hajj Management 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 word occurrence in the research theme related to Hajj Management. The higher indicates the more the word is used, and the more to the right, the more recent the word is used. The development of the Hajj Management 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 Hajj Management are Knowledge, Crowds, International, Systematic and Gathering. The word knowledge was most widely used in 2019-2021. The journal entitled "Gastrointestinal symptoms and knowledge and practice of pilgrims regarding food and water safety during the 2019 Hajj mass gathering" written by [Yezli S.](#), [Yassin Y.](#), [Mushi A.](#), [Aburas A.](#), [Alabdullatif L.](#), [Alburayh M.](#), [Khan A.](#) (2021) discusses about Despite overall good knowledge and self-reported practices, risky behaviors related to food and water safety were identified among pilgrims, many of whom suffered from GI symptoms during Hajj. Our results can serve as a basis for developing tailored, targeted, and effective interventions to improve pilgrims' knowledge and behaviors and reduce the burden of FWBD at Hajj and beyond.

Co-occurrence Network

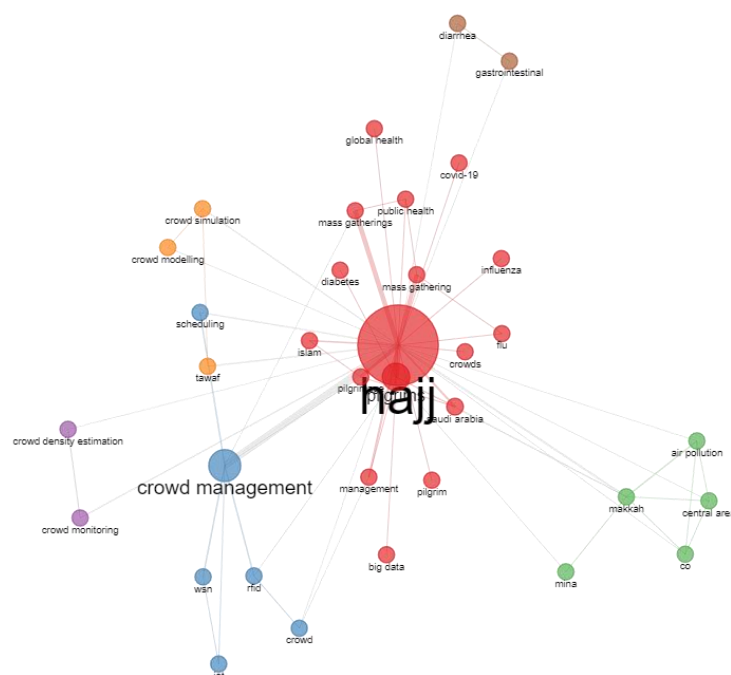


Figure 9: Co-occurrence Network

Co-occurrence network displays words related to the keywords of documents related to the theme of Hajj Management, 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 Hajj Management are divided into 6 clusters, namely:

- Cluster 1 in red consists of keywords: Hajj, Management, Big data, Pilgrims, Crowds, Flu, Influenza, Mass Gathering, Diabetes, Public

- Health, Covid 19, Global Health, Islam, Diabetes.
- Cluster 2 in green consists of the keywords: Makkah, Mina, Central Area, Air Pollution.
- Cluster 3 purple color consists of keywords: Crowd Density Estimation, Crowd Monitoring.
- Cluster 4 in blue consists of the keywords: Crowd Management, Crowd, Scheduling.

- Cluster 5 in orange consists of the following keywords: Tawaf, Crowd Modeling, Crowd Simulation.
- Cluster 6 in brown color consists of the keywords: Diarrhea, Gastrointestinal.

