

RESEARCH ON THE HALAL MEAT TREND: CHALLENGE AND OPPORTUNITY AGENDA

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Abstract: *The halal meat industry is one of the latest business trends in the world. The importance of halal meat is to maintain the continuity of the halal production process so that the quality and safety of meat is guaranteed until it reaches consumers. This paper aims to see the direction of research development of all papers with the title of halal meat published in reputable journals. This paper uses the Systematic Literature Review (SLR) method to provide a map of halal meat supply chain research trends. The development of halal meat research is still limited. This is evidenced from 2007 to 2023 by title only 48 articles indexed by Scopus by title. The author found that in Muslim countries halal is part of the belief in life. Whereas in non-Muslim countries, halal is seen as a brand component to increase market share. It is estimated that the demand for halal meat will continue to increase as the global Muslim population grows and because of the quality awareness of halal products. The results of this paper can provide specific directions for the government, researchers, and halal meat industry players. The government can improve and strengthen the regulation of the halal meat industry, for researchers as a reference for continuing research in the field of halal meat, and for halal meat industry players, consumer behavior towards halal meat can be an opportunity to increase market share.*

Keywords: Halal meat, Systematic literature review, scopus

1 Introduction

The concept of halal is a fundamental concept in Islam. Islam has clearly regulated things that are permitted (halal) and prohibited (haram). Halal means things that are permitted to be used or implemented in Islam. While haram means things that are not permitted and violate the law. The concept of halal and haram is not only limited to goods, but also applies to services and actions that are permitted or prohibited in Islam. In the modern world, the meaning of the global halal industry expands to include food, pharmaceuticals, health products, travel, media, logistics, marketing, lifestyle, finance, and so on. In the Quran surah Al-Baqarah verse 168, "O mankind, eat that which is halal and lawful from what is found on earth and do not follow the devil! Verily, the devil is a real enemy to you. The words Halal and Thayyib are like two sides of an inseparable coin. Halal in terms of substance and process, must be based on Islamic law while thayyib is something that is good and safe for consumption (food safety), clean (good manufacturing practices), healthy and quality (physical, chemical and biological aspects). Halal standards are very

strict and hold the principle of zero tolerance, which means that halal must be 100% and there must be no doubt in it (MUI, 2023).

The global demand for halal products is increasing rapidly. Muslims spent USD 2 trillion in 2021 in the food, pharmaceutical, cosmetic, fashion, travel, and media/recreation sectors. It is estimated that Muslim spending will reach USD 2.8 trillion by 2025 with a Cumulative Annual Growth Rate (CAGR) of 7.5% (Dinar Standard, 2022). However, the focus of this study is halal meat only. The global halal meat market was valued at USD 802 billion in 2021. It is expected to reach a predicted value of USD 1,657.44 billion by 2030 at a CAGR of 7.4% during the forecast period (2022-2030) (Straits Research 2021). The global halal meat market is expected to experience significant growth in the coming years, driven by the increasing demand for halal products among Muslim consumers around the world. Interestingly, non-Muslim majority countries such as Brazil and Australia, account for the majority of halal meat production. It is expected that the Asia-Pacific region could become the largest market for halal meat, with countries such as Indonesia, Malaysia, and Pakistan having a significant market share. The region is also expected to experience the highest growth rate, driven by the rising Muslim population. Indonesia has the largest number of Muslims globally at around 229 million. Followed by Pakistan with around 200 million Muslims, India with 195 million Muslims, Bangladesh with 153 million Muslims, and Nigeria with 99 million Muslims. There are more than two billion Muslims worldwide, making Islam the second largest religion in the world, after Christianity. Researchers project that Muslims will outnumber Christians by 2050 (World Population Review 2023). The global Muslim population is expected to reach 2.2 billion by 2030, which is a significant market for halal meat (PewResearchCenter, 2011). This is expected to continue to increase as the global Muslim population grows.

