

Halal Logistics in Focus: A Bibliometric Analysis and Strategic Review of Indonesia's Global Competitiveness

Nurul Laili Fitriya 1*, Darno 2

1 Universitas Maarif Hasyim Latif, Sidoarjo, Jawa Timur, Indonesia

1 nurul-laili@dosen.umaha.ac.id*; 2 Darno@dosen.umaha.ac.id

* **corresponding author** : nurul-laili@dosen.umaha.ac.id

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ABSTRACT

This study explores the development of research on halal logistics through a bibliometric analysis of 175 Scopus-indexed publications from 2016 to 2024. Using VOSviewer, the research maps co-authorship, keyword co-occurrence, and geographical trends, with a specific focus on Indonesia's role. Results indicate that while global academic interest in halal logistics is growing, Indonesia's scholarly contribution remains limited. This gap undermines Indonesia's strategic potential in the global halal economy despite being home to the world's largest Muslim population. The study emphasizes the need for stronger research collaboration, standardization of halal logistics, and integration of digital technologies to enhance competitiveness.

1. INTRODUCTION

Halal products refer to food and beverage items deemed permissible for Muslim consumption, typically indicated by a halal label on the packaging. In practice, the distribution of these products to consumers requires a well-structured and high-quality management system. This system, which governs the handling and storage of halal goods, is known as halal logistics. It plays a crucial role in managing the flow of finished goods from producers to end consumers within the supply chain, ensuring that products arrive on time and in proper condition. Poor logistics performance can lead to customer dissatisfaction and negatively impact the reputation of service providers [1].

As an integral part of halal supply chain management, halal logistics ensures that all stages of the distribution process comply with Islamic principles. Globally, halal meat represents the highest market share in halal food products, accounting for 47.79% in 2019, and is projected to exceed 80% by 2030. In contrast, halal vegetables and fruits have a market penetration of below 40%, while halal dairy products, especially milk, are experiencing the fastest growth in sales [2].

Indonesia, with the world's largest Muslim population, holds a strategic position in the global halal industry. All food and beverage products—both domestic and imported—must undergo halal certification conducted by the Indonesian Ulema Council (MUI) through LPPOM MUI. According to the latest data in 2024, the demand for halal certification services continues to rise, in line with increasing awareness among businesses and consumers. However, this positive development has not yet translated into improved export performance [3].

In fact, in 2024, Indonesia's halal product exports declined by approximately 2.1%, falling from USD 42.32 billion in 2023 to USD 41.42 billion. This downward trend presents a strategic challenge, especially given Indonesia's position in the Asia-Pacific region, which has high demand for halal products. The mismatch between market potential and export outcomes indicates persistent structural barriers in the halal supply and distribution chain.

Several factors contribute to the challenges in halal logistics, including: low international recognition of Indonesia's halal certification, unclear halal guidelines, weak institutional and financial coordination, limited demand from downstream industries, and the absence of standardized benchmarks for halal logistics cost-effectiveness [3].



As the largest Muslim-majority country, Indonesia holds strategic importance in the halal economy. However, despite increasing awareness and certification of halal products domestically, Indonesia's halal product exports declined by 2.1% in 2024. This paradox highlights structural barriers, including inefficient halal logistics. Halal logistics encompasses the planning, storage, and distribution of goods in accordance with Islamic principles. This study investigates global research trends in halal logistics to understand Indonesia's current academic position and future potential in the sector.

Research Question What are the global research trends in halal logistics, and how is Indonesia contributing to this domain in the context of global competitiveness?

Halal logistics is a physical activity of storing and shipping goods equipped with information and directed communication between related parties and the supply chain flow by applying the halal concept in it [4]. The basic concept of general logistics and halal logistics is the same. The difference is that halal logistics is carried out by ensuring that the processes in the supply chain separate halal cargo from non-halal cargo. This case also includes the logistics process or tracking. Jaafar et al. develop the concept of halal logistics based on the integrity of halal products. In this concept, the integrity of halal products is influenced by two factors, namely, the feasibility of product segregation (proper segregation) and the logistics system [5].