Thematic Map

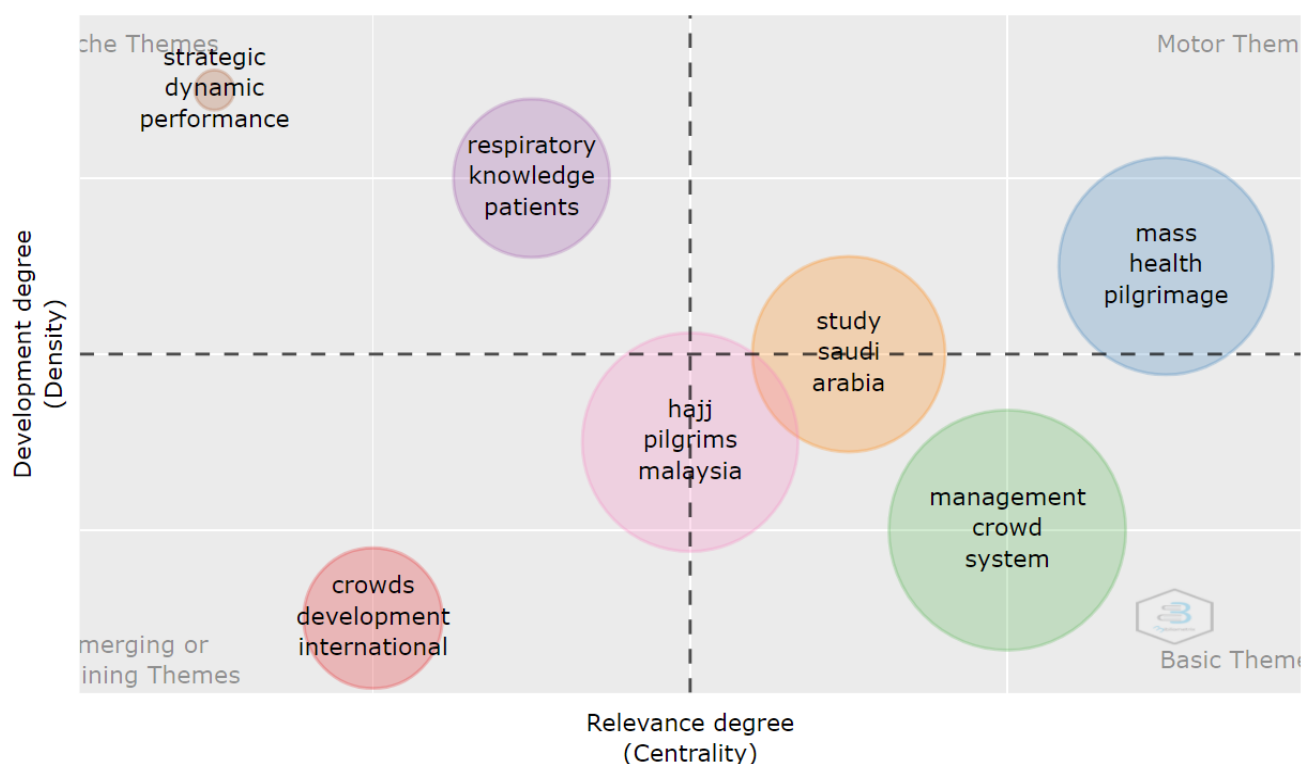


Figure 10: Thematic Map

This research will also analyze thematic maps that appear based on density and centrality which are analyzed based on document titles with the theme of Hajj Management research which is divided into 4 quadrants. These results are obtained from a semi-automatic algorithm by reviewing the titles of all references on 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, which is indicated by high density but low centrality. The themes in this quadrant are Strategic, Dynamic, Performance, Respiratory, Knowledge, and Patients. 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 Crowds, Development, and

International. Looking at the development of the Hajj Management sub-theme in recent years, the trend of all words in this quadrant side has relatively increased generally.

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 Mass, Health, Pilgrimage. 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 as they are common topics that are commonly used. The themes that appear in this quadrant are Management, Crowd, System.