Apart from the growing global Muslim population, another factor contributing to the growth of the global halal meat market is the rising disposable income of consumers in Muslim-majority countries. As incomes rise, so does the ability of consumers to afford more expensive and high-quality halal meat products. In addition, growing awareness of the benefits of halal products among non-Muslim consumers is also driving the growth of the global halal meat market. The perspective of halal food is not only for Muslim consumers but is a concern for non-Muslim consumers. Many non-Muslims choose to buy halal meat products due to the perception that the meat is healthier and higher quality (Halal Monitoring Authority, 2023)

However, the development of halal meat research is still limited. This is evidenced from 2007 to 2023 by title only 48 articles indexed by Scopus by title. Research related to halal meat supply chain research trends still does not exist so this study aims to see the direction of research development of all papers with the title of halal meat published in reputable journals so that the majority of research in global halal meat can be narrowed down. This paper uses the systematic literature review (SLR) method and qualitatively describes the related research question, namely what is the direction of development of global halal meat research. It is estimated that the demand for halal meat will continue to increase along with the growth of the global Muslim population and due to the quality awareness of halal products. The results of this paper can provide specific directions for halal meat industry players and researchers. For halal meat industry players,

consumer behavior towards halal meat can be an opportunity to increase market share, while for future researchers it can be a reference in conducting more in-depth research in the field of halal meat.

The paper is organized as follows. The first section introduces the background, review objectives, review questions, and review benefits. The second section describes the methodology of the study including article sourcing and retrieval, analysis, and interpretation and presentation of findings. A detailed discussion of the findings and suggestions for future research is provided in the third section while the fourth section presents the conclusions of the study.

2 Methodology

The methodology in this study uses a systematic literature review. The purpose of using the systematic literature review method is to map the reality in the field, research gaps and for future research directions (Floren et al., 2020). The SLR method is a method that brings together and critically evaluates publications on a research subject (Siddaway et al., 2018). For systematic literature review research related to halal meat subject research does not yet exist but there are studies that lead to halal food consumption. In the article the author reviews articles published in reputable journals from 1990-2017. The main themes in the paper are related to quality with a focus on non-Muslim perceptions of products and services, exploring several marketing issues such as consumer and consumer purchasing behavior and supply channels in relation to buying meat from local shops versus supermarkets, in the UK and investigating an abattoir in the UK that prepares meat and non-meat products (Naeem et al., 2020).

The aim of the authors using SLR was to assess the visibility of the research subject in the more recent academic literature, to determine the main areas of research interest and to outline potential directions for future analysis (Floren et al., 2020). In terms of visibility, we were interested in exploring the dynamics of recent publications. We asked the following questions: Is there a steady increase in the number of publications on halal meat. What are the main topics of interest? Similarly, we identified methods of analysis. We draw conclusions on the main findings and future directions in halal meat.

2.1 Data search and retrieval

The author's database is taken from Scopus data. Article title as index and Halal meat keyword are used in this research. The search results for journal articles that appeared were journals published from 1990 to 2023 and recorded only 79 articles.

2.2 Article Selection

To ensure that in this research only articles, the author chooses the document type only articles, for book chapters and notes the author does not choose. With these criteria, the intended results are that only 48 articles are generated.

3 Discussion

During the period 2007 to 2023, only 48 articles were published with the title halal meat. Only 1 journal has the most articles published, which is 7 articles. These articles were published in 35

journals. The British Food Journal published 7 articles and the Journal of Islamic Marketing published 6 articles. Other journals have published 1 or 2 articles related to halal meat. Despite the small number of articles published the topic of halal meat has increased every year.

3.1 Halal Meat Regulation

In the first discussion, researchers will focus on regulations related to halal meat. In OIC countries, it is examined how the demand for imported meat functions and provides some policy recommendations for OIC members that can increase intra-OIC halal meat trade. On the import side, the income of the importing country and its population are the main factors responsible for the import demand for halal meat. The results show that halal meat trade among OIC member countries is in danger of being disrupted if the two countries have different schools of thought in terms of the treatment and handling of halal meat. Therefore, OIC countries should cooperate among themselves to establish a common market for halal meat and thus increase intra-OIC halal meat trade (Majeed et al., 2019).

3.2 Halal Slaughter

Next, researchers will discuss halal animal slaughter. The focus of the general discussion regarding halal slaughter is that the animal must be alive and the blood release occurs completely. (A Fuseini et al., 2022), further discussed three methods of halal slaughter, namely slaughter without stunning, stunning before slaughter, and stunning after cutting the neck.

The first method is slaughter without stunning. Some Muslims avoid meat from animals that have been stunned due to doubts about the conformity of stunning with Halal regulations. (Awal Fuseini & Knowles, 2020), about 70% of consumers in the UK showed a preference for meat from animals slaughtered without stunning. The preference for meat slaughtered without stunning appears to be influenced by religious and cultural beliefs. Consumers perceive that slaughter without stunning is a method of slaughter that has a high spiritual quality because it is a method practiced by the Prophet Muhammad.

The slaughter process is inseparable from animal welfare aspects. Things that need to be considered during halal slaughter include competent and qualified slaughter personnel; correct slaughter techniques by cutting all channels (trachea, esophagus, and both blood vessels); the slaughter tool (knife) must be very sharp so that the resulting incision becomes smooth so that it does not hurt the animal too much and does not induce blood clotting factors, the size of the knife is long enough and the tip of the knife is curved outward or at least straight to avoid repeated incisions during reciprocal movements, the knife does not contain elements of nails, teeth and bones, and it is forbidden to sharpen the knife near the animal (Farouk et al., 2016).

The second method is the pre-slaughter stunning method. The critical point in stunning for the meat to be halal is that the animal must be alive but not necessarily conscious at the time of bleeding. The commonly used stunning method in small ruminants is electrical head-only stunning. All halal meat importing countries, including Saudi Arabia, UAE, Kuwait, Qatar and others allow the import of sheep and goat meat that has been stunned by electrical stunning. This is because animals are unlikely to die when stunned with the head-only electric stunning technique.

A commonly used stunning method in large ruminants is mechanical stunning. However, this method is not approved by most halal certification bodies, one of which is the UK Halal Food Authority (HFA) which does not accept any form of stunning in cattle. The stunning method commonly used in poultry is waterbath stunning. The majority of halal certification bodies prefer high frequency stunning because high frequency waterbath stunning is unlikely to kill the birds but the birds are more likely to recover quickly from the stun.

The third method is post-neck slitting stunning. As a general rule, the majority of halal certification bodies approve of non-lethal (reversible) stunning techniques. Post-neck stunning is a potential solution to reduce complications (e.g. obstruction of blood flow) during slaughter without stunning in cattle. From a halal consumer perspective, post-neck stunning guarantees the animal is still alive at the time of neck cutting or bleeding. However, certain certifiers have concerns about the use of penetrating captive-bolt guns as a means of post-neck-cut stunning because of the view that they are the main cause of death rather than blood loss (Fuseini et al. 2022).

A growing number of Islamic jurists approve of stunning under the condition that the stunning method must not cause the death of the animal prior to slaughter (A Fuseini, 2019). Fuseini et al. (2022), in their research mentioned a new stunning system in cattle and poultry that is likely to be accepted by halal certification bodies. In cattle, stunning utilizing microwave energy and Single Pulse Ultra-High Current Stunning (SPUC) is being developed. Animal signs recover from stunning, about 100 seconds after application. This provides sufficient time for the animal to bleed without the risk of recovery during bleeding. In poultry, dry electric stunning is being developed, which is likely to eliminate some of the welfare issues associated with water bath stunning as well as comply with halal regulations.

3.3 Halal Meat Certification

Halal Meat Certification

After knowing the regulations and the slaughter process, the author will discuss certification and accreditation to ensure the halalness of halal meat. In (Zulfakar et al., 2019) research, Australia as a non-Muslim country and also an exporter of Australian halal meat designed a special program to regulate the production of halal meat for the export market to gain the trust of Islamic countries and to ensure religious requirements are strictly adhered to.

Other research (Zulfakar & Chan, 2017) also shows that indeed the most dominant pressure that dictates the norms and mode of operation of the Australian halal meat supply chain is largely shaped by the coercive pressure of the religious requirements of halal meat production itself although operational enforcement is carried out by government agencies and halal certification bodies, the basis of this enforcement action is actually derived and driven by the requirements that have been outlined in Islam. This religious requirement is also what drives Muslim consumers to put extra pressure on both regulatory agencies and meat processing companies to demand halal meat.

In order to ensure the credibility of halal meat certification as well as the halal status of meat and strengthen the integrity of the halal meat supply chain in Australia, only halal inspectors in certain places are authorized to issue Halal Meat Transfer Certificates and official Halal Export Certificates EX237. Halal inspectors act on behalf of halal certifiers and are authorized to issue halal certificates. In addition, the halal inspector is also responsible for verifying incoming halal certificates and has the right to reject meat that arrives without a halal certificate or if he has any doubts about the authenticity of the halal certificate. These requirements need to be fulfilled especially during production to be religiously compliant and fit for consumption by its adherents. Particularly in Malaysia (Mahkota, 2022), there are many issues of halal food scams involving misuse of halal logos and certificates, inappropriate product labeling, and adulteration of halal products with non-halal ingredients especially in imported halal meat so consumers were surveyed to see the level of trust and purchasing behavior among Muslim consumers towards halal meat and its products after the issue of imported meat cartel scandal. The results highlight that this issue has affected Muslim consumers' perceptions of their confidence and purchasing behavior especially on imported meat and meat products. In addition, consumers' confidence and purchasing trends are also reduced towards meat products other than those with the Department of Islamic Development Malaysia (JAKIM) certified halal logo. Based on (Meixner et al., 2018), Austria, correct labeling of halal meat is very important, especially as there are very few labels on food products in conventional grocery stores, for example in Austria or the UK, that indicate whether the product is halal for consumption by Muslims and some of the labels used are misleading.

3.4 Halal Meat Producers

The next stage after knowing the accreditation, the author will then describe the research on the potential of halal meat producers. With the growing Muslim population and increasing purchasing power of Muslims in the Asia Pacific region, the Halal food market is emerging as a potential opportunity for meat producers. However, the strict Halal standard requirements make the entry of beef producers into this potential market often a challenge. This study analyzes the trade potential of the halal beef industry and finds that there are 8 major countries that can export halal meat, namely Argentina, Australia, Brazil, France, Germany, India, Ireland, and the United States. These 8 countries exported at least 50 thousand tons of beef during the period 1990-2011. Secondly, the average beef export during this period was at least 150 thousand tons (Kabir, 2017). In addition to these countries Pakistan as one of the Muslim countries has the potential to export halal meat, it is estimated that Pakistan's total meat production and exports are projected to be 6,078 thousand tons and \$17,477 million in 2029-2030(Magsi & Randhawa, 2021).

3.5 Halal Meat Distribution

Halal meat distribution is also explored. In this section it is explored how the desired minimum separation for Halal meat is preferred in supermarkets, transportation, storage, and terminals; responsibility for Halal logistics; and willingness to pay for Halal logistics in Muslim and non-Muslim countries. The consumer perception survey clearly shows that Muslim consumers care about Halal meat logistics, both in Malaysia and the Netherlands. Therefore, this is an important signal to brand owners that in order to strengthen the Halal integrity of a brand, the logistics of Halal products must also be considered. This study shows that to cater to 80 percent of Muslims

in non-Muslim countries, level 3 segregation is required (no mixing of halal and non-halal meat in the same fridge for supermarkets and no mixing on the same carrier or pallet in transport/storage) for supermarkets, transport and storage. However, for sea and airports only level 2 (no mixing of halal and non-halal meat in the same carton box) is required to meet 80 percent of Muslim consumers in the Netherlands. In Muslim countries, to meet 80 percent of Muslim consumers, level 5 (special) segregation is required for supermarkets and transportation.

In Muslim countries, to cater to 80 per cent of Muslim consumers, level 5 (special) segregation is required for supermarkets, transportation, storage, and sea/air ports. Therefore, this study confirms the need for different Halal-logistics standards for Muslim countries (higher level) and non-Muslim countries. The study confirms that Muslims are willing to pay a premium for Halal meat that follows the Halal-logistics system, with higher levels in Muslim countries compared to non-Muslim countries (Tieman et al., 2013).

After knowing the distribution of halal meat that reaches the store is also important to discuss. Observations in Indonesia (Feriyanto, 2016) show that the first weakness found in the supermarket is the absence of halal logos and certificates on meat loaded and transported on trolleys. The trolley used to transport halal meat may also be used to transport non-halal meat because there is no signboard placed on the trolley to distinguish the trolley for halal and non-halal meat. The second weakness that needs to be improved is that supermarkets must have halal certification from MUI to guarantee that the meat they sell is halal and attach the halal logo and certification in the halal meat area. Therefore, based on the above research, there is a need for technology to ensure halal supply chain.

Research related to the readiness of employees to adopt technology (Masudin, 2020) has been conducted which examines how the relationship between employee readiness to adopt technology in the halal meat retail and manufacturing industry on halal logistics performance. The research shows that the four dimensions of the Technology redanees index in the halal retail and manufacturing sector have a significant influence on the organization's halal logistics performance. For the inhibiting dimensions of the Technology redeassn index, namely the insecurity and inconvenience dimensions, management should have new standards for education levels in staff recruitment and conduct regular training related to the latest technology used in the workplace.

3.6 Halal Meat Consumers

At the end the author will discuss related to halal meat consumers. In Taiwan, research exploring the purchase intention of traditional market consumers in buying halal-labeled chicken as measured by their willingness to pay shows that although the attributes of religious norms still influence a small group of consumers, the majority of halal-labeled chicken consumers in traditional markets are interested in hygiene and animal welfare attributes (Study & Yang, 2019).

Similarly, the majority of British Muslims do not trust large supermarkets when buying halal meat. They will only trust a Muslim who sells halal products in their local shops. Most of the respondents are not aware that supermarkets in their area sell halal meat. The reason why the majority of Muslims buy at local shops is because they know that local shops are more hygienic and the quality of halal meat tends to be better (Ahmed, 2008).

In China in general, positive personal attitudes towards halal meat consumption, peer influence, influence of personal beliefs regarding halal meat consumption, perceived control over halal meat consumption, and perceived availability of halal meat contribute to predicting halal meat consumption intention among Chinese Muslims (Adnan Ali, 2017) (Afzaal Ali et al., 2017). Same with France Positive personal attitudes towards halal meat consumption, peer influence, and perceived control over consuming halal meat predict the intention to consume halal meat among French Muslims (Bonne et al., 2007). For German that in general, positive personal attitude towards Halal meat consumption, motivation to comply with others, perceived control over Halal meat consumption and availability of Halal meat contribute in predicting intention to consume Halal meat among Muslims (Sherwani et al., 2018).

For in pakistan, the purchase of halal meat is based on consumer trust in the halal authenticity of meat. This trust is the basis for consumer decisions to buy meat either from halal butchers, supermarkets, or online shopping. In Pakistan, consumers buy meat from supermarkets that have a halal label (Bhatti et al., 2020). In Malaysia, 70% of respondents interviewed used the internet when shopping for halal meat online. The role and actions of the government and authorities are crucial and must be enhanced to address the rise of online fraud and cheating in the halal supply chain by controlling and inspecting food at every stage of production, processing and packaging. In addition, programs aimed at raising awareness of consumers and company owners can help in tackling halal food fraud (Azizah, 2021).

In Belgium, the determinants of halal meat consumption in the Belgian Muslim migration population were studied using the theory of planned behavior as a conceptual framework, focusing on the role of Muslim self-identity and acculturation in the host country. The study showed that in general, positive health attitudes towards halal meat predicts intention to consume halal meat among Muslims. Lack of perceived safety measures or lack of trust in safety controls proved to be potential barriers that deter Muslim consumers from consuming halal meat. Muslims with low levels of acculturation rely heavily on their positive personal attitudes towards the health status of halal meat, whereas Muslims with high levels of acculturation rely on health attitudes, animal welfare attitudes and safety when intending to consume halal meat. Muslims with high Muslim self-identity intend to consume halal meat because they believe that halal meat is healthy, while Muslims with low Muslim self-identity are more influenced by religious peers, along with personal health attitudes and concerns about its availability (Bonne et al., 2009). In addition, Belgium also found that Islamic institutions and especially Islamic butchers are generally highly trusted in monitoring and controlling the halal status of meat, as well as in communicating halal meat (Bonne & Verbeke, 2008).

The main advantage of the halal meat industry is the production of healthy and natural products. In the research of Gabdrakhmanova (2011), it is stated that consumers are interested in the naturalness of the product and its hygiene. When producing halal meat and meat products, it is prohibited to use chemical additives, flavors, and alcohol-containing components. In the research of Carrasco et al. (2020), examined the effects of 30 days of halal meat consumption on sleep/wake cycles and mood profiles. This potential effect could be due to the higher protein and amino acid content in halal meat compared to non-halal meat. Further research by Carrasco et al. (2022), the

healthier lipid profile contained in halal meat has positive effects on body weight, muscle mass, body fat, and antioxidant status, without altering gut microbiota and levels of biomarkers such as glucose, insulin, or iron.

In reality, the increasing demand for meat may pose a product risk of non-halal ingredients in the halal supply chain. The complexity of ingredients and the length of the supply chain have opportunities for cross-contamination risks of halal meat products. Opportunities for these risk events include mixing, adulteration, mislabeling, and slaughtering that is not in accordance with Sharia law, which are major obstacles in the halal meat industry. Thomas et al. (2015), there is a production of Halal meat and non-Halal meat in an abattoir in the UK. If officers are not given detailed instructions on Halal meat production requirements, especially around cross-contamination, it can pose a risk of cross-contamination that can make the product haram. In addition, there are cases of adulteration of halal meat by mixing it with non-halal meat such as pork (Cheubong et al., 2021). The mixing aims to reduce production costs with a high selling price so as to get a large profit. The case of mixing is of particular concern to Muslims who are very aware of the halal status of their food.

Halal authenticity can be verified using various laboratory analyzers. There are two articles on Multiplex PCR. The focus of the discussion in general discusses multiplex-PCR as a fast and sensitive method for the identification of meat products. Cahyadi et al. (2020), multiplex-PCR with the 12S rRNA gene as the amplification target can be an alternative DNA-based testing method to identify non-halal meat and its derivatives in food. Multiplex-PCR on meat products provides accurate results with a sensitivity value of 0.001 ng so that this technique can be used in implementing stricter control of meat products (Alikord et al., 2017).

Meat adulteration is difficult to detect with the naked eye if the meat has been mixed and processed into other forms. A new tool was developed for quality control by multiplexed high-resolution melting analysis (HRMA). Denyinghot et al. (2022), the detection accuracy reached 100% using beef meatball samples contaminated with 1% non-halal meat. The developed multiplex HRMA can detect DNA amounts of 0.01 ng for non-halal animals. Multiplex HRMA can be used as a rapid technique by providing accurate results to detect non-halal meat contamination in halal meat and as a useful tool to monitor and ensure food quality for the benefit of consumers. Husain and Huda's research (2020), developed research as an alternative to meat substitutes by using gray oyster mushroom stems in the production of chicken nuggets because the texture is comparable to nuggets to maintain the halal status of the product.

Conclusion

This study aims to look at the direction of research development of all papers with the title of halal meat published in reputable journals so that the majority of research in global halal meat can be narrowed down. This paper uses the systematic literature review (SLR) method, which is a method that combines descriptive, exploratory, and inductive elements to answer the research question, namely what is the direction of development of global halal meat research. It is estimated that the demand for halal meat will continue to increase along with the growth of the global Muslim population and due to the quality awareness of halal products. This study reviewed 48 title articles

on halal meat published in reputable journals. There are six research themes in the halal meat supply chain presented, namely regulation, halal slaughter, certification, producers, distribution, and consumers of halal meat. The results of this paper can provide specific directions for the government, researchers, and halal meat industry players. The government can improve and strengthen the regulation of the halal meat industry, for researchers it is a reference for continuing research in the field of halal meat, and for halal meat industry players it can be an opportunity to increase market share. However, this study is not without limitations, first, this study only uses the Scopus electronic database, which may not widely cover all halal meat supply chain studies. Secondly, this study relied on certain keywords in the research stage to answer the research questions, which may not cover a wider range of specific topics. Nevertheless, the findings from this systematic review can provide specific directions to the government, researchers, and halal meat industry players for further interventions.

References

- Ahmed, A. (2008). *Marketing of halal meat in the United Kingdom Supermarkets versus local shops*. 110(7), 655–670. <https://doi.org/10.1108/00070700810887149>
- Ali, Adnan. (2017). *Expanding the theory of planned behaviour to predict Chinese Muslims halal meat purchase intention*. 2–17. <https://doi.org/10.1108/BFJ-05-2017-0278>
- Ali, Afzaal, Xiaoling, G., Sherwani, M., & Ali, A. (2017). *Factors affecting Halal meat purchase intention Evidence from international Muslim students in China*. 119(3), 527–541. <https://doi.org/10.1108/BFJ-10-2016-0455>
- Alikord, M., Kadivar, M., Momtaz, H., Branch, S., & Eshtiaghi, M. N. (2017). *Multiplex-PCR As a Rapid and Sensitive Method for Identification of Meat Species in Halal-Meat Products*. June 2018. <https://doi.org/10.2174/2212798409666170113151213>
- Azizah, S. N. (2021). *Cyber-Crime and Fraud Victimization of Online Halal Meat Shops : A Negative Image Propagation*. 15(1), 158–171. <https://doi.org/10.5281/zenodo.4766540>
- Bhatti, M. A., Godfrey, S. S., Ip, R. H. L., Gaarder, Ø., Aslam, S., Steinheim, G., Wynn, P., David, L., Horneland, R., Eik, L. O., Ådnøy, T., Azher, M., Godfrey, S. S., Ip, R. H. L., Gaarder, Ø., Aslam, S., Steinheim, G., Wynn, P., & Hopkins, D. L. (2020). An exploratory study of Muslim consumers ' halal meat purchasing intentions in Norway. *Acta Agriculturae Scandinavica, Section A — Animal Science*, 0(0), 1–10. <https://doi.org/10.1080/09064702.2020.1842488>
- Bonne, K., & Verbeke, W. (2008). *MEAT Muslim consumer trust in halal meat status and control in Belgium*. 79, 113–123. <https://doi.org/10.1016/j.meatsci.2007.08.007>
- Bonne, K., Vermeir, I., & Bergeaud-blackler, F. (2007). *Determinants of halal meat consumption in France*. 109(5), 367–386. <https://doi.org/10.1108/0070700710746786>
- Bonne, K., Vermeir, I., & Verbeke, W. (2009). *Impact of Religion on Halal Meat Consumption Decision Making in Belgium*. 4438. <https://doi.org/10.1080/08974430802480628>
- Cahyadi, M., Wibowo, T., & