

Halal Certification in Bibliometric Perspective: Trend and Impact Analysis

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Abstract

The era of globalization of the digital world has become a challenge for which the provision of goods and services to obtain labeling or recognition of healthy and halal foods is one in the field of food offered in stores, mini-markets, or supermarkets. This research builds on the previous dedication to halal; it also seeks to map the evolution of research on halal certification over an 18-year period, employing a bibliometric analysis approach with Dimension AI data. This in-depth examination of scientific literature and work on halal certifications aims to understand the concept and its evolution year by year. We collected the data by examining Article, Chapter, Monograph, and Proceeding publications, which yielded a total of 15,999 documents on halal certification published from 2007 to 2024. We evaluate the data using the VOSviewer software and classify it into three categories: network visualization, overlay visualization, and density visualization. The results show a considerable increase in publication of halal certification by 2023, which is 3,492 documents compared to the previous year. The trends among halal-based industrial research writers indicate that Fischer, Johan, is the most productive writer. According to keyword analysis, the most commonly used term in developing the trend of halal certification research is 'halal certification', followed by keywords related to review, effects, UMKM, and medium-sized enterprises. There are two countries that have made the largest contributions to halal certification research: Indonesia and Malaysia.

Keywords: halal certification, bibliometric, AI dimensions

INTRODUCTION

Demand for halal goods has risen dramatically over the last few decades, a sign of increasing Muslim consumer awareness of sharia. The food, cosmetics, pharmaceutical, and other services industries are beginning to realize the importance of halal certification, which guarantees that goods and services comply with Sharia requirements. In addition to being important for religious adherence, halal certification also serves as a powerful marketing tool that allows manufacturers and service providers to connect with a larger consumer base.

Research on halal certification has grown significantly in line with this trend. Bibliometric studies have emerged as a valuable technique for understanding research progress in a specific subject. These studies map and analyze patterns in scientific publications in a particular domain. Researchers can use bibliometric analysis to determine research trends, the impact of authors, institutions, and participating countries, as well as the topics most often discussed in the context of valid certification.

Halal certification has garnered significant global research interest, with studies utilizing bibliometric analyses to assess trends and impacts (Binti Masood, 2022),

Research has consistently shown the positive effects of Halal certification on consumer behavior, trust, awareness, and purchase intentions ((F. and P. P. Mahliza, 2024), (Hayati & Pramesti, 2021), (Siska et al., 2020))(Septiani & Ridlwan, 2020). The significance of Halal certification in ensuring compliance with Shariah law spans various sectors, including fisheries, cosmetics, food, and small and medium enterprises (Muneeza & Mustapha, 2020; (Mahendra et al., 2024), (Siska et al., 2020). Studies investigating the impact of Halal certification on businesses, ranging from small to large enterprises, consistently demonstrate its positive influence on business competitiveness, consumer confidence, and product quality (Najmudin & Syihabudin, 2022), (Sudarmiatin et al., 2020), (Ismail, 2024). The role of Halal certification in bolstering consumer trust, interest, and purchasing decisions underscores its importance in shaping market behavior and choices ((Ana 'Arifah et al., 2023), (Najmudin & Syihabudin, 2022), (Jumeri et al., 2021)

Moreover, research has delved into the regulatory landscape surrounding Halal certification, focusing on the implementation of laws and regulations to standardize certification processes and ensure legal certainty, thereby enhancing the Halal certification framework ((Artadita & Lestari, 2019; Jubaedah et al., 2023). Additionally, the adoption of Halal certification by businesses has been associated with technological, organizational, and environmental factors, reflecting a comprehensive approach to integrating Halal practices into business operations (Aman et al., 2022)

Halal certification has been a subject of significant research interest due to its impact on various aspects of businesses and consumer behavior. Studies by (F. and P. P. Mahliza, 2024) have highlighted the influence of halal certification on raising awareness among individuals regarding halal products. This awareness leads to increased consumer confidence in producers and business actors, subsequently positively impacting their profits. Consumer awareness plays a crucial role in shaping consumer perceptions and behaviors towards producers and business actors. When consumers are more informed about a company's practices, products, and values, they are likely to develop trust and confidence in the brand. This trust can lead to increased loyalty, positive word-of-mouth recommendations, and ultimately higher sales and profits for the business. Moreover, the significance of halal certification on consumer purchasing decisions has been explored in research conducted (Identiti, Rimet, Nanda Suryadi, Virna, 2024). The study emphasizes the importance of halal principles in influencing consumer behavior, especially in predominantly Muslim populations. Additionally, (Santosa et al., 2022) have delved into the impact of halal certification on logistic and financial performance in small and medium-sized enterprises (SMEs). Their findings aim to provide a deeper understanding of how halal certification affects company performance in specific industries.

Halal certification is a vital process that assures consumers, particularly Muslims, that products adhere to Islamic standards and are permissible for consumption. This certification involves a thorough inspection by competent authorities to ensure compliance with Shariah principles (Ab Talib et al., 2016). The significance of halal certification lies in providing consumers with confidence that the products they are consuming are safe and align with their religious beliefs (Musa & Hashim, 2022). It serves as a guarantee of safety and quality, indicating that the products have been meticulously examined and meet the requirements set by Islamic institutions (Hamidifani & Karim, 2023) from a business perspective, research suggests that obtaining halal certification can enhance companies' performance and market competitiveness, leading to improved innovation and market performance (Salindal, 2019). Furthermore, halal certification extends beyond food products to various industries, including cosmetics, where it confirms compliance with Islamic law (F. and P. P. Mahliza, 2024). The process

of halal certification involves detailed examinations by experts to determine the halal status of products, resulting in the issuance of halal certificates as evidence of adherence to Islamic guidelines (Aslikhah et al., 2024), (Mahliza and Prasetya 2024)

This certification process is particularly beneficial for small and medium-sized enterprises (SMEs) as it can boost their market presence and appeal to Muslim consumers (Giyanti & Indriastiningsih, 2019). Additionally, awareness and intention to register for halal certification are crucial steps for businesses, as halal certificates offer legal certainty and peace of mind to the community regarding the halal status of products (Oemar et al., 2023); (Siska et al., 2020).

The aim of this study is to present a bibliometric perspective on halal certification, emphasizing the analysis of trends and impacts of previous research. This analysis aims to offer a comprehensive understanding of the field's situation, the key players involved, and the impact of legal certification research on industry policies and practices. In addition, the study aims to show current research gaps and offer suggestions for further research in the future.

This theoretical debate shows the complexity that encompasses the study of legal certification. Each perspective carries different implications for policy, industrial practice, and social-cultural understanding. Therefore, it is important to adopt a holistic approach and consider different perspectives in the research and implementation of halal certification. This research is important not only for academics and researchers who have an interest in halal studies, but also for professionals in the business world, government policy decision makers, and certification bodies involved in the formulation and implementation of halal guidelines. We anticipate that a deeper understanding of the research environment surrounding halal certification will yield significant insights, spurring innovation and enhancing the quality of halal production and services.