Thematic Evolution

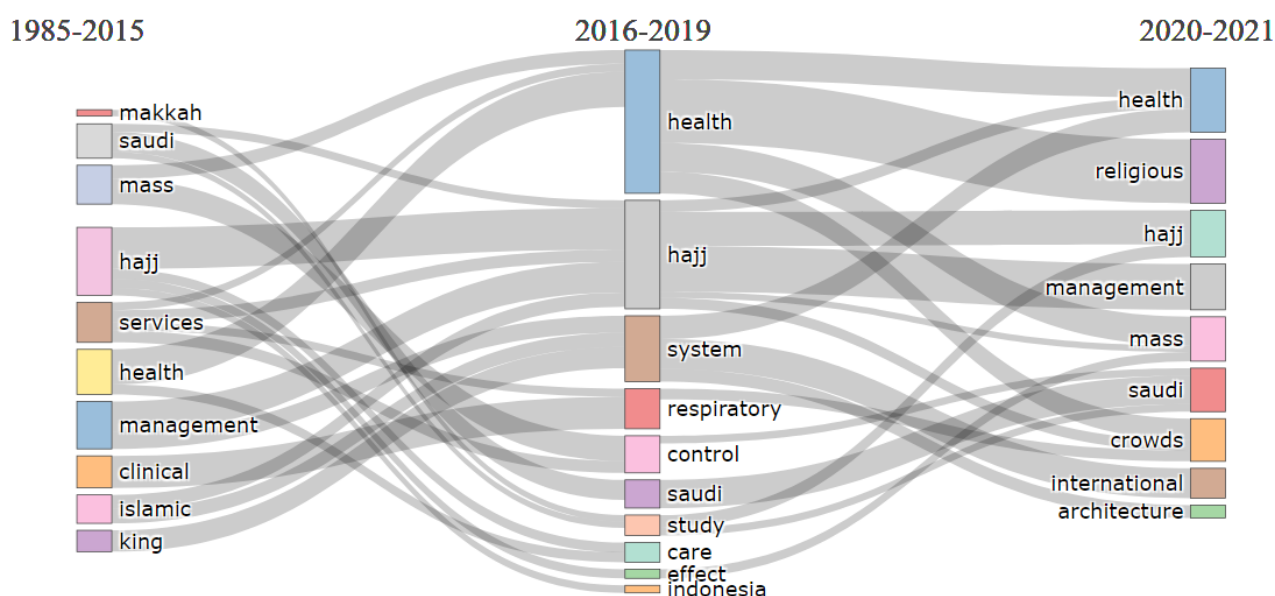


Figure 11: Thematic Evolution

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 Hajj Management consisting of themes depicted by a rectangle with the larger size, the more it is used. Although the theme of this research is about Hajj Management, 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 1985 to 2015, there are 10 themes listed with different sizes depending on the quantity of use of the theme. The "Hajj" theme ranks first, followed by the "Management" theme.

The second or middle section shows the most frequently used themes in the period between 2016-2019. There are 10 themes, of which 3 are evolutions of themes that appeared in the previous period, namely the themes 'Hajj', 'Health' and 'Saudi' 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 9 themes, of which there are 4 evolutionary themes from the previous period namely "Health", "Hajj", "Management" and

"Mass" which are extensions of some of the themes shown by the colorful grooves.

Discussion

Etymologically, the word management comes from Old French, namely *ménagement*, which means the art of carrying out and organizing. In terminology, experts define management variably from various perspectives. According to Follet, management is the art of getting work done through other people. A different definition to Follet's was formulated by Stoner. According to him, management is the process of planning, organizing, directing, and supervising the efforts of the members of the organization and the use of other organizational human resources in order to achieve predetermined organizational goals. This definition explains the functions of management. Meanwhile, Gulick understands management from a scientific perspective. For him, management is a field of *science* that seeks systematically to understand why and how humans work together to achieve goals and make this system more beneficial to humanity (Wijayanti, 2008).

The elements of management consist of: *First, man*, namely human resources (HR) in an institution. HR will affect the effectiveness and efficiency of institutional management in carrying out goals. *Second, money*, namely

the funds needed to achieve goals. These funds can be obtained from the local government, developed business institutions, and donors who voluntarily make donations for the progress of the institution. *Third, methods* are ways or systems to achieve goals. In determining this method, it must be carefully planned so that there is no vacuum in the middle of the road. *Fourth, materials*, namely the materials needed to achieve the goals or mission of the institution. *Materials* greatly support the process of achieving the goals planned by an institution. *Fifth, machines* are the tools needed. *Machines* are used to maximize the available materials. *Sixth, the market* is a place to offer production results (Terry, 2005).

