





SYSTEMATIC REVIEW

Trends of research topics related to Halal meat as a commodity between Scopus and Web of Science: A systematic review [version 1; peer review: awaiting peer review]

Muhammad Nafik Hadi Ryandono, Imron Mawardi, Lina Nugraha Rani, Tika Widiastuti , Ririn Tri Ratnasari, Akhmad Kusuma Wardhana 

Faculty of Economics and Business, Department of Sharia Economics, Airlangga University, Surabaya, East Java, 60286, Indonesia

V1 First published: 22 Dec 2022, 11:1562
<https://doi.org/10.12688/f1000research.123005.1>

Latest published: 22 Dec 2022, 11:1562
<https://doi.org/10.12688/f1000research.123005.1>

Open Peer Review

Approval Status AWAITING PEER REVIEW

Any reports and responses or comments on the article can be found at the end of the article.

Abstract

Background: People are more aware of halal products in commodity markets. Halal meat is an essential commodity for society in the Islamic commodity market in particular. The objective of this study was to analyze differences in research trends related to halal meat in published papers indexed by Scopus and Web of Science. The objective is to observe how was halal meat as commodity become the trend of research written by Indonesian authors, as well as what was the novelty of the research trend related to such topic.

Methods: This study used purposive sampling with a bibliometric approach in collecting the samples. The samples were published papers from the Scopus and Web of Science (SCI) databases from 2006 to 25th October 2021. There were 154 samples found from Scopus and 50 samples in Web of Science (SCI). Analysis was performed by VOSviewer and biblioshiny.

Results: Overall, 154 papers from Scopus and 50 from SCI were analyzed. Scopus and SCI exhibited different research trends. Moreover, papers from Scopus were dominated by Indonesian authors; those from SCI were not. The source growth of published papers in SCI was more dynamic than that in Scopus. The research trends in papers from SCI were more focused on the types of meat and the source itself. This was different to papers in Scopus, which placed greater emphasis on the supply chain.

Conclusions: This paper can act as a reference for continued research into halal meat in commodity markets, especially in Islamic countries. This paper is the first to compare the research trends in halal meat in the commodity market by comparing the differences in two major indexes, Scopus and SCI.

Keywords

Bibliometric, COVID-19, halal, Islamic commodity market, meat, Scopus



This article is included in the **Research on Research, Policy & Culture** gateway.

Corresponding author: Tika Widiastuti (tika.widiastuti@feb.unair.ac.id)

Author roles: **Nafik Hadi Ryandono M:** Conceptualization, Project Administration; **Mawardi I:** Formal Analysis, Investigation, Writing – Review & Editing; **Nugraha Rani L:** Validation, Visualization; **Widiastuti T:** Formal Analysis; **Tri Ratnasari R:** Formal Analysis, Resources, Validation; **Kusuma Wardhana A:** Data Curation, Methodology, Resources, Software

Competing interests: No competing interests were disclosed.

Grant information: This work was supported by the Faculty of Economics and Business, Universitas Airlangga (2006/UN3.14/PT/2020). *The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.*

Copyright: © 2022 Nafik Hadi Ryandono M *et al.* This is an open access article distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

How to cite this article: Nafik Hadi Ryandono M, Mawardi I, Nugraha Rani L *et al.* **Trends of research topics related to Halal meat as a commodity between Scopus and Web of Science: A systematic review [version 1; peer review: awaiting peer review]** F1000Research 2022, 11:1562 <https://doi.org/10.12688/f1000research.123005.1>

First published: 22 Dec 2022, 11:1562 <https://doi.org/10.12688/f1000research.123005.1>

Introduction

Halal meat has become a popular product globally for which there is rising demand. The number of Muslims across the world has significantly increased in recent decades (Lever and Miele, 2012). Moreover, advancements in technology, especially the appearance of social media, have increased global awareness of the importance of halal products, especially for meat in the commodity market (Lever and Miele, 2012). Meat that is labeled as halal must undergo several steps to meet the standardization determined by the Islamic committees in each country. Meeting the required standardization ensures the meat is free from disease and safe to be consumed by humans (Yazid *et al.*, 2020).

Halal meat has become more important since COVID-19 impacted the world, especially in Muslim society. Muslims are only permitted to consume food that is considered halal (Zulfakar *et al.*, 2011). Meat is important for supplying nutrition to the body, especially for the recovery of the human tissues inside the body that have been damaged by the SARS-CoV-2 virus (Naja and Hamadeh, 2020). Without adequate nutrition, the progress of recovery will be impeded, and it may be difficult to survive the SARS-CoV-2 disease (Iftekhar and Cui, 2021). The study of halal meat and its associated supply chains has been enacted by researchers around the world to identify the best solution for sustaining the supply of halal meat. According to a study by Fuseini *et al.*, (2021), halal meat can be considered as the main driving force of local industries in the Muslim world for development in the pandemic era.

In addition to studies about the supply chain and demand for halal meat in commodity markets, the criteria for halal meat, the process of meat packaging, types of meat, as well as nutritional information are considered to be equally important as the supply and demand factors (Ayyub *et al.*, 2021). Halal products are associated not only with religious beliefs and regulations but also with the impacts and benefits of consuming them. To achieve a better understanding of halal meat as a major area of study, global collaboration of researchers can achieve new breakthroughs in insight related to halal meat (Othman *et al.*, 2021).

International indexing of papers may become the way for global academics or researchers to collaborate on research regarding halal meat. A paper is a public format in which results can be reported after a study has been conducted successfully to allow another person or group to continue the study (Afeyan and Cooney, 2020). Papers are often written by a single author to create greater novelty for a study as well as to cover the expenses in conducting a study (Khiste, 2017). Moreover, because of the advancement in digital technology, people could discuss the matter of collaborative research anytime and anywhere. Such advancements in technology have accelerated the publication of scientific papers published each year. There have been an increasing number of innovations reported in papers each year. There are also many international indexes for papers.

Studies which compared halal meat as topic of research from different indexing institutions to journals globally were still few. Moreover, the topic of halal meat as a commodity in the market were minimal, both in Scopus, as well as Web of Science. This study also used the papers that were related to Indonesia as a country with the biggest Muslim community in the world. Within this novelty, this study could give a new insight about the halal meat as a commodity.

The huge number of scientific papers can facilitate research activities because they act as a comprehensive source of references as guidance in conducting research processes (Djoussé *et al.*, 2012). Based on this background, there was a need to observe how the topic of halal products is included in publications. The purpose of this study was to observe the trends in how the topic of halal meat is addressed in published papers indexed by Scopus and Web of Science. The research questions of this paper are as follows:

1. Which indexed institutions had more paper related to the halal meat as commodity?
2. Were Islamic institutions published more papers than general institutions?
3. How was halal meat as commodity depicted as research trend in Scopus and SCI?
4. What was the novelty that could be found using bibliometric analysis related to the halal meat as commodity?

Halal products in Islamic commodity markets

Commodity exchange is the trading of goods in the form of commodities between sellers and buyers. There are two types of commodity traded in the market—hard commodities such as raw materials and financial derivatives such as stock. The Islamic commodity market is a commodity exchange that runs according to the principles of Maqasid Sharia.

Commodities themselves are defined as the main merchandize or commercial objects. A commodity can also be defined as a real object that is relatively easy to trade and can be preserved over time. The characteristics of the commodity are that the price is determined by market supply and demand, and not by the supplier or seller. The price of the commodity on the market is based on the calculation of real prices based on the commodity type. Examples are agricultural products, such as coffee, cocoa, sugar, meat, fish, and grains, which are relatively lower than the price of mining-type commodities such as crude oil, gas, coal, and precious metals such as gold and silver.

The Islamic commodity market is quite different from conventional markets because the market follows the application of Sharia principles. According to the study by (Kalimullina and Orlov, 2020), there are a few Sharia parameters that must be met for the commodity to be accepted to the market. These were implemented to prevent mutual benefit for all. First, the commodities have to be halal and not illegal goods such as cocaine. Second, the type, quality, and quantity of traded commodities have to be transparent and not fraudulent. Traded commodities should have a clear price from the beginning to the end of the sales according to the contract. The contract itself has to be thoroughly observed and agreed upon by the parties conducting trading of commodities. Commodities have to be clearly owned by the sellers. If there was a time to deliver commodities, the time of delivery has to be clear. The buyer has an obligation to pay the seller for the purchased commodity by the agreed procedure and time based on the agreement (Kalimullina and Orlov, 2020).

Meat as an important source of nutrition

Agricultural commodities that are usually traded on the commodity exchange include coffee, sugar, cocoa, soybeans, and corn. In addition, forestry product commodities, such as various types of wood, can also be traded on the commodity markets, both Sharia and conventional. No less important are commodities from livestock products, namely, various types of raw meat, which are differentiated according to the source of the carcass (Kalimullina and Orlov, 2020). Mining commodities such as gold, platinum, and silver actually have a much more expensive price than renewable commodities such as agricultural, forestry, and livestock products (Ahmed and Sarkodie, 2021).

De Smet and Vossen (2016) stated that meat is a source of protein needed for growth. Moreover, meat is considered as a main ingredient besides staple foods such as grains or corn. Without meat, staple food to be eaten will lose flavor. Lose its flavor means that the staple food would taste bland, and needs some savory things to make the appetite of a person who consume it rise (Ivanović *et al.*, 2016). A lack of protein can also lead to malnutrition, as was seen in children from Yemen or Ethiopia because of civil wars. Meat is rich in protein, fat, and iron, which are needed for the recovery of injured tissues. (De Smet and Vossen, 2016).

The world has entered the fourth Industrial Revolution, in which digital technology has become immersed in every aspect of human life. Globally, society can access almost all information through the internet. The use of social media in conjunction with the available multimedia technologies can help people become more aware of the importance of halal products, especially in Muslim countries (I Vanany *et al.*, 2021).

A study by Maulidizen (2019) stated that halal products are considered as healthy because Islam prohibits gharar or high-risk economic practices. In economic practice, Islams are prohibited to do any transaction with uncertainty that could lead to a high loss because the risk of the transaction was high. Islam emphasizes the mutual prosperity in economic activities, so that there would not be any parties which suffer great loss.

Meat in commodity markets have to undergo several procedures to be accepted as 'halal' or 'allowed to be consumed' according to the principle of Sharia (Herianingrum and Shofawati, 2019). The demand for halal meat in the commodity market has become a new trend in the industry, especially for halal certification as a means to develop the industry, so that it can meet the required quantity (Asfia *et al.*, 2021).

Methods

This study used a bibliometric method with a purposive sampling technique, collecting secondary data as the sample for this systematic review. The data were collected from Scopus and Web of Science (SCI) databases, which offer a comprehensive dataset of global publications. For this study, data from Scopus and SCI were selected because these two institutions were the most popular and most demanded for journal indexing in the world (Sa'ed and Al-Jabi, 2020).

The samples were papers containing the keywords 'halal' and 'meat' from the Scopus and SCI databases. The typed queries were (TITLE-ABS KEY ("halal")) AND (((("meat")) AND ("Indonesia")) AND ("market")). There were 154 samples found in Scopus and 10 samples in SCI. No samples were removed from either the Scopus or SCI search results. The data were saved in CSV format file and analyzed in three steps (Fahimnia, Sarkis, and Davarzani, 2015).

The first and second steps were analyzed using VOSviewer. The first step was to analyze the search results to determine the organizations/institutions and countries of the authors who have written papers on the intended topic. The data were presented in [table 1](#). This study took 13 papers from both Scopus and SCI website with highest citations into the tables according to the study by [Prasojo et al., \(2019\)](#). The data that used for bibliometric were 154 from Scopus and 10 from SCI without being eliminated as long as the abstract, title, or keyword contained queries *halal*, *meat*, *market*, and *Indonesia* in those papers.

The second step was analyzing the topics that were closely related to 'halal' and 'meat' and to determine if there was a significant change over time ([Mafruchati, 2020](#)). In the second step, the data were analyzed by Vosviewer using author's keywords. The data were also analyzed by Vosviewer using index keywords.

The third step was to analyze the source growth of the topic. Source growth here means that the journals that published papers related to the topic of the source used here was the journals where papers with the intended topic was published. Data for this third step were analyzed using the biblioshiny package version 4.0.0, provided by Studio software ([Özdemir and Selçuk, 2021](#)).

Results

Research trends in halal meat in the commodity market found in Scopus

[Table 1](#) shows that Indonesia was dominant in the number of papers published. Tenth November Institute of Technology/ Institut Teknoogi Speuluh Nopember (ITS) was the institution with the highest number of citations of their papers related to halal and meat. There are only two non-Indonesian universities included in the list. Indonesia has the potential to become the center of the halal industry, especially in the meat industry because it has the largest number of Muslims in the

Table 1. List of affiliated organizations of authors of papers in this subject area with top citations indexed by Scopus.

| Organization | Documents | Citations | Total link strength |
|---|-----------|-----------|---------------------|
| Department of Industrial Engineering, Sepuluh November Institute of Technology (ITS), Surabaya, Indonesia | 2 | 37 | 0 |
| Research Center of Halal Products, Gadjah Mada University, Yogyakarta, 55281, Indonesia | 2 | 33 | 0 |
| Management Department, Binus Online Learning, Bina Nusantara University, Indonesia | 3 | 10 | 0 |
| Faculty of Economics and Business, Universitas Airlangga, Indonesia | 2 | 7 | 0 |
| School of Business and Management, Institut Teknologi Bandung, Indonesia | 2 | 4 | 0 |
| Department of Industrial Engineering, Diponegoro University, Semarang, Indonesia | 2 | 3 | 0 |
| School of Business and Law, Edith Cowan University, 270 Joondalup Dr, Joondalup, WA 6027, Australia | 3 | 3 | 0 |
| Department of Industrial Engineering, Universitas Indonesia, Depok, Indonesia | 2 | 2 | 0 |
| Department of Agro Industrial Technology, Faculty of Agricultural Technology, Universitas Brawijaya, Malang, Indonesia | 2 | 0 | 2 |
| Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia (UKM), Bangi, 43600, Malaysia | 2 | 0 | 2 |
| Faculty of Industrial Technology, Universitas Islam Indonesia, Yogyakarta, Indonesia | 2 | 0 | 2 |
| Halal Qualified Industry Development (Hal-Q ID), Faculty of Agricultural Technology, Universitas Brawijaya, Malang, Indonesia | 2 | 0 | 2 |
| Universitas Indonesia, Department of Industrial Engineering, Depok, Indonesia | 2 | 0 | 0 |

Source: Data processed by VOSviewer.

world. Moreover, Indonesia has an abundance of natural resources, both renewable and non-renewable in nature (Mangunjaya and McKay, 2012).

Table 1 showed the 13 papers according to the study by Prasojo *et al.*, (2019) with their affiliations. The paper with the highest affiliations was from Tenth of November Surabaya Institute (ITS), followed by Gadjah Mada University and University of Indonesia. It could be concluded that the technical specialized institution like ITS had more publications about halal meat rather than universities with emphasized Islamic major. Ironically, there was no Islamic universities in those table 1, means that those Islamic universities had not enough papers with high citations which were related with halal meat.

A study by Ismoyowati (2015) stated that unlike Middle Eastern countries, which are countries that have an Islamic majority and barren lands but an abundant oil and gas supply in commodity markets, Indonesia has both rich land and an abundance of non-renewable resources. Indonesia's rich soil and abundant mining resources could supply commodity markets with more agricultural products than most Middle Eastern countries, as well as mining commodities. Moreover, there has been no serious conflict or civil war, as has occurred in the Middle East, which has made Indonesia more prosperous in the commodity market (Ismoyowati, 2015).

Another factor supporting Indonesia's potential as the center of halal industry is the presence of many Islamic boarding schools that run agricultural businesses and small and medium enterprises (SMEs) that can support the national gross domestic product (Aisyah, 2016). Islamic boarding schools in Indonesia, or so called 'pesantren', have a pre-determined set of rules for the people who live there to adhere to in daily life (Huda, 2018). Consequently, they are well disciplined when maintaining the business assigned by pesantren. Pesantren also implements the Sharia principles for conducting business activity with the focus of mutual prosperity, rather than for individual interest (Winarsih, Masrifah, and Umam, 2019).

Figure 2 shows that Indonesia emerged as a trend in index keywords related to halal and meat in 2018. Index keywords in figure 2 were depicted by using Vosviewer and choosing the feature to 'create a map based on bibliographic data' – 'read data from bibliographic data files' – select 'scopus' – select 'co-occurrences' – select 'index keywords' – select 'finish'. Then vosviewer would started to extract the index keywords related to the topic of this study automatically. There were 18 index keywords with the highest relation with the topic of this study.

The index keyword in Vosviewer were developed by Nees Jan van Eck and Ludo Waltman. It was emphasized on the keywords that were made by the indexing website of journals, such as Scopus, SCI, PubMed, Copernicus, etc. The index keyword was developed based on the content of the paper, so that the keywords represented in a paper would reflect the content of the paper. Keywords of a paper also needed to increase reputation of the paper through search engine optimization (SEO), by using the highest trending word in a field of research, so that the paper would receive more attention from readers and aimed to be cited more. The more a paper is cited by the scholars, the better the reputation of a journal which published that paper (Van Eck and Waltman, 2014).

Figure 2 showed that there was no sub topic related to technology, especially AI which could help in maintaining the condition of the meat itself. it could be means that p [aper with AI and halal meat as commodity would likely had high novelty. Topic related to environment also had phigh novelty if it was correlated with halal meat as commodity. Those two topics would likely had novelty if a paper would be submitted into any journals indexed by scopus.

'Indonesia' as an index keyword as shown in figure 2 is closely related to the topics of 'food safety' and 'animals'. According to the study by Silalahi *et al.*, (2021), food safety is a requirement for halal meat; it is related to the Sharia principles in which the economic activities have to be free from riba/usury, maysir/gambling and speculation, and gharar/high uncertainty that may result in injustice or deceit among any of the parties. Food safety is necessary to reduce the risk that consumers will become sick or poisoned as a result of consuming the meat products (Muslimin, 2019).

Other index keywords such as 'halal product' and 'meat', which were initially related to the topic 'halal meat', were smaller-sized dots than other major index keywords such as 'Indonesia', 'article', 'humans', and 'animals'. There were fewer papers that discussed meat as a popular topic included in index keywords. 'Meats' as an index keyword here was related to other index keywords such as 'halal products', 'supply chain', 'food safety', 'Indonesia', and 'animals'. Meat that is considered as a halal product must be maintained in supply to meet demand (Lever and Miele, 2012), so that market equilibrium can be achieved.

The supply chain is closely related to the commodity market, especially Islamic markets, because the price of commodities is heavily dependent on supply chains. Without a good supply chain system, the price of certain commodities is unlikely to be cheap and the supply will be scarce. Meat, as a commodity of the Islamic commodity

market, also requires a good supply chain process to maintain high quality and to ensure that the criteria for halal certification has been met.

As for the index keyword 'animals', meat was closely related to the animal itself as the source of meat. The type of animal, their health, how they were raised, and the methods of processing the animal carcass were very important considerations for maintaining meat quality. The lower the meat quality, the lower the price; moreover, it would affect to the demand.

It is shown in [Figure 3](#) that 'meat industry' as an author keyword was closely related to the keyword 'risk'. Here, 'risk' could encompass not only the risks that need to be avoided for meat to be labeled as halal but also the risk of business processes involved with halal meat supply chains. The risk of profit loss during the COVID-19 pandemic has become higher since several restrictions have been implemented by each government of several countries. Restrictions such as closing international trade borders to stop dissemination of the virus could lead to a decreased demand for halal meat, which would result in profit loss for the industry. The color of dots of author keywords of 'risk', 'meat industry', and 'downstream' in [Figure 3](#) is evidence that 2020 was a year of downturn in the halal industry.

[Figure 3](#) also shows that the author keyword 'halal supply chain' is connected to the other keywords of 'meat industry' alongside 'risk' as noted above. In the Islamic commodity market, especially for raw materials traded on the market, safety procedures for consuming the product are obligations that need to be fulfilled. A common method for preserving meat as a commodity is to freeze it, allowing it to withstand decomposition for a certain period of time. This is the way that the commodity of 'meat' can be prevented from carrying the risk of being decomposed and causing health issues for consumers.

[Awal Fuseini et al., \(2017\)](#) explained that in Muslim countries, frozen meat is considered as a healthy halal commodity. After the meat was cut and packed from the carcass, the package then was put in a blast freezer. Frozen meat can last longer than the packages of fresh meat and help sustain the supply chain in the meat industry. By maintaining the supply of meat through storage of frozen material, the prices of meat can be stabilized. Moreover, the industry also benefits because the raw materials are stable and safe for consumption when entering the commodity market.

With the presence of frozen meat, standardization of the quality of processed products can also be achieved. Frozen meat industries could meet the quota of demand from culinary and tourism industries with intended quality ([Awal Fuseini et al., 2017](#)). Supply chains, especially by providing good storage for keeping frozen meat, has the major responsibility for

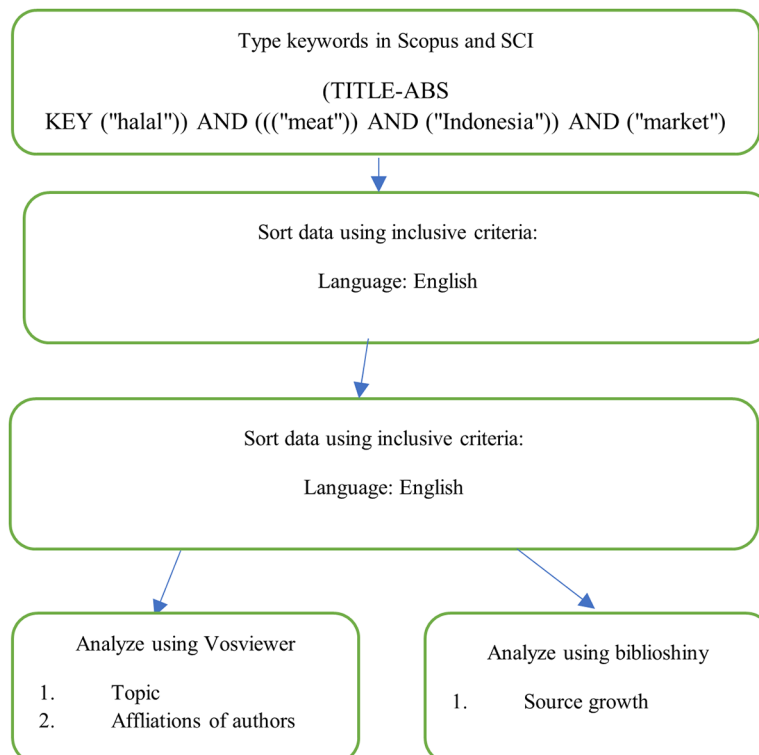


Figure 1. Flowchart of data collection and analysis for this systematic review.

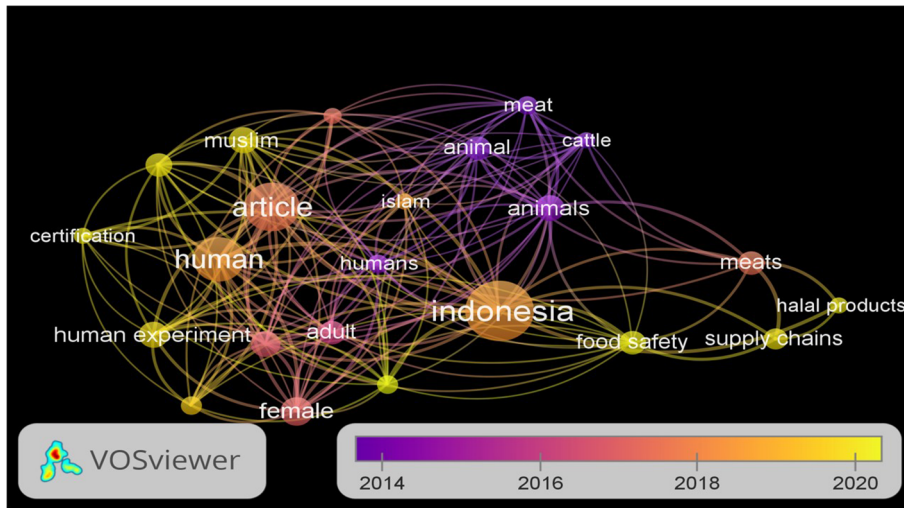


Figure 2. Index keywords related to halal and meat in the 50 papers published in Scopus. Source: Data processed by Vosviewer.

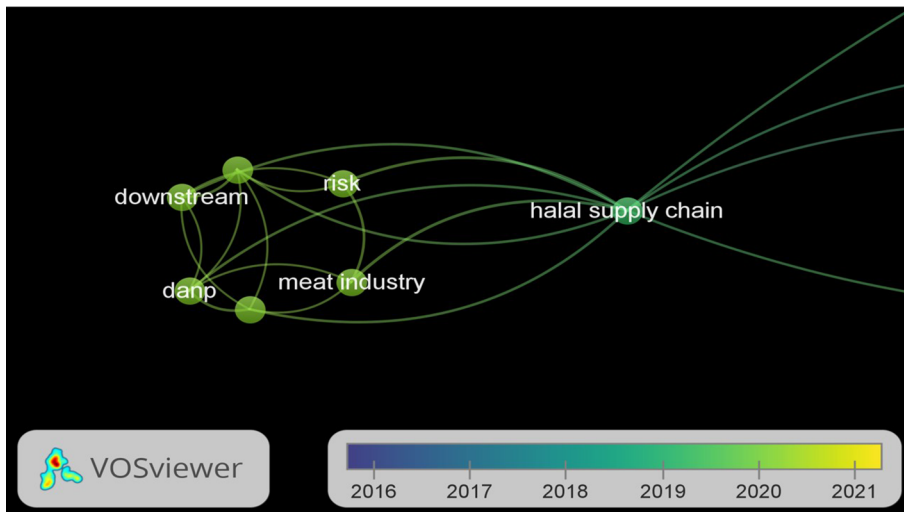


Figure 3. Author keywords related to halal and meat in 50 papers published in Scopus. Source: Data processed by Vosviewer.

preparing and maintaining the quality of meat so that it is suitable for public consumption. One is by increasing the supply of frozen beef stock, because beef can cater to the demand for halal meat in the commodity market to a greater extent than can other types of halal meat, such as mutton, veal, or poultry (Lever and Miele, 2012).

As shown in Figure 4, the *Journal of Islamic Marketing* has been published more papers than other journals related to the topic of ‘halal meat’. *IOP Conference Series: Earth and Environmental Science* also kept developing until 2021, but to a lesser extent than the *Journal of Islamic Marketing*. Several other journals increased their productivity in 2020 but decreased it in 2021. It can be concluded that halal meat was a very important topic of analysis for papers published by the *Journal of Islamic Marketing*.

A study by Ence *et al.*, (2016) stated that the more the study with more specialized major publish papers, the more insight could be dug from papers by the scholars that needed references. Figure 4 showed that *Journal of Islamic Marketing* published more paper about halal meat. By publishing paper more with the topic that have been become trends, a journal could gain more reputation by citations.



Figure 4. Source growth per year of the 50 papers in Scopus. Source: Data processed by Biblioshiny of R studio.

Table 2. List of organizations affiliated to authors of the 154 papers indexed by Web of Science (SCI).

| Organization | Documents | Citations | Total Link Strength |
|--------------------------|-----------|-----------|---------------------|
| University of Ghent | 5 | 482 | 3 |
| Univ Putra Malaysia | 8 | 412 | 5 |
| Hogeschool Gent | 2 | 284 | 2 |
| Univ Mediterranean | 2 | 184 | 2 |
| Islamic Univ Uganda | 3 | 180 | 3 |
| Univ Teknol Mara | 4 | 173 | 1 |
| Agresearch Ltd | 4 | 167 | 1 |
| Univ Ilorin | 2 | 91 | 2 |
| Univ Int Business & Econ | 2 | 48 | 2 |
| Xi An Jiao tong Univ | 2 | 48 | 2 |
| Univ Bristol | 2 | 22 | 0 |
| Charles Sturt Univ | 2 | 5 | 2 |
| Fatland Olen AS | 2 | 5 | 2 |
| Norwegian Univ Life Sci | 2 | 5 | 2 |
| Univ Sassari | 2 | 0 | 0 |

Source: Data processed by VOSviewer

Research trends in halal meat in the commodity market indexed in Web of Science (SCI)

As shown in Table 2, papers with the topic of ‘halal meat’ in Web of Science (SCI) are completely different in terms of varieties of affiliation than those in Scopus. There are no Indonesian universities included. However, Malaysian institutions are also included in Table 2. There are also a different number of citations in Table 2, several times higher than that in Scopus. It can be concluded that papers related to ‘halal meat’ in SCI were more commonly cited than those in Scopus. Most of these were universities from non-Muslim countries. This was different from Scopus in that most of the papers related to ‘halal meat’ were affiliated to Indonesian universities.

As shown in Figure 5, the keyword ‘slaughter’ has become a major keyword that was also connected by dots to ‘cattle’, ‘products’, ‘challenges’, and ‘identity’. ‘Slaughter’ refers to how to correctly slaughter cattle in accordance with Sharia regulations. The keyword ‘products’ refers to the meat from cattle. The keywords above mean that ‘cattle’, ‘slaughter’, and ‘product’ were important considerations to preserve the quality of halal meat. These keywords were popular during

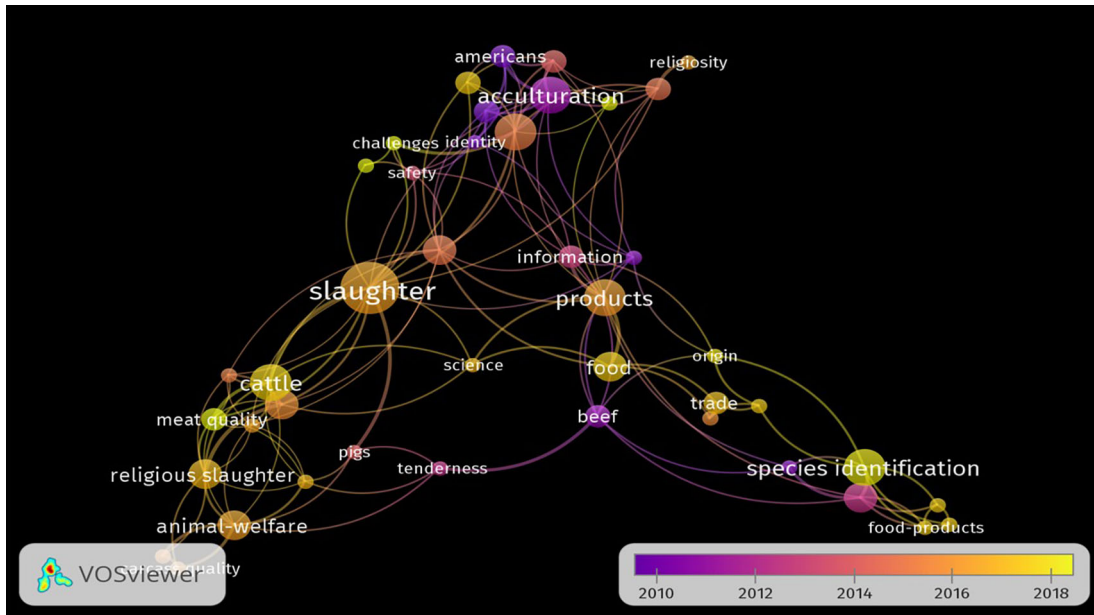


Figure 5. Keyword Plus related to halal and meat in the 154 papers indexed in Web of Science (SCI). Source: Data processed by Vosviewer.

2018, as shown by the color of their dots. The major keywords in Figure 5 are different from those in Figure 1, indicating that papers in Scopus related to halal meat had different popular keywords than papers in SCI.

In addition, Figure 5 shows that the dominant keywords in 2020 were “cattle,” “meat quality,” “species identification,” “origin,” and “food.” These keywords showed that the trends of research in SCI were focused more on the types of meat and the source itself. These were different from keywords in Scopus (Figure 2), which were more focused on “supply chain.” The keyword “origin” itself also means the source/animals of the meat. It is essential to know the “origin” of the meat before it is traded in the Islamic commodity market, because only verified halal products can enter the market.

Figure 5 also showed that there was no subtopic related to technology and digitalization. There was also no subtopic related to environment. It means that those subtopics also had higher novelty if it was implemented as a topic of the paper and submitted into any journal indexed by SCI.

As shown in Figure 6, the major author keywords in SCI were different from those in Scopus. While author keywords related to halal meat were related to risk and supply chain, author keywords from SCI related to ‘meat consumer’, ‘supermarket’, ‘livestock’, and ‘self-identity’. The keywords in Figure 6 were more connected to the target market and included ‘consumer’ and ‘supermarket’. Furthermore, the keyword ‘halal meat’ was also connected to the keyword ‘religion’.

Kabir (2015) stated that people prefer to eat halal meat for religious reasons. As the population of Muslims increases worldwide, the demand for halal meat is also growing. Haroon Latif of Dinar Standards, a company that researches the United States of America (US) halal market, said that there were several reasons behind the consumption of halal meat. The consumption of halal meat is increasing because of the large Muslim population of the world increasing as well (Kabir, 2015). Moreover, many non-Muslims also eat halal meat. There is a growing awareness of what halal meat is among society worldwide, but it has also been proposed that delicious halal food should be made more available in restaurants and at halal food festivals to introduce less familiar products (Masudin, Jie, and Widayat, 2020).

For meat to be acceptable to Muslim consumers, it must pass the halal certification and food inspection. The label halal itself means that a consumer who buys the product should not be exposed to any risk related to the product they bought (A Fuseini et al., 2021). The meat must also not consist of any parts of a pig. Pork is forbidden to be consumed, even a small piece of fat or the essence of meat itself (Vanany et al., 2019). It is said in the Holy Qur’an that halal products should be consumed and non-halal products should be avoided.

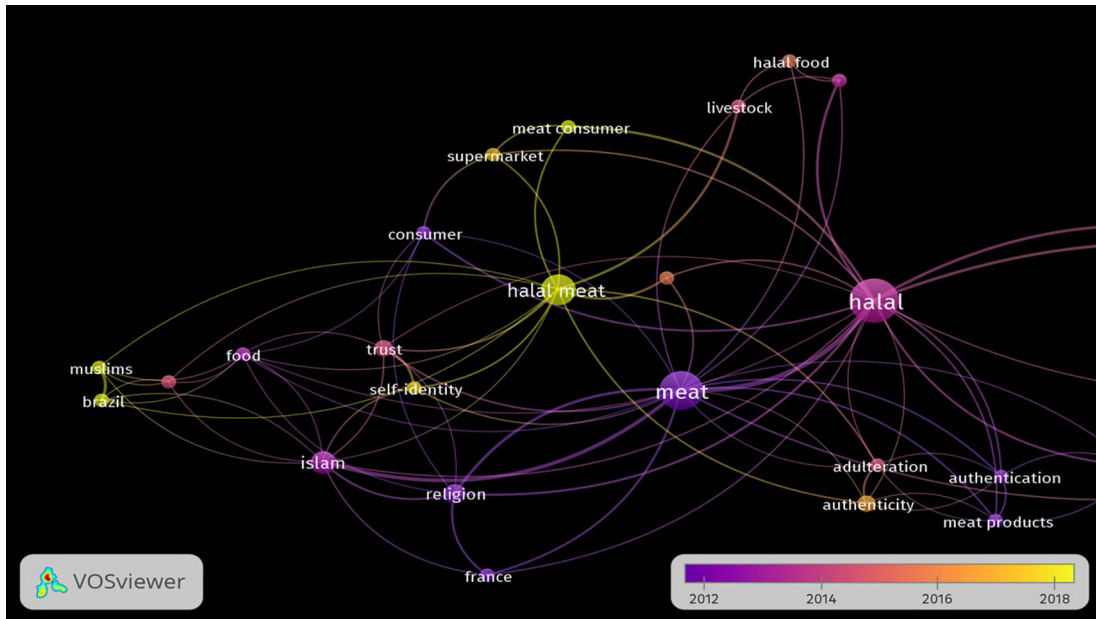


Figure 6. Author keywords related to halal and meat in the 154 papers indexed in Web of Science (SCI). Source: Data processed by VOSviewer.

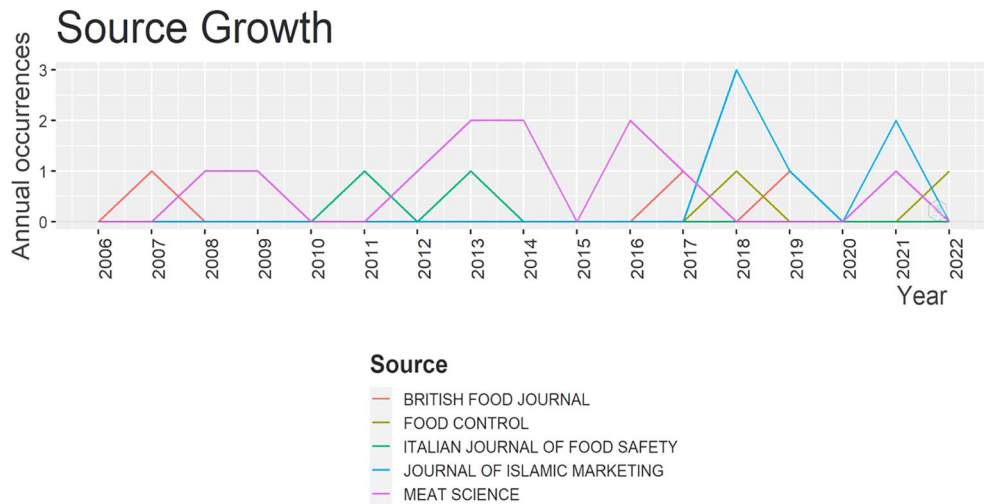


Figure 7. Source growth per year of the 154 papers indexed in Web of Science (SCI). Source: Data processed by the biblioshiny package in R studio.

يَا أَيُّهَا الَّذِينَ آمَنُوا كُلُوا مِن طَيِّبَاتِ مَا رَزَقْنَاكُمْ وَاشْكُرُوا لِلَّهِ إِنَّ كُنتُمْ لِيَّاهُ تَعْبُدُونَ

O you who have believed, eat from the good things which We have provided for you and be grateful to Allah if it is [indeed] Him that you worship (QS Baqarah: 172).

As shown in Figure 7, journals related to halal meat from SCI were more dynamic than journals from Scopus with similar topics from 2006 to 2021. Moreover, Figure 7 also shows the prediction of source growth in 2022, which did not exist in Scopus. The most dynamic journals were the *Italian Journal of Food Safety* and *Meat Science*. All the papers in the figure show smaller source growth in 2020; despite an increase during 2021, it is projected that they will decrease again in 2022.

However, although the journals shown in Figure 7 were more dynamic, their growth rates were less than those in Scopus. The *Italian Journal of Food Safety* only grew by 30% in one year, whereas a journal in Scopus grew by more than 75% in

one year. The number of journals shown in [Figure 7](#) was also less than in Scopus. As Scopus and SCI have their own market pace for academics who wish to publish papers, the trends in topics would also be different ([Martín-Martín, Orduna-Malea, and López-Cózar, 2018](#)).

Conclusion

Based on the results, it can be concluded that the trending topics in papers related to halal meat were different in Scopus and SCI. However, papers in both Scopus and SCI increased in terms of source growth in 2021. Another finding from our results is that the affiliations of authors who wrote the papers in Scopus were mostly Indonesia, whereas in SCI, authors' affiliations were more diverse and there were no Indonesian authors. The results also showed that the trends in research in papers in SCI were more focused on the types of meat and the source itself, whereas those in Scopus were more focused on 'supply chain'. Moreover, the results above showed that novelty was found that no subtopic related between halal meat as commodity and digital technology. There was also novelty between the subtopic of environment and halal meat as a commodity. It means that a paper with those topics would likely have novelty if it would be submitted into any journals indexed by Scopus or SCI.

Further research should focus on the role of frozen meat and frozen storage in maintaining the supply of halal meat in the Islamic commodity market. This could be enhanced with further studies also exploring other raw food materials that need to be put in frozen storage to maintain their condition before entering the commodity market. Moreover, as the Islamic commodity market operates in ways different from those of the conventional market, both should be compared to determine which is better in maintaining the supply of commodities, especially meat products.

Data availability

Underlying data

Zenodo: samples data of publications related to halal meat. <https://doi.org/10.5281/zenodo.7260213>. ([Ratnasari and Wardhana, 2022](#))

This project contains the following underlying data:

- Savedrecs.txt (List of papers from Web of Science (SCI) and Scopus reviewed in this study).
- Scopus (3).csv (list of papers from Scopus included in this study)
- SCI - halal meat as commodity.xlsx. (List of papers from Web of Science (SCI) included in this study)

Reporting guidelines

Zenodo: PRISMA checklist for 'Trends of research topics related to Halal meat as a commodity between Scopus and Web of Science: A systematic review'. <https://doi.org/10.5281/zenodo.7260213>. ([Ratnasari and Wardhana, 2022](#))

Data are available under the terms of the [Creative Commons Zero "No rights reserved" data waiver](#) (CC0 1.0 Public domain dedication).

References

- Afeyan NB, Cooney CL: **Professor Daniel IC Wang: A Legacy of Education, Innovation, Publication, and Leadership**. *Biotechnol. Bioeng.* 2020; **117**(12): 3615–3627.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Ahmed MY, Sarkodie SA: **COVID-19 pandemic and economic policy uncertainty regimes affect commodity market volatility**. *Res. Policy.* 2021; **74**: 102303.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Aisyah M: **Consumer Demand on Halal Cosmetics and Personal Care Products in Indonesia**. *Al-Iqtishad: Jurnal Ilmu Ekonomi Syariah.* 2016; **9**(1): 125–142.
- Asfia N, Usman M, Online SM-I, *et al.*: **Sustainable supply chain performance of Pakistan's halal meat industry: Intermediating role of global technical standards (gts) in the framework of quality**. 2021.
[Publisher Full Text](#) | [Reference Source](#)
- Ayyub R, Rana AA, B.-... J. of S, *et al.*: **Exploring future markets for Pakistani Halal meat export**. 2021. Retrieved November 29, 2021.
[Publisher Full Text](#) | [Reference Source](#)
- De Smet S, Vossen E: **Meat: The balance between nutrition and health. A review**. *Meat Sci.* 2016; **120**: 145–156.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Djoussé L, Akinkuolie AO, Wu JHY, *et al.*: **Fish consumption, omega-3 fatty acids and risk of heart failure: a meta-analysis**. *Clin. Nutr.* 2012; **31**(6): 846–853.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Ence AK, Cope SR, Holliday EB, *et al.*: **Publication productivity and experience: factors associated with academic rank among orthopaedic surgery faculty in the United States**. *JBJS.* 2016; **98**(10): e41.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Fahimnia B, Sarkis J, Davarzani H: **Green supply chain management: A review and bibliometric analysis**. *Int. J. Prod. Econ.* 2015; **162**: 101–114.
[Publisher Full Text](#)
- Fuseini A, Wotton SB, Knowles TG, *et al.*: **Halal Meat Fraud and Safety Issues in the UK: a Review in the Context of the European Union**. *Food Ethics.* 2017; **1**(2): 127–142.
[Publisher Full Text](#)

- Fuseini A, Wotton S, Knowles T, et al.: **Halal meat fraud and safety issues in the UK: a review in the context of the European Union.** Springer; 2021. Retrieved November 29, 2021.
[Publisher Full Text](#)
- Herianingrum S, Shofawati A: **Model for microeconomic empowerment: islamic microfinance institutions (Imis) in East Java.** *Utopia Y Praxis Latinoamericana: Revista Internacional de Filosofía Iberoamericana Y Teoría Social.* 2019; **5**: 317–326.
- Huda N: **Simmiliarity Waqf An Instrument of Community Empowerment in Islamic Boarding School Daarut Tauhid in Indonesia.** Repository YARSI; 2018.
- Iftekhhar A, Cui X: **Blockchain-Based Traceability System That Ensures Food Safety Measures to Protect Consumer Safety and COVID-19 Free Supply Chains.** *Foods.* 2021; **10**(6): 1289.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Ismoyowati D: **Halal food marketing: a case study on consumer behavior of chicken-based processed food consumption in central part of Java, Indonesia.** *Agriculture and Agricultural Science Procedia.* 2015; **3**(2015): 169–172.
[Publisher Full Text](#)
- Ivanović S, Pavlović I, Pisinov B: **The quality of goat meat and it's impact on human health.** *Biotechnology in Animal Husbandry.* 2016; **32**(2): 111–122.
[Publisher Full Text](#)
- Kabir S: **Growing Halal Meat Demand: Does Australia Miss Out A Potential Trade Opportunity?.** *Econ. Pap.* 2015; **34**(1-2): 60–75.
[Publisher Full Text](#)
- Kalimullina M, Orlov MS: **Islamic finance and food commodity trading: is there a chance to hedge against price volatility and enhance food security?.** *Heliyon.* 2020; **6**(11): e05355.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Khiste GP: **Publication productivity of “consortia” by scopus during 1989-2016.** *International Journal of Current Innovation Research.* 2017; **3**(11): 879–882.
- Lever J, Miele M: **The growth of halal meat markets in Europe: An exploration of the supply side theory of religion.** *J. Rural. Stud.* 2012; **28**(4): 528–537.
[Publisher Full Text](#)
- Mafruchati M: **Beef, pork, or lamb? Comparative study between 3 kinds of red meat consumption in the USA toward the number of COVID cases.** *Systematic Reviews in Pharmacy.* 2020; **11**(9): 808–812.
[Publisher Full Text](#)
- Mangunjaya FM, McKay JE: **Reviving an Islamic approach for environmental conservation in Indonesia.** *Worldviews: Global Religions, Culture, and Ecology.* 2012; **16**(3): 286–305.
[Publisher Full Text](#)
- Martin-Martín A, Orduna-Malea E, López-Cózar ED: **Coverage of highly-cited documents in Google Scholar, Web of Science, and Scopus: a multidisciplinary comparison.** *Scientometrics.* 2018; **116**(3): 2175–2188.
[Publisher Full Text](#)
- Masudin I, Jie F, Widayat W: **Impact of halal supplier service quality and staff readiness to adopt halal technology on halal logistics performance: A study of Indonesian halal meat supply chain.** *International Journal of Agile Systems and Management.* 2020; **13**(3): 315–338.
[Publisher Full Text](#)
- Maulidizen A: **Ibn Khaldun's Economic Thought; The Fair Tax And Its Relevance To The Modern Economy.** *International Journal of Islamic Business and Economics (IJIBEC).* 2019; **3**(2): 73–89.
[Publisher Full Text](#)
- Muslimin JM: **Society, Law and Economy: Contextualizing Ibn Khaldun's Thought.** *Al-Iqtishad: Jurnal Ilmu Ekonomi Syariah (Journal of Islamic Economics).* 2019; **11**: 167–180.
- Naja F, Hamadeh R: **Nutrition amid the COVID-19 pandemic: a multi-level framework for action.** *Eur. J. Clin. Nutr.* 2020; **74**(8): 1117–1121.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Othman P, Sungkar I, Bulletin WH-AE, et al.: **Malaysia as an international halal food hub: competitiveness and potential of meat-based industries.** *JSTOR.* 2021. Retrieved November 29, 2021.
[Reference Source](#)
- Özdemir M, Selçuk M: **A bibliometric analysis of the International Journal of Islamic and Middle Eastern Finance and Management.** *International Journal of Islamic and Middle Eastern Finance and Management.* 2021; **14**(4): 767–791.
[Publisher Full Text](#)
- Prasojo LD, Fatmasari R, Nurhayati E, et al.: **Indonesian state educational universities' bibliometric dataset.** *Data Brief.* 2019; **22**: 30–40.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Sa'ed HZ, Al-Jabi SW: **Mapping the situation of research on coronavirus disease-19 (COVID-19): a preliminary bibliometric analysis during the early stage of the outbreak.** *BMC Infect. Dis.* 2020; **20**(1): 561–568.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Silalahi S, Fachrurazi FMarketing, A. F.-J. of I, et al.: **Factors affecting intention to adopt halal practices: case study of Indonesian small and medium enterprises.** 2021. Retrieved October 5, 2021.
[Publisher Full Text](#) | [Reference Source](#)
- Van Eck NJ, Waltman L: **Visualizing bibliometric networks.** *Measuring scholarly impact.* Springer; 2014; (pp. 285–320).
- Vanany I, Maarif GA, Soon JM: **Application of multi-based quality function deployment (QFD) model to improve halal meat industry.** *Journal of Islamic Marketing.* 2019; **10**(1): 97–124.
[Publisher Full Text](#)
- Vanany I, Maarif GMarketing, J. S.-J. of I, et al.: **Application of multi-based quality function deployment (QFD) model to improve halal meat industry.** 2021. Retrieved November 29, 2021.
[Publisher Full Text](#) | [Reference Source](#)
- Winarsih R, Masrifah AR, Umam K: **The Integration Of Islamic Commercial And Social Economy Through Productive Waqf To Promote Pesantren Welfare.** *Journal of Islamic Monetary Economics and Finance.* 2019; **5**(2): 321–340.
[Publisher Full Text](#)
- Yazid F, Kamello T, Nasution Y, et al.: **Strengthening Sharia Economy Through Halal Industry Development in Indonesia.** *International Conference on Law, Governance and Islamic Society (ICOLGIS 2019).* 2020; 86–89.
- Zulfakar M, Jie FOperations, C. C.-10th A., Supply, undefined, & 2012, undefined: **Halal food supply chain integrity: from a literature review to a conceptual framework.** 2011.
[Reference Source](#) | [Reference Source](#)
- Ratnasari RT, Wardhana AK:samples data of publications related to halal meat. [Data set]. *Zenodo.* 2022.
[Publisher Full Text](#)

Comments on this article

Version 1

Reader Comment 26 Dec 2022

Suwandi S. Sangadji, Department of Agribusiness, Universitas Nuku, Indonesia

INTRODUCTION

1. Paragraph 5 should be checked again and correct any typos of words
2. Introduction section was quite good. It contains good novelty and good research question
3. Add urgency why this topic of paper should be observed in introduction section

METHOD

1. It was good enough in explaining how to collect the data from Scopus and Web of Science
2. The method explained how to analyze the data and the feature of software related to bibliometric using two softwares
3. Method should explain why Scopus and SCI were chosen as the source of data sample
4. Method should have added the flowchart of data collection using systematic literature review
5. Method should explain why using two softwares instead of one

Result was clear enough in answering the research questions

Conclusion was clear enough in summarizing the result and further research. However, conclusion section should explain the limitation of this study

Competing Interests: There was no competing interest between me and the authors of this paper. I have no any connection whatsoever related to any study process of this paper

The benefits of publishing with F1000Research:

- Your article is published within days, with no editorial bias
- You can publish traditional articles, null/negative results, case reports, data notes and more
- The peer review process is transparent and collaborative
- Your article is indexed in PubMed after passing peer review
- Dedicated customer support at every stage

For pre-submission enquiries, contact research@f1000.com

F1000Research