RESEARCH METHODS

This research uses the bibliometric method to study and categorize published literature on the topic of halal certification. Bibliometric analysis is a quantitative method that represents research trends and characteristics of a series of publications. This study analyzes the type of document, the year of publication, the language used, country-specific publications, institutional publications, leading journals, co-authors, and co-writers as part of a scientific mapping process. We used data from publications with the research topic "Halal Certification" in this study. We collect data by examining publications of various document types, including articles, chapters, monographs, and proceedings. We download the year of publication, author's name and affiliation, keywords, languages used, and the geographical distribution of these elements. We found 15,999 publications related to halal certification in the Dimension AI database between 2007 and 2024, based on the search results. Information obtained in a comma-separated value file format (.csv). We then analyze the data using the VOSviewer program. We use VOSviewer to visualize network patterns or bibliometric correlations in three categories: network visualization, overlay visualization, and density visualization. After that, accurate content analysis based on the researcher's name, year of publication, productivity, and trends in halal certification research will be conducted using the mapping obtained by VOSviewer.

Bibliometric analysis is a powerful tool used to map the intellectual structure and evolution of research fields. Citation analysis identifies the most influential papers, authors, and journals in halal certification research. This method helps to trace the

development of key ideas and the impact of seminal works on subsequent research (Aswin et al., 2022; Fisher, 2011). Analyzing co-authorship patterns reveals collaboration networks among researchers and institutions. Such studies highlight the importance of international collaboration in advancing the field and addressing global challenges related to halal certification (Zakaria & Abdul-Talib, 2010) analysis uncovers prevailing themes and emerging trends within halal certification research. This method helps to identify gaps in the literature and potential areas for future investigation (Ambali & Bakar, 2014a). The literature review on halal certification reveals its multifaceted impact on businesses, consumer behavior, and industry trends. It underscores the importance of halal certification not only for meeting religious requirements but also for enhancing market competitiveness, consumer trust, and overall business performance.

LITERATURE REVIEW

The bibliometric literature on halal certification highlights the influence, patterns, and methodological framework of this industry. While halal certification gains popularity worldwide, more research is required to address the issues faced by industry stakeholders and explore the dynamics of evolving halal marketplaces. Future studies should look into how technological advancements like artificial intelligence and blockchain might increase the effectiveness and transparency of halal certification processes. By performing comprehensive and diversified research, the field may continue to adapt and evolve to satisfy the demands of a diverse and changing global market.

Research on halal certification has evolved considerably, reflecting the dynamic nature of this field. The economic impact of halal certification extends to increased market opportunities and competitive advantages for certified companies. Studies highlight that halal certification can lead to higher sales, market expansion, and enhanced brand reputation (Marzuki et al., 2012); (Islam et al., 2023)

Halal certification enhances consumer confidence by assuring that products meet religious and quality standards. This certification is crucial for market access in Muslim-majority countries and increasingly important in diverse markets where halal products appeal to health-conscious and ethical consumers (Ambali & Bakar, 2014b); (Jafari, 2012)

Early research focused primarily on the religious and legal aspects of halal certification. More recent studies have expanded to include consumer behavior, market potential, supply chain management, and the economic impact of halal certification. This shift indicates a broadening of the research scope to encompass both theoretical and practical dimensions (Bonne et al., 2007); (Tieman et al., 2010)

Despite its benefits, halal certification poses challenges, particularly for small and medium-sized enterprises (SMEs). The costs associated with certification, including compliance, auditing, and process adjustments, can be prohibitive. Research suggests the need for supportive policies and frameworks to ease the burden on SMEs and promote broader adoption of halal standards (Jafari, 2012); (Tieman et al., 2010); (Latif et al., 2014)

Research on halal certification is predominantly conducted in countries with significant Muslim populations, such as Malaysia, Indonesia, and the Middle East. However, there is also notable research activity in non-Muslim majority countries, reflecting the global relevance of halal certification in international trade (Latif et al., 2014); (Ali et al., 2018; Sherwani et al., 2018). Studies have shown a steady increase in the number of publications on halal certification over the years, indicating a growing academic interest in this topic. This growth is attributed to the expanding global Muslim

population and increased awareness of halal standards among consumers and producers (Alqudsi, 2014)

Halal certification has become a significant aspect in various industries, impacting businesses and consumer behavior. Research has shown that halal certification compliance positively influences companies' innovative and market performance (Salindal, 2019). This certification is not only crucial for businesses but also affects consumer decisions, as halal awareness and certification have been found to have a positive effect on purchase intention of halal food products (Mutmainah, 2018; Setyaningsih & Marwansyah, 2019). Moreover, halal certification is essential for businesses to penetrate global markets and enhance their logistic and financial performance (Santosa et al., 2022; Setyaningsih & Marwansyah, 2019). The influence of halal certification extends to various sectors, including cosmetics, where it has led to an increased demand due to growing religious awareness and information accessibility (F. and P. P. Mahliza, 2024)

Bibliometric analyses have been conducted to understand the trends and impacts of halal certification. These analyses have provided insights into the research landscape, highlighting the increasing interest in halal certification across different industries and regions (Binti Masood, 2022; Haleem et al., 2020; Safitri & Afandi, 2023). Furthermore, studies have explored the challenges and benefits of halal certification, emphasizing its role in ensuring product integrity and consumer trust (Aufi, 2021; F. Mahliza, 2022). The effectiveness of technical guidance and support programs for small and medium enterprises in obtaining halal certification has also been recognized (Siska et al., 2020).

RESULTS AND DISCUSSION

The halal certificate production process is explained in this section and is based on an Dimension AI database of scientific papers. The various document kinds with the subject "halal certificate" are described in the table below. 960 materials were obtained, broken down into 6 categories: articles (7.200 documents), chapters (5.254 documents), edited books (1.722 documents), monographs (1.120 documents), proceeding (410 documents), and preprints (293 documents).

Table 1. Document type

Document Type	Number of Articles	%
Article	7200	45,00
Chapter	5254	32,84
Edited Book	1722	10,76
Monograph	1120	7,00
Proceeding	410	2,56
Preprint	293	1,83
Total	15999	100

Sumber: Dimension AI(diolah), 2024

Table 1 shows the distribution of the number of articles by document type, with a total of 15,999 articles. Journal articles dominated with 7,200 articles (45.00%), followed by book chapters with 5,254 articles (32.84%), and edited books with 1,722 articles (10.76%). Monographs accounted for 1,120 articles (7.00%), whereas proceedings only covered 410 articles (2.56%), and pre-printing was the document type with the lowest number, comprising 293 articles (1.83%). The dominance of journal articles suggests that the publication of research results in this format is the most common and recognized in the academic community, while the distribution of chapters of books and edited books

indicates the importance of publications focused on a particular topic. The diversity of this type of document reflects different ways of disseminating knowledge, with each having a significant role in the academic world.