The six elements above are well organized so that management functions properly. The management functions are as follows: (1) Planning, (2) Organizing, (3) Actuating, (4) Controlling, and (5) Evaluation. Planning is the determination of the work that must be carried out to achieve the goals that have been formulated. Planning is very significantly formulated to provide direction for both managers and non-managerial employees, reduce uncertainty, minimize waste, set goals and standards used.

Organizing is "the process of grouping activities to achieve goals and assigning each group to a manager". Organizing aims to gather and organize all the necessary resources so that the work is carried out effectively and efficiently, reinforcing the relationship between members with one another, directing each member to be responsible for their respective duties and responsibilities according to their position in the organizational structure, providing opportunities for each member to develop, creating a good relationship pattern between members of the organization.

Actuating is an effort to motivate members of an organization, so that they are motivated to carry out programs that have been formulated to achieve the goals that have been planned together. *Controlling* or supervision is the process of observing the implementation of all organizational activities. *Controlling* aims to ensure that all work being carried out runs in accordance with a predetermined plan (Siagian, 1990). In practice, supervision consists of four (4) stages, namely: determination of standards, determination of measurement of the implementation of activities, measurement of the implementation of activities, comparison of implementation with standards and analysis of deviations, and taking corrective action if necessary.

According to Tague-Sutcliffe, evaluation is "a systematic process of determining the extent to which instructional objectives are achieved by pupils" (activities to assess something in a planned, systematic, and directed manner based on clear objectives). Evaluation is an activity to collect information about the process of a job as mentioned by Arikunto. According to him, information about the operation of something is used to determine the right alternative in making decisions. In this case, evaluation serves to provide useful information for *decision makers* to determine policies. In carrying out the evaluation, there are three standards that can be used, namely: *utility* (useful for management to make decisions on ongoing programs), *accuracy* (the evaluation information has a high level of accuracy or is accurate), and *feasibility* (the evaluation process designed can be implemented feasibly) (Umar, 2002).

In Indonesian Law Number 8 of 2019 concerning the Implementation of Hajj and Umrah, it is explained that Hajj is the fifth pillar of Islam for Muslims who are able to carry out a series of certain worship in Baitullah, masyair, and several other places, at certain times and conditions. The time to perform Hajj starts from 1 Shawwal until the dawn of the tenth night of Dhulhijjah (Q.S. Al-Baqarah verse 19).

The ruling on performing Hajj is obligatory for the one who is performing it for the first time (fulfilling the pillars of Islam) and for those who make a vow. As for those who have performed the Hajj, the law is sunnah (Yusuf al-Qaradhwai, 2005). The requirements of Hajj according to Wahbah Az-Zuhaili (2006), are Muslim, puberty, freedom and ability to perform Hajj. Capable, what is meant by capable in the conditions of Hajj, namely, having enough money to pay for himself and for the family left behind, physically and mentally healthy, safe in traveling, having knowledge about the rituals of Hajj and Umrah, and for women there is a mahram (family member) who accompanies.

Hajj consists of pillars and obligatory acts. The pillars are actions for which no Hajj is valid except by performing them. There are five pillars of Hajj, namely: *ibram*, *tawaf*, *sa'i* (after tawaf), *wukuf* in the field of 'Arafat and shaving. The obligatory acts of Hajj are those which, if not performed, can and must be compensated with a *compensatory sacrifice* (Abu Hamid Al-Ghazali, 1993).

CONCLUSION

This research attempts to evaluate the topic of Hajj Management using text analysis from 1985-2021. The conceptual structure of R 'biblioshiny' provides key research networks and themes. We have identified two

research networks in Hajj Management literature using co-occurrence network. These research networks are "Hajj" and "Crowd Management". Combining the two networks in this research will address many environmental issues. Furthermore, in the conceptual structure, this research 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). Basic or transversal themes are represented by Management, Crowd, System. Crowds, Development, International are themes that appear in the dropping or emerging themes cluster. Mass, Health, Pilgrimage are emerging themes in the motor themes cluster. Specific and rarely researched, but highly developed themes are topics related to Strategic, Dynamic, Performance, Respiratory, Knowledge, and Patients.

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