Product aggregation is a process of controlling, packing, transporting, and storing halal products. The integrity of halal products, product aggregation, and a good logistics system are components in forming halal logistics so that marketed products can be consumed and not mixed with non-halal products. Mutually agreed principles support this concept in halal logistics, namely defining cross-contamination between halal and haram and avoiding it, creating an evolution of supply value, creating a system in halal logistics, and minimizing difficulties in the halal industry, conducting comparative studies on halal logistics. Existing halal logistics system, as well as international standardization [6].

Three principles underlie the formation of halal logistics, namely: avoiding contamination, avoiding mistakes, and ensuring that logistics operations are consistent with the halal concept [7]. This needs to be done to avoid cross-contamination and ensure that the production logistics system is guaranteed halal. Therefore, halal logistics can be stated as applying the halal concept throughout supply chain activities from suppliers, manufacturing, warehousing, transportation, and product distribution to ensure the halal status of a product. If this is done, it will produce halal logistics output according to the customer's desired standards.

For business expansion, this is one of the things that can be used as a potential for companies to provide superior value for consumers; namely, companies can ensure and provide halal guarantees for the entire supply chain process. This halal supply chain guarantee will certainly be a lucrative business for the industry if used properly, considering that the Indonesian people are predominantly Muslim. The awareness of the Muslim community towards halal is growing. As a country with the largest Muslim population globally, halal is an issue and demand for some. big consumers in Indonesia.

2. RESEARCH METHOD

This study uses data on paper publications sourced from various journals 2016 until 2024 with research on halal logistics themed. A bibliometric analysis was conducted using data from 175 publications indexed in Scopus between 2016 and 2024. The key search term used was "halal logistics." PRISMA-inspired protocols were followed:

- Identification: Scopus search using keyword.
- Screening: Removal of irrelevant or duplicated entries.
- Eligibility: Inclusion of peer-reviewed journals, books, and conference proceedings.
- Inclusion: Final dataset of 175 documents analyzed with VOSviewer.

VOSviewer was employed to map co-authorship networks, keyword co-occurrences, and country-level publication patterns. The computer program that was introduced was called VOSviewer. VOSviewer is a program developed for creating and viewing bibliometric maps. This program is available free of charge to the bibliometric research community (see

www.vosviewer.com). VOSviewer can create author maps or journals based on co-citation data or create keyword maps based on shared incident data. The program offers a viewer that allows bibliometric maps to be examined in detail.

To build the map, VOSviewer uses the VOS mapping technique, where VOS stands for visualization similarity. For previous studies where the VOS mapping technique was used, VOSviewer can display maps constructed using appropriate mapping techniques. Therefore, this program can display maps built using the VOS mapping technique and display maps built using multidimensional scaling techniques. VOSviewer runs on many hardware and operating system platforms and can be started directly from the internet.

3. RESULTS AND DISCUSSIONS

Results

The following is a table that shows the collection of documents used in research with the theme of halal logistics. Of the total 175 documents used, they are divided into 5 types of documents, including journal articles (92 documents), anthology/book chapters (43 documents), Conference Papers (16 documents), Reviews (11 documents), and Book (10 document).

Table 1. Document Types

No	Document Types	Number of Articles
1	Journal article	92
2	Book chapter	43
3	Conference Paper	16
4	Review	11
5	Book	10
	TOTAL	175

Based on the classification of document types, the most commonly used type of document in halal logistics research is journal articles, totaling 92 articles, which accounts for approximately 52.6% of all analyzed documents. This is followed by book chapters (43 documents), conference papers (16 documents), review articles (11 documents), and books (10 documents). In total, 175 documents were analyzed. These findings indicate that the references used in halal logistics research are largely drawn from credible scientific sources, with a strong dominance of peer-reviewed academic journals.

Bibliometric Graph Analysis

Bibliometrics is based on the calculation and statistical analysis of scientific outputs in articles, publications, citations, patents, and other more complex indicators. It is an important tool in evaluating research, laboratory and scientist activities and scientific specialization, and country performance. After establishing the background for bibliometric development, the report presents the database from which the bibliometric was created and the main indicators used.