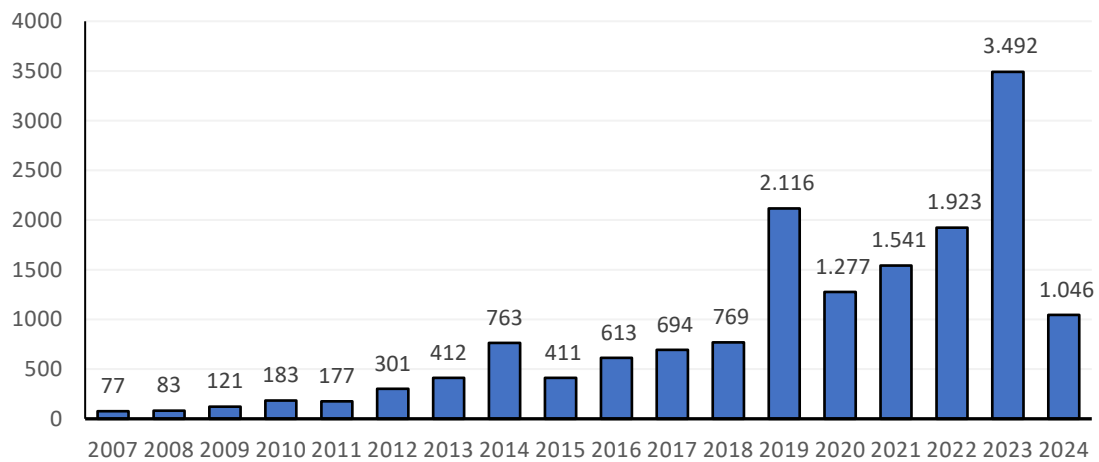


Figure 1. Publication per Year

Based on Figure 1 shows a significant increase in the number of publications from 2007 to 2024. At the beginning of the period, the number of publications was relatively low, with 2007 and 2008, respectively, recording only about 0.48% and 0.52% of the total. However, starting in 2012, there was a significant boost in publication production, reaching 301 in that year. This surge persisted until 2019, when the number of publications peaked at 2,116, accounting for 13.23% of the total. After that, despite annual fluctuations, publication figures remained high, indicating consistency in research productivity. In 2023, there were a record high of 3,492 publications (21.83%), indicating a significant increase in research activity. Although there was a decline in 2024, the total high publications during this period reflected a strong growth in scientific contributions from this field.

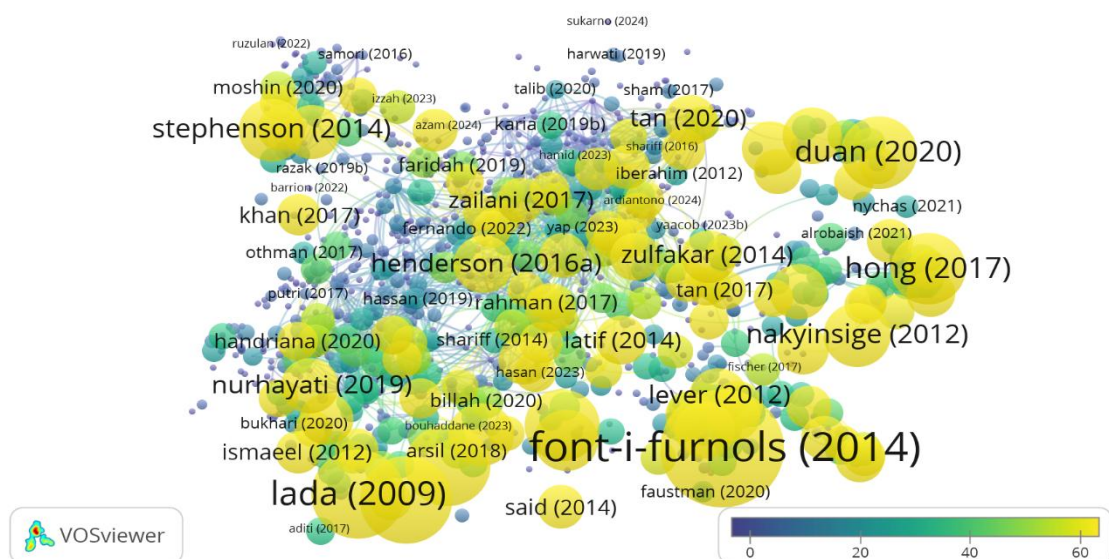


Figure 2. overlay visualization bibliographic document

Based on Figure 2 shows illustrates the overlay visualization of bibliographic data created using VOSviewer. This allows the addition of temporal information, such as the average year of publication or the impact of quotations, to perfect the research. Color encoding gives an additional layer to this image. The color bar indicates a spectrum from blue to yellow, where yellow indicates the most recent or widely referenced work, while blue usually represents previous publications. Closer points indicate stronger links or higher co-situation frequencies, while larger points indicate the most quoted publications. We highlight important authors and works such as "font-i-furnols (2014)", "lada (2009)", "henderson (2016)", "duan (2020)", and "hong (2017)." With a group of yellow nodes indicating current and active fields of study, as well as a blue or green group indicating basic or old research fields that have received many quotes in the past, overlay representations allow to see patterns of research all the time. This temporal dimension provides in-depth information about how research topics change over time, making it easier to discover new and significant works, developing trends, and research activity dynamics.

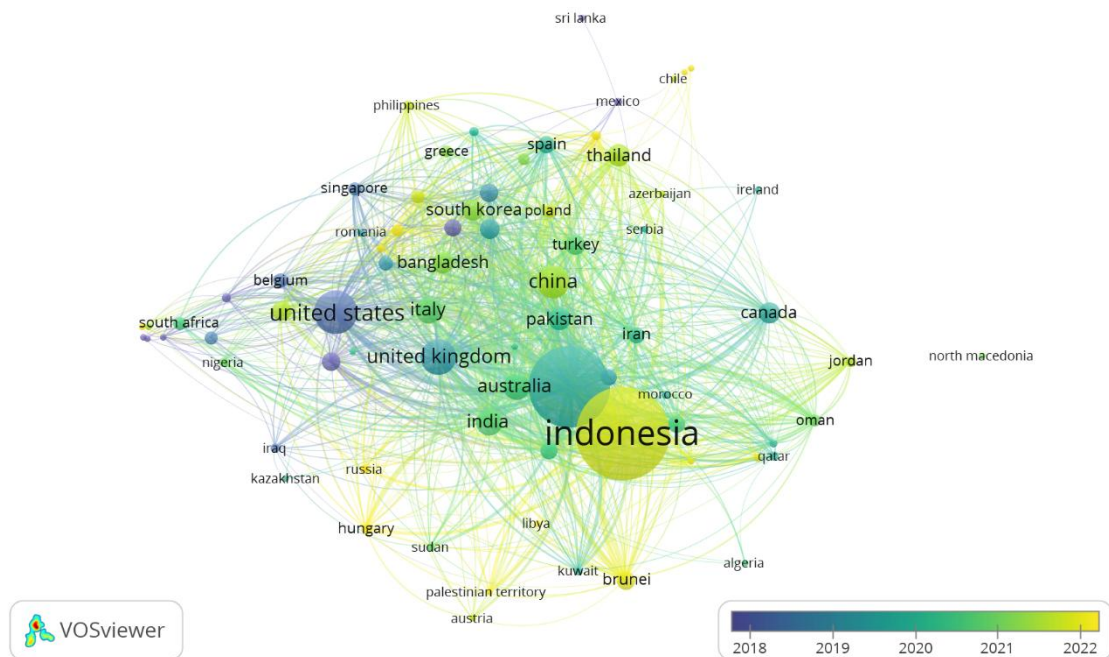


Figure 2. Overlay visualizations Publication Based on countries

Based on Figure 2, it displays a bibliometric data overlay created with VOSviewer. This shows a publication network based on country, enhanced with a temporal dimension to demonstrate the usefulness of research activities. Each node represents a country, with its size indicating the volume of publication or influence in a data set. The color codes, ranging from blue to yellow, indicate the average year of publication; blue represents previous publications; and yellow indicates the most recent publication, which emphasizes the novelty of research activities.

Indonesia stands out with its large nodes, reflecting its significant and up-to-date research results, marked in yellow-green colors. This indicates that Indonesia has been actively contributing to the latest research developments. Similarly, other countries such as Thailand, Jordan, Oman, and Brunei also showed yellow-green dots, indicating their involvement in more contemporary research efforts.

A wider network of connections between nodes represents a collaborative relationship or quotation link, with thicker lines indicating a stronger collaboration. The yellow-green color on the node indicates that many countries in Asia and the Middle East are actively participating in the latest research collaboration.

Clusters with yellow-dominated nodes, such as in Indonesia, Thailand, and Oman, indicate regions with high concentrations of recent research activity. By contrast, regions with blue or green dots, such as the United States and the United Kingdom, represent well-established research regions with a longer publication history.

This overlay visualization effectively reveals the dynamism and evolution of global research networks, highlighting emerging regions and countries as key contributors to contemporary research. The report provides a comprehensive overview of the temporal distribution of research activities, identifies key players in the latest research developments, and shows countries' connections to advance global knowledge.

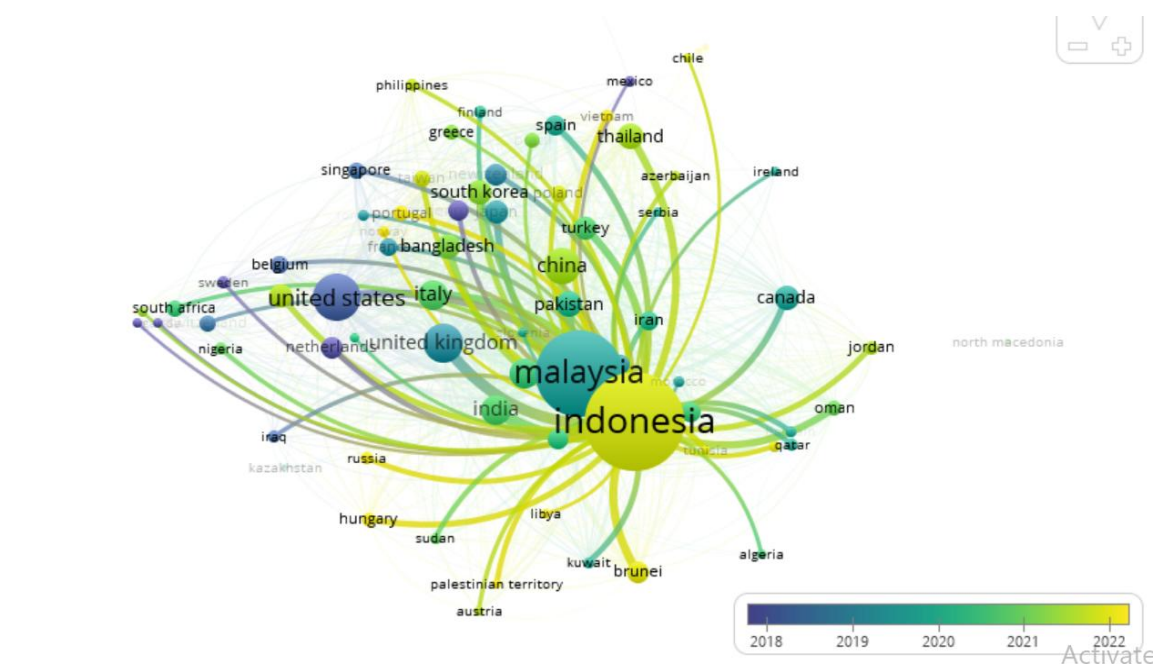


Figure 3. Publication based on countries

Figure 3 shows a visualization of bibliometric data overlay using VOSviewer, which depicts a country-based publication network with a focus on research activities. Each node represents a country, and the size of the node indicates its volume of publication or influence. The color code ranges from blue to yellow, where blue represents old publications and yellow represents newer publications, emphasizing the novelty of research. Indonesia and Malaysia stand out with a large yellow dot, which shows their significant and up-to-date research results. The extensive network of yellow lines connecting Indonesia with countries such as China, Pakistan, Thailand, and Jordan highlights strong and up-to-date international collaboration. It demonstrates that Indonesia is very active in contemporary research and has a lot of collaboration with other countries. The visualization also shows a shift in research activity, with Southeast Asia and parts of the Middle East emerging as new hotspots for recent research contributions. This overlay visualization effectively highlights Indonesia's significant and up-to-date contributions and extensive international collaboration in advancing contemporary global research efforts.

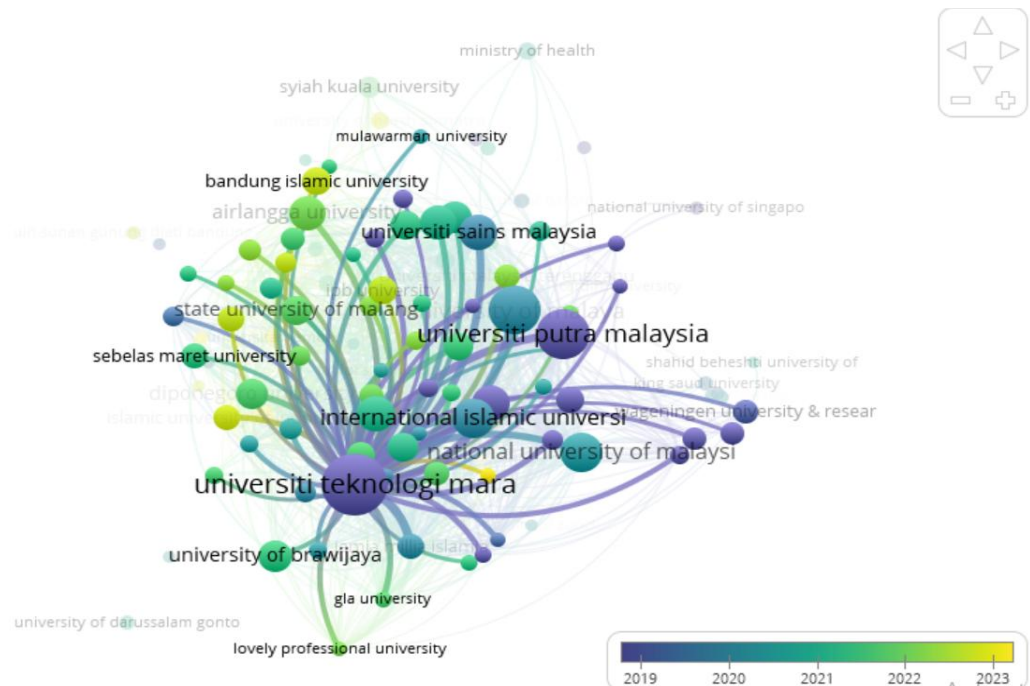


Figure 4. Publication based on institutions from Universiti Teknologi Mara

Based on Figure 4, it illustrates the publication distribution based on collaborations with Universiti Teknologi MARA (UiTM). The network visualization highlights UiTM at the center, indicating a high volume of joint publications with various institutions. Prominent collaborators include Universiti Putra Malaysia, National University of Malaysia, and Universiti Sains Malaysia, as well as international partners such as International Islamic University Malaysia and the University of Brawijaya in Indonesia. The color gradient from blue to yellow represents the timeline from 2019 to 2023, showing the evolution of these partnerships. Larger nodes signify institutions with more joint publications, while thicker connecting lines indicate stronger collaborative ties. This dense network underscores UiTM's central role and influence in fostering academic and research collaborations, both regionally and globally.

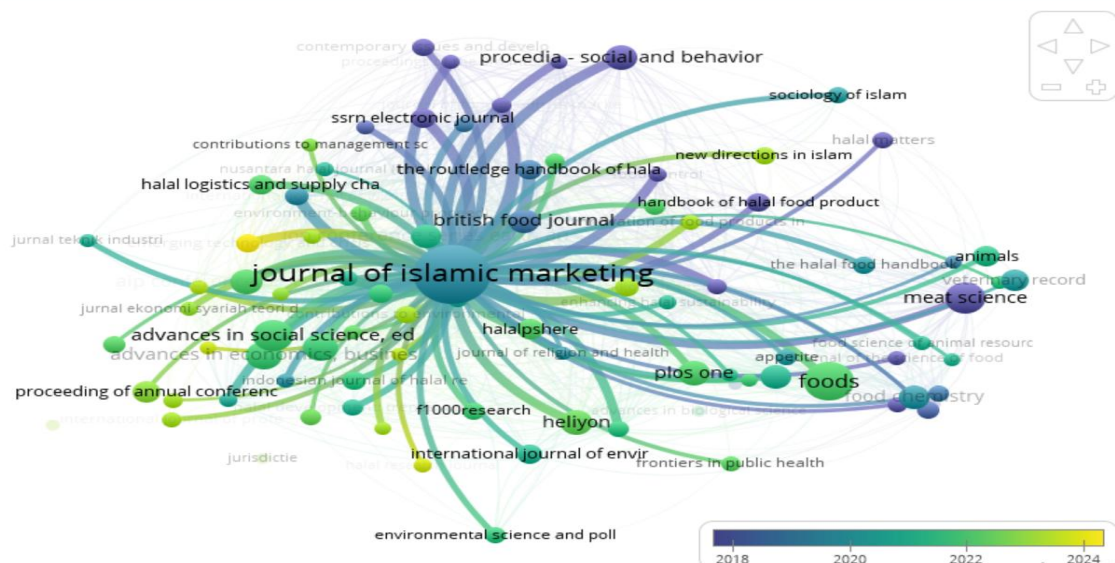


Figure 5. Bilbiographic coupling sources (Leading Journal of Islamic Marketing)

Figure 5 illustrates the central role of the Journal of Islamic Marketing in the shared reference network, demonstrating its significant influence on research in Islamic marketing and sharia economics. The color and size of the nodes help identify collaboration trends over time, with different clusters reflecting the diversity of research topics involving marketing, halal food science, social behavior, and religious studies. This network underscores the importance of interdisciplinary collaboration and shows the evolution of research in these fields from 2018 to 2024.

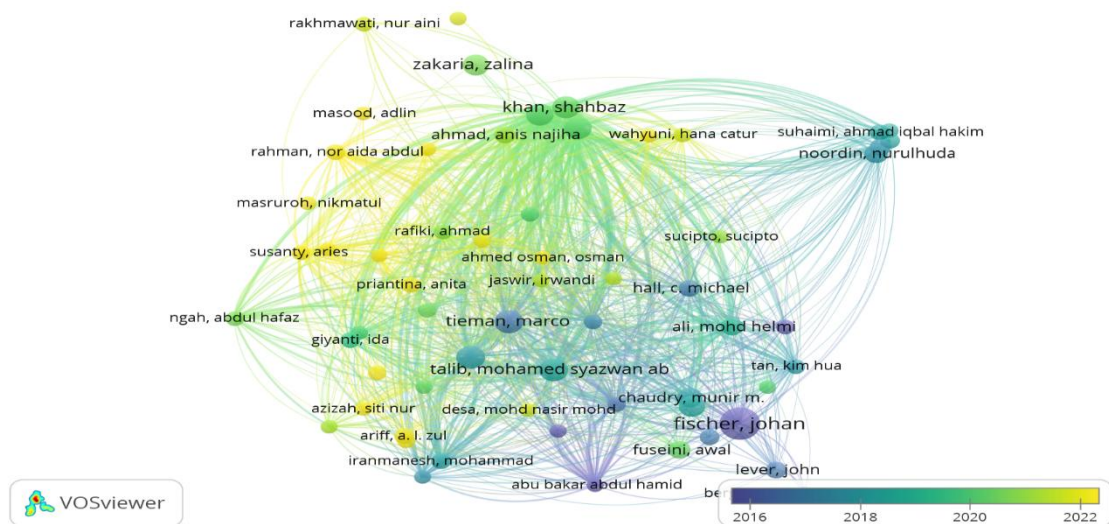


Figure 6. Overlay visualization most prolific authors

Based on Figure 6, this overlay visualization shows how Fischer, Johan Talib, Mohamed Syazwan Ab, and Fischer, Johan play a central role in the network of the most productive authors, showing their great influence in related research. The color and size of the nodes help identify publication and collaboration trends over time, with different clusters reflecting the diversity of research topics and the evolution of collaborations from 2016 to 2022. This network emphasizes the importance of interdisciplinary collaboration and points out new directions in research in these fields.

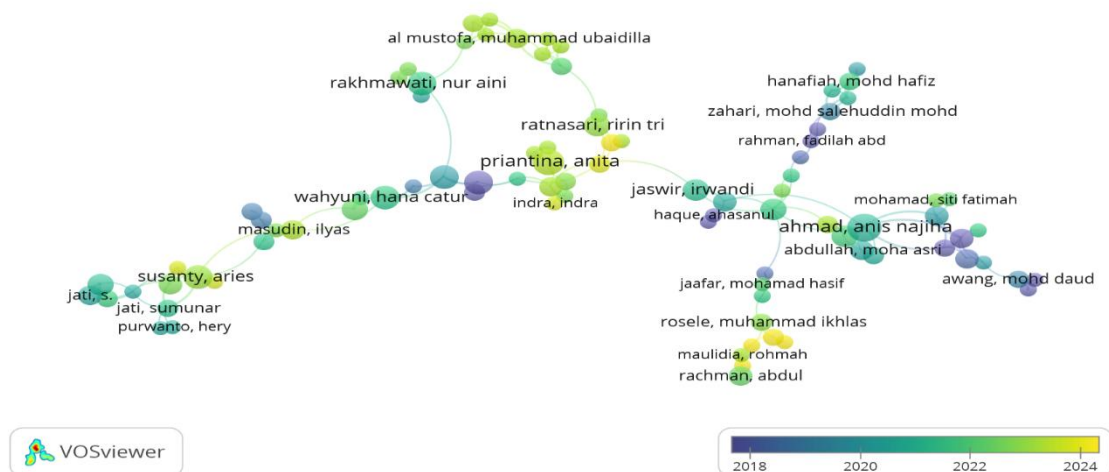


Figure 7. Overlay visualization for Co-Authorship Author

Based on Figure 7, there is an overlay visualization that maps the author's historical footprint in halal industry research. Apart from that, it shows how the authors work together in scientific publications with the brightest node colors; in other words, the authors carry out research by citing several studies alongside it as a form of research collaboration in the field of halal certification. The nodes' colors aid in identifying trends in collaboration over time, with darker hues on the nodes signifying past research, specifically from 2018 to 2024. Authors such as Priantina, Anita, Ahmad, and Anis Najiha emerge as collaboration centers in this network, indicating productivity and their important role in the research community. The connecting lines between nodes indicate the frequency and intensity of collaboration, and some authors have connections across clusters, demonstrating their collaborative flexibility and diversity. This network emphasizes the importance of collaboration between authors in producing productive and quality research and demonstrates the evolution of collaboration from 2018 to 2024.

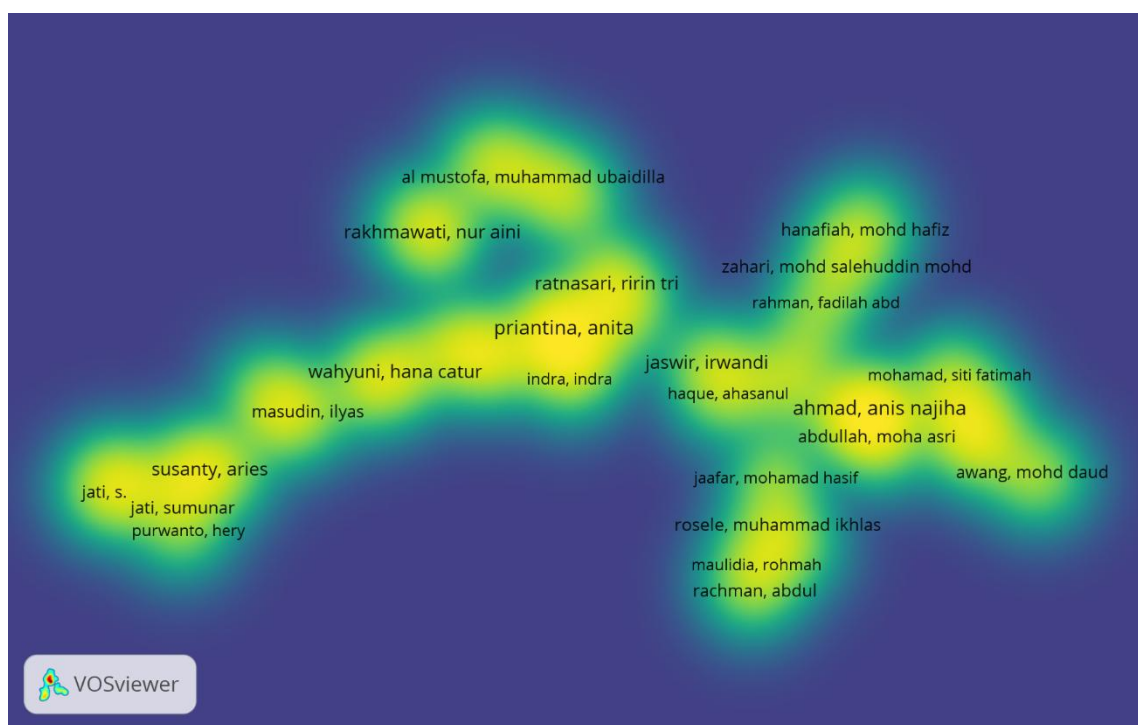


Figure 8. Density visualization for Co-Authorship Author

Based on Figure 8, this density visualization shows the concentration of collaboration activity in the author network, with authors such as Priantina, Anita, and Ahmad, Anis Najiha, standing out as the center of collaboration with very high activity. Light yellow areas indicate a high concentration of collaborations, indicating that authors in those areas have many joint publications. Other key writers such as Susanty, Aries, Wahyuni, Hana Catur, Rakhmawati, and Nur Aini also play an important role in this collaborative network. This visualization provides a clear picture of the distribution and intensity of collaboration between authors and shows the importance of collaboration in producing productive and high-quality research.

The source of future research studies closely aligns with the novelty aspect of topics highlighted in yellow, making them suitable for infrequently conducted research. The map's increasingly yellow-colored hotspots signify high density and intensity, and they represent the most recent research on halal certification to date.

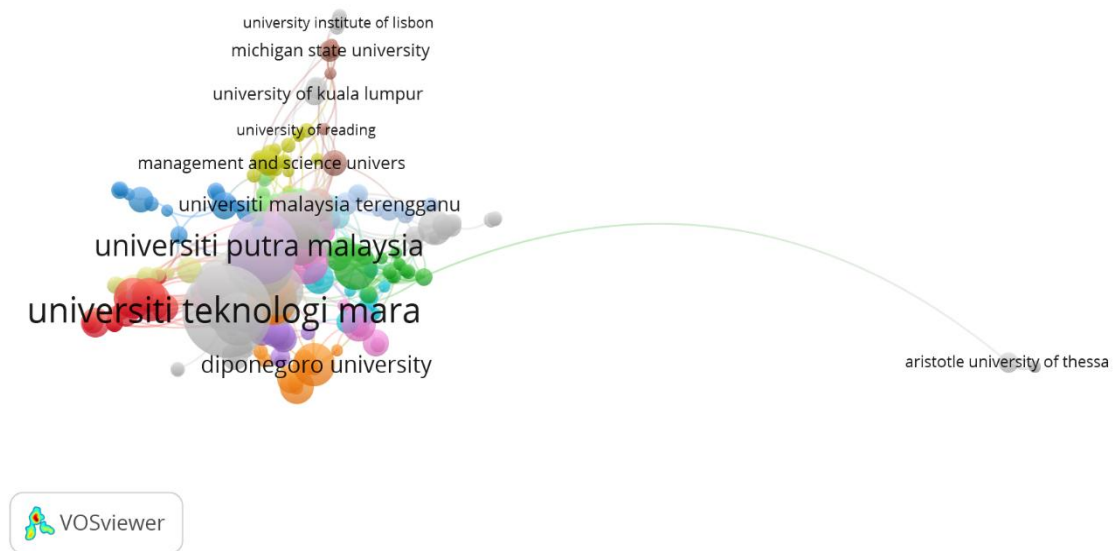


Figure 9. Co-Authorship Organization

Based on Figure 9, this visualization shows that the relationship between the country and each author, contributing to publications related to halal certification at Universiti Teknologi MARA from Malaysia, is the main center in the co-authorship collaboration network, with many collaborations with other institutions such as Universiti Putra Malaysia from Malaysia and Diponegoro University from Indonesia. The size and connections of the nodes suggest that these institutions are highly productive and engage in a lot of joint research. This network also shows that collaboration in research is global, involving institutions from many countries, although there are some strong regional clusters. This underlines the importance of collaboration between institutions in producing quality and productive research.

In addition, the organizations involved are related to the authors of the published articles, with at least one document for each organization. The minimum number of documents for an organization is 2 documents. Based on the results of the analysis, the number of Universiti Teknologi MARA is 103 documents with 1638 citations; in second place is Putra Malaysia University with 66 documents and 2014 citations, and Diponogoro University with 23 documents and 64 citations. Apart from that, there are also other universities in Indonesia that do a lot of research related to halal certification, such as Gadjah Mada University, Airlanga University, Brawijaya University, University of Indonesia, IPB University, etc., but the ones that do the most collaborative writing are Diponogoro University.

Based on Figure 10, this visualization shows that Malaysia and Indonesia are the main centers in the country-by-country co-authorship collaboration network, with many collaborations with other countries. The size and connectivity of the nodes indicate that these two countries are highly productive and actively engaged in extensive research on the same topic, specifically related to halal certification.