To explore the meta-analysis results, this section will present a visual mapping chart from 175 journals published by halal logistics. The results of the keyword mapping analysis become the basis for mapping together important or unique terms contained in certain articles. Mapping is a process that enables one to recognize elements of knowledge and their configuration, dynamics, interdependencies, and interactions.

Related to bibliometrics, science mapping is a method of visualizing the field of science. This visualization is done by making a landscape map that can display topics from science [8]. The results of network visualization from 175-word map journals with the theme of halal logistics can be seen:

Co-Authorship Analysis

Furthermore, the bibliometric results will be displayed based on the sub-themes, namely authors, organizations, and countries. Using the VOSViewer software, we found the author's bibliometric mapping, as shown in the following figure. The bigger the shape and the brighter the color indicates, the author is publishing more and more related halal logistics.

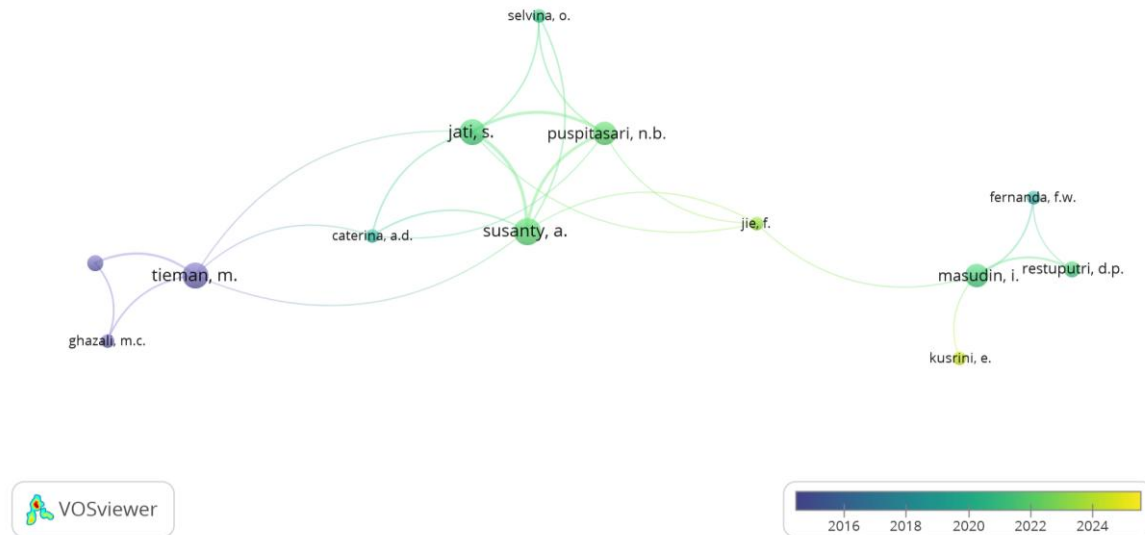


Figure 1. Co-authorship Authors

The appearance of the cluster density visualization depends on the brightness of the yellow coloring in each area. This brightness represents the number of connections or co-authorships a particular author has with others in the field. In this heatmap, the brighter and larger the author's name appears, the more frequently they are involved in publications related to halal logistics. This visualization is valuable for understanding the general structure of halal logistics research by identifying which authors are central in the research network.

Each researcher has different publishing patterns—some are listed as single authors, while others frequently co-author papers, resulting in varying cluster densities across the map. Authors with high-density yellow regions are those who have contributed more significantly to the body of knowledge on halal logistics, and thus their work may serve as valuable references for future studies.

Based on the heatmap above, the authors with the most prominent presence—indicating higher publication volume and connectivity—include Susanty, A., Jati, S., Puspitasari, N.B., and Masudin, I. These names appear with the brightest intensity, suggesting they are among the most active researchers in halal logistics publications. Compared to other authors, Tieman, M., who was previously dominant, now appears with slightly lower intensity, suggesting a shift in publication volume among leading authors in recent years.

Co-authorship Country

Furthermore, the visualization of the journal publisher mapping is illustrated in the bibliometric image of the journal source below. Based on the picture, it can be seen that some of the country clusters appear to publish the most articles with the theme of halal logistics.



Figure 2. Co-authorship Country

Based on the picture above, the larger the circle of the publishing country, the more papers that country publishes. Seen that the country of Malaysia has the brightest light. This means that Malaysia publishes the most halal logistics-themed papers compared to other countries.

Co-occurrence Analysis

Furthermore, the bibliometric results will be displayed based on the sub-themes, namely all keywords, author keywords, and index keywords.

Co-occurrence All Key Word

VOSViewer can also find the bibliometric mapping of the most used keywords in halal logistics themes related to Islamic economics. The bibliometric mapping of the keywords used can be seen in the image below. Keywords that have a larger form indicate that the word is used more in journals related to halal logistics.

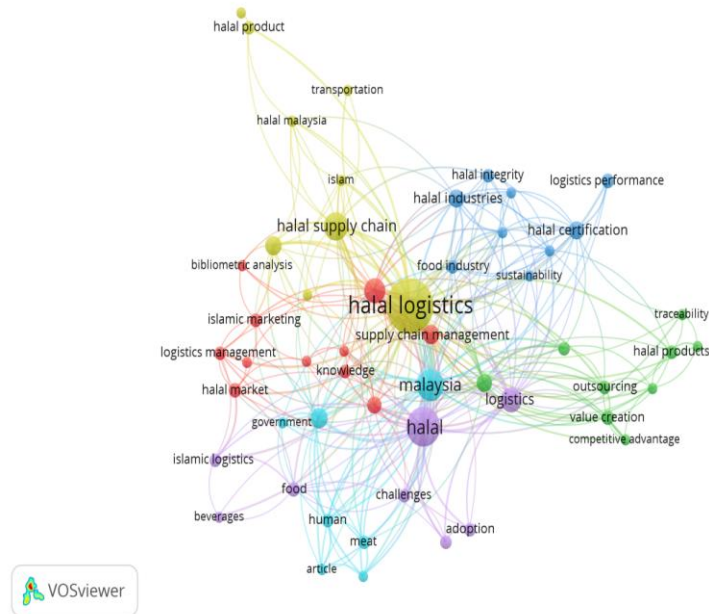


Figure 3. Co-occurrence All Key Word

This data can be used to find out the trend of keywords in recent times. The bibliometric analysis shows several widely used keywords in the paper that are the object of research. The more keywords that appear, the wider the circle indication will be. While the line relationship between keywords shows how much they are related to other keywords.

Based on the analysis results using VOSviewer on keywords with the theme of halal logistics, there are many clusters and are interrelated with other keywords. Keywords that have the same color indicate a very close relationship. The most widely used keyword in halal logistics- themed journals is Halal Logistics.

Co-occurrence Authors Key Word

VOSViewer can also find a bibliometric mapping of keywords that authors most use in halal logistics themes related to Islamic economics. The bibliometric mapping of the keywords used can be seen in the image below. Keywords with a larger form indicate that the word is used more by authors in journals related to halal logistics.

Based on the analysis results using VOSviewer on keywords that authors widely use in journals with the theme of halal logistics, there are many clusters and are interrelated with other keywords. Keywords that have the same color indicate a very close relationship. The most widely used keyword by the author is Halal Logistics.

Co-occurrence Index

Then, this study also obtained results in the form of an index that is often used by the author and is interrelated in the theme of halal logistics related to Islamic economics, as shown in the image below. An index that has the same color indicates a very close relationship.

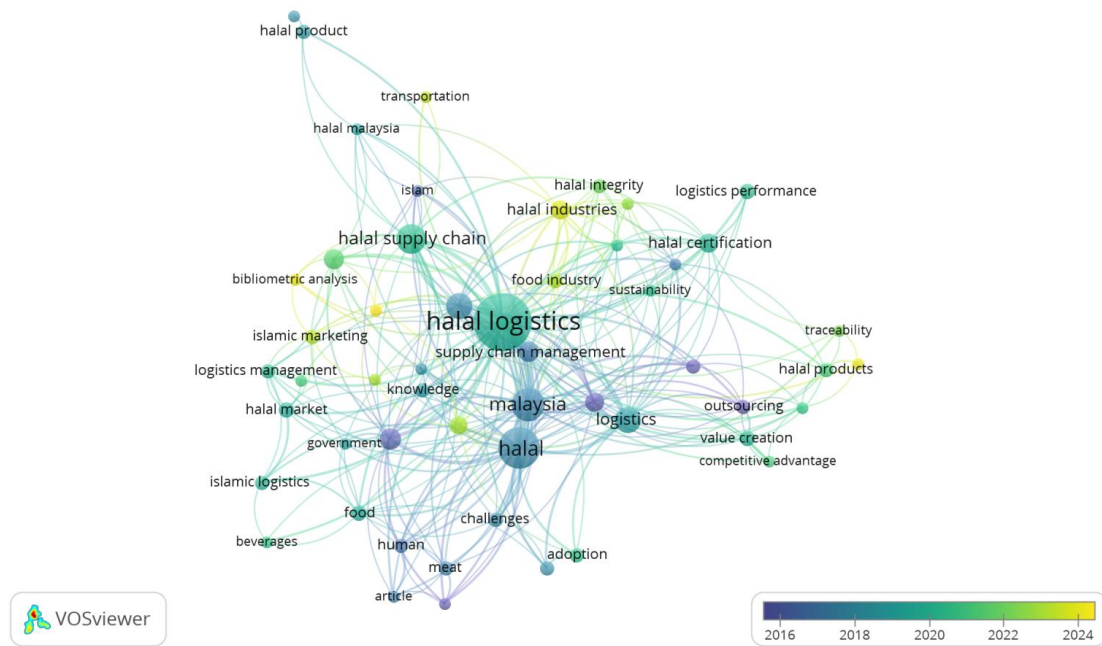


Figure 4. Co-occurrence Index

Based on the keyword co-occurrence mapping using the overlay visualization, the lighter the color, the more recent the term has been used in publications. From the bibliometric analysis of papers on the topic of halal logistics—especially those intersecting with Islamic economics—several keywords emerge as central and frequently used, such as “halal logistics,” “supply chain management,” “Malaysia,” and “halal.”

In essence, logistics refers to the management of the flow of goods and services from the point of origin to the point of consumption to fulfill specific customer needs. It includes planning, implementation, and control of efficient and effective flows, covering inbound, outbound, internal, and return activities. Over time, the role of logistics has expanded beyond simple transportation of goods, becoming a strategic enabler of competitive advantage through responsive and reliable services that satisfy consumer expectations (Salim, 2015). In the context of Indonesia, strengthening logistics is key to enhancing both domestic connectivity and global competitiveness.

From a physical distribution perspective, customer service is measured based on the "7 Rights" principle: delivering the right quantity, quality, product, time, customer, place, and price. In logistics management, five core components are typically identified: procurement, warehousing, transportation, distribution/delivery, and inventory management. In the halal context, each of these activities must also adhere to sharia compliance, ensuring that logistics processes meet Islamic standards of cleanliness, separation, and integrity.

Discussion

Although Indonesia has great potential, its limited presence in scholarly work on halal logistics poses a challenge to global competitiveness. Factors such as lack of international certification recognition, vague logistical guidelines, and limited research investment contribute to this gap.

Enhancing Indonesia's position requires:

- Greater academic collaboration and international partnerships.
- Adoption of technologies like blockchain and IoT to improve traceability.
- Policy support for standardizing and recognizing halal logistics processes.

From the overlay map, newer and emerging keywords such as “traceability,” “halal certification,” “halal integrity,” and “sustainability” appear in yellow-green, indicating increasing research interest from 2022 to 2024. Meanwhile, more established topics like “Malaysia,” “supply

chain management,” and “Islamic logistics” appear in darker blue or green, reflecting earlier foundations of the field.