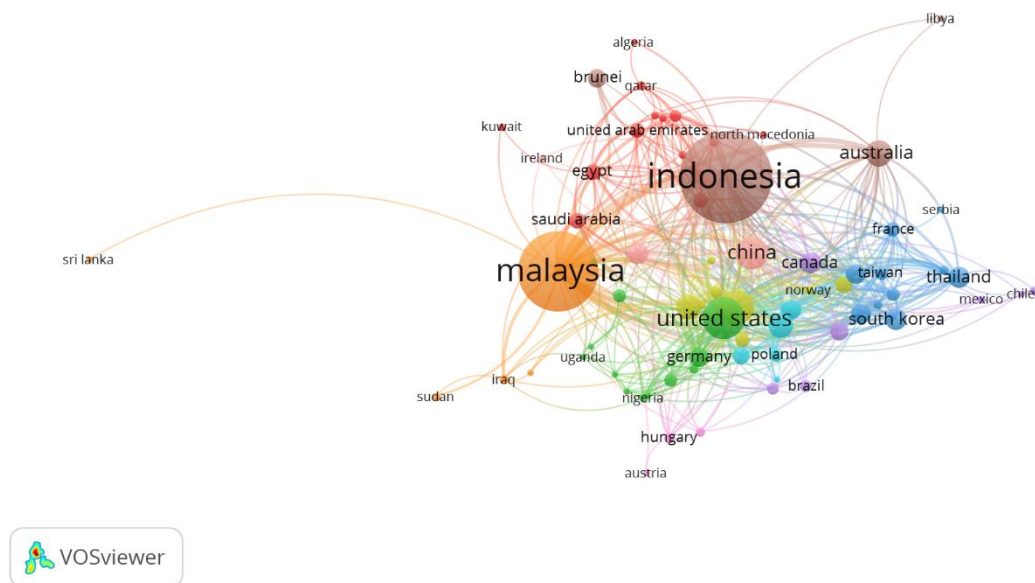


Figure 10. Co-Authorship Country

The network also shows that collaboration in research is global, involving countries from different continents, although there are some strong regional clusters. This underlines the importance of international collaboration in producing quality and productive research. This illustrates the progress in the field of halal certification research conducted in the author's unit and country, based on several factors, including a network of collaboration among authors selected for at least one research article, with the majority of these authors residing in Indonesia and Malaysia compared to other countries.

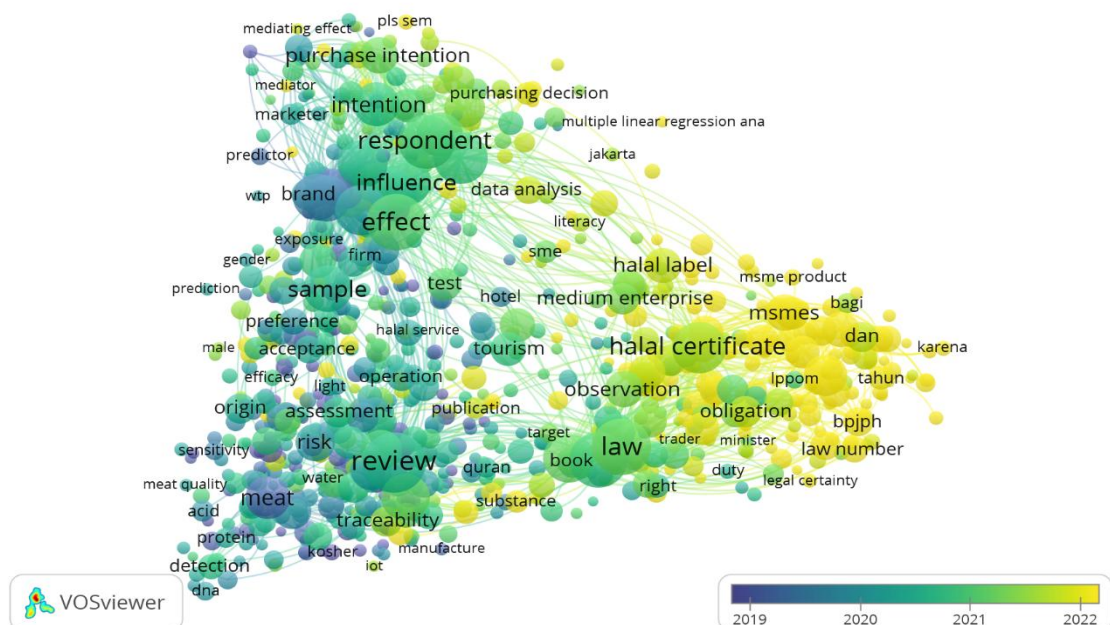


Figure 11. Overlay visualization for co-occurrence of keywords

Based on Figure 11, it shows a network visualization for the simultaneous occurrence of keywords in research related to halal certification, highlighting the centrality of the term "halal certificate" and its relationship with various other keywords. The visualization reveals different groups representing different research themes, such as consumer behavior, legal aspects, food safety, and SME involvement. Temporal gradients show the evolution of research focus over time, with new trends emerging in recent years. This analysis underscores the multidisciplinary and evolving nature of halal certification research and highlights its relevance in various fields. The author has researched these key words holistically, taking into account the relevant time period. The brighter and bigger the color in the cluster, the greater or stronger the network of writers in that cluster. Meanwhile, the darker the color on the map, the lower the strength of the author network in that cluster. At the lower limit of the scale, the yellow color signifies the newest year, 2022, and becomes fainter towards the older and rarely researched year, 2019.

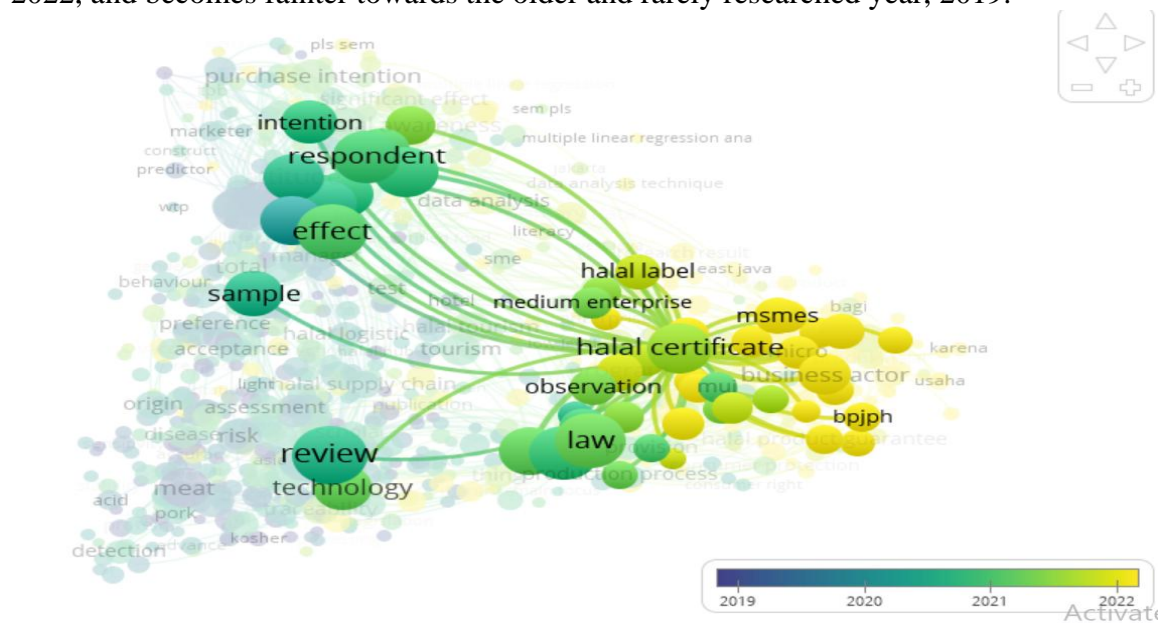


Figure 12. for co-occurrence of keywords halal certificate

An analysis of the occurrence of keywords associated with "halal certificates" from 2019 to 2022, based on Figure 12, reveals some important insights into the development of the halal certification landscape. The core terms, such as "halal certificate," "halal label," "law," and "BPJPH," are at the heart of this discussion, emphasizing the importance of regulatory and legal frameworks in the certification process. Micro, small, and medium enterprises (UMKMs) also stand out, highlighting the importance of their role in obtaining legal certification. Over time, the focus has shifted from basic elements, such as understanding halal labels and legal requirements, to specific impact studies and the integration of technology into the certification process. Research methodologies, such as surveys (shown by "respondents") and observational studies, are critical in understanding these dynamics. The analysis also highlights the importance of reviewing existing literature to synthesize findings, as well as the growing influence of technology in simplifying and ensuring compliance in the legal certification process. The transition from basic understanding to detailed and effect-oriented studies describes a comprehensive effort to improve and optimize the halal certification landscape.

The most recent research uses keywords related to halal certification, such as "BPJPH, MSME." The results of this analysis describe that various studies related to halal

certification have been conducted and are closely related to other keywords that are connected in one line, such as effect, respondent, intention, sample review, etc. However, keywords that are not interconnected describe the absence of similar research involving keywords that aren't connected within one line, thus opening up opportunities for conducting a combination of research with various data and methods or associating them in other research variables.

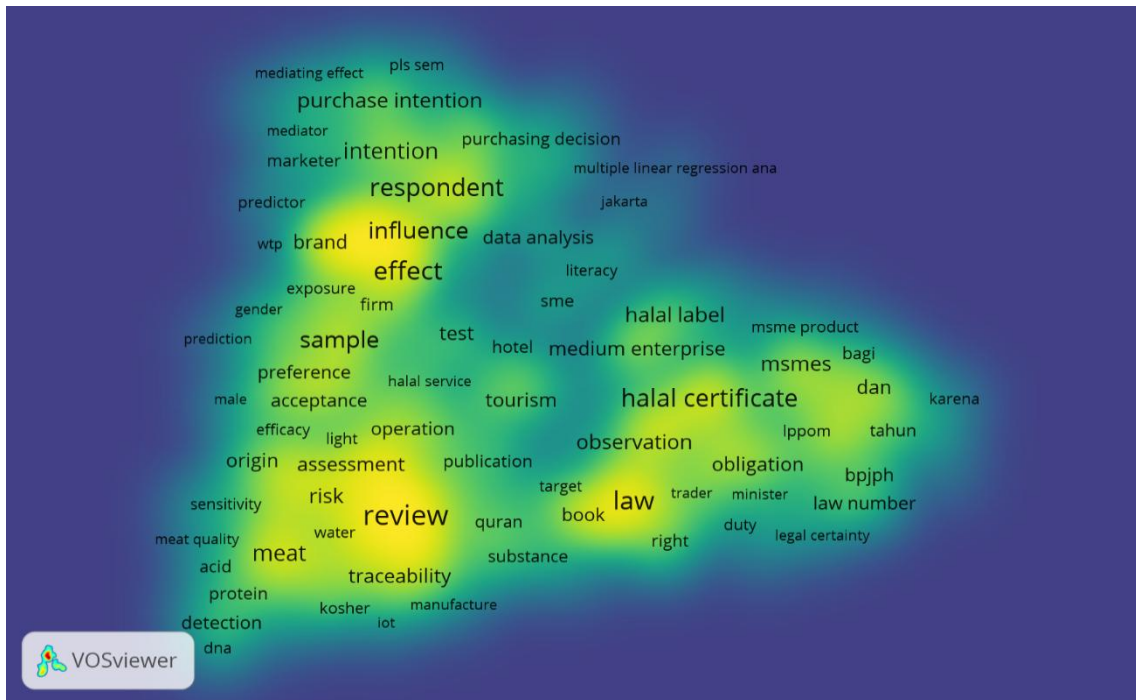


Figure 13. Density visualization for co-occurrence of keywords

Based on figure 13 shows an analysis the presence of technology-related keywords, such as “IoT” and “detection,” suggests that technological progress is increasingly dependent on improving the process of halal certification. Overall, this visualization captures a research landscape that has many aspects, balancing legal, empirical, and technological perspectives in halal certification studies. Future research closely links to the novelty of brighter topics, while research that is still rare can utilize the yellow hue. The yellow hotspots on the maps show an increase in keyword research, whereas the darker ones show a decrease in keyword research. It seems that the potential for future research could be to use unused keywords like “halal certification,” “innovation,” “law,” “review,” “respondent,” “effect,” “influence,” “sample,” and so on.

The density visualization also reveals the importance of halal certification in sectors such as UMKM and tourism, with the terms “middle enterprise” and “hotel” often emerging at the same time. Furthermore, the focus on “risk,” “traceability,” and “excellence” indicates critical concerns about the integrity and origin of legal-certified products. Legal and regulatory terms such as “legal norms” and “BPJPH” reflect a detailed study of compliance and law enforcement. The Presidential Regulations currently regulate the BPJPH, as stated in Article 5 Paragraph (5) No. 33 of 2014. This regulation aims to ensure the availability of halal products by defining the components of the declared halal product, including those derived from animal raw materials, plants, microbes, or materials produced through chemical, biological, or genetic engineering processes.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The analysis and discussions draw conclusions, highlighting the growing recognition of Halal certification in various industries and its impact on consumer behavior, business operations, and regulatory frameworks. These studies collectively contribute to a deeper understanding of the trends, impacts, challenges, and opportunities linked to Halal certification, underscoring its significance in the global market. Halal certification is a multifaceted process that ensures compliance with Islamic principles and has implications for consumer confidence, business performance, and market competitiveness. Understanding the significance and impact of halal certification is essential for businesses aiming to cater to Muslim consumers and enhance their market presence.

The most productive author and major contributor to the study, Font-i-Furnols (2014), provides insight into the evolution of the trend of halal certification research. Johan Ficher's paper "The Halal Frontier: Muslim Consumers in the Global Marketplace" is the most widely used. The most inspected countries are Malaysia and Indonesia. Halal certification, review, consequences, UMKM, and intermediate enterprise are the most commonly used terms. This study adds knowledge in this subject and is beneficial to future scholars who want to study this field.

The results of this research are intended to help practitioners, researchers, and students involved in halal certification in identifying patterns and benefits. The results will also be useful for the Halal Product Assurance Organizing Authority (BPJPH) of the Ministry of Religion in identifying industries that require support and cooperation with halal certification researchers for the development of enterprise, industry, and economy. This partnership is expected to have a significant impact on the evolution of Halal certification, thus indirectly introducing Halal Certification to the general public.

RECOMMENDATIONS

This research can be a matter of consideration for governmental organizations when creating regulations, policies and procedures that facilitate the process of obtaining a legal label. Besides, by outlining the advantages and disadvantages of publication of halal certification, our research acts as a guide for future research. One of the weaknesses of this research is that it uses only the AI Dimension database as the only source for data collection and synthesis. Therefore, adding more data sources will improve the analysis findings. Furthermore, to prevent duplication, this bibliometric study uses a single database. The future can incorporate additional techniques into the literary analysis process can result in more accurate data interpretation and analysis if comparative studies use different instruments. Besides, capturing the context of a deeper and more comprehensive article quotation structure is also another constraint. Nevertheless, this research has provided an adequate explanation for a number of additional quotations in the literature of the halal sector.

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