This bibliometric map also highlights not only keyword trends but serves as a reference for identifying key authors, dominant keywords, and leading institutions that are shaping the academic discourse on halal logistics.

Future research in the field of halal logistics should focus on several key areas that will enhance the industry’s effectiveness and sustainability. One important avenue for exploration is the integration of digital technologies. Technologies like blockchain, the Internet of Things (IoT), and artificial intelligence (AI) have the potential to greatly improve the traceability, transparency, and real-time monitoring of halal-certified goods. These technologies could offer innovative solutions that ensure the integrity of halal products throughout the supply chain, providing both businesses and consumers with greater confidence in the process.

Another area requiring attention is the development of standardized performance metrics for halal logistics. There is a clear need for performance indicators that not only assess the efficiency of logistics operations but also ensure compliance with Sharia principles. Creating such standardized metrics would allow businesses and regulatory bodies to evaluate service quality in a more objective and comprehensive manner, ensuring that both operational effectiveness and religious standards are met.

A comparative cross-country analysis could also provide valuable insights into the global halal logistics landscape. Studies comparing Indonesia with other leading countries in halal logistics, such as Malaysia or the UAE, could highlight best practices, effective policy frameworks, and successful certification mechanisms. These comparisons would help identify strategies that can be adapted and adopted in different markets, contributing to the overall improvement of halal logistics worldwide.

Additionally, investigating consumer trust and perception, particularly in non-Muslim-majority markets, presents an intriguing area for future research. Understanding consumer behavior and uncovering the perceived value of halal-certified logistics can shed light on how these practices impact brand trust and loyalty. Insights into how non-Muslim consumers perceive halal logistics could further expand market opportunities and increase the acceptance of halal-certified goods globally.

As sustainability continues to gain importance, the field of green halal logistics is emerging as an exciting research frontier. Future studies could examine how halal compliance intersects with environmentally sustainable logistics practices. This research could help develop solutions that not only adhere to halal standards but also support eco-friendly practices, contributing to the broader sustainability movement.

Lastly, there is a need for research into the policy and regulatory frameworks that shape halal logistics. Understanding how national policies, such as the BPJPH regulations in Indonesia, influence logistics practices and export competitiveness, especially for micro, small, and medium enterprises (MSMEs), is critical. Research in this area could provide insights into how regulatory environments can be optimized to support the growth of halal logistics and improve the competitiveness of businesses in the global market.

By exploring these areas, future research can play a pivotal role in shaping the halal logistics industry, ensuring it meets both market demands and religious standards while contributing to the global economy’s shift toward more sustainable and transparent practices.

4. CONCLUSION

The bibliometric analysis of halal logistics publications from 2014 to 2025 highlights a growing academic interest in this field, particularly in the context of Islamic economics and supply chain management. With a dataset comprising 175 publications, dominated by journal articles (52.6%), it is evident that halal logistics is evolving into a significant research domain.

Author mapping shows that A. Susanty, S. Jati, N.B. Puspitasari, and I. Masudin are among the most prolific contributors, indicating strong scholarly engagement from Indonesian researchers. The overlay visualization further reveals the emergence of recent research themes such as “traceability,” “halal integrity,” “sustainability,” and “halal certification,” pointing to a shift from foundational topics toward more advanced, systemic, and technology-driven approaches. Logistics, once viewed

as a purely operational function, now plays a strategic role in enabling competitive advantage and customer satisfaction. This is especially relevant in Indonesia, a country with a dominant Muslim population, yet whose halal product exports declined by 2.1% in 2024. This contradiction between market potential and performance underscores the need for better integration of halal logistics systems into national and international supply chains.

In addition, Bibliometric evidence confirms growing global interest in halal logistics, yet Indonesia's role remains underdeveloped. With strategic policy interventions and enhanced research efforts, Indonesia can align its academic output with its market potential in the halal industry.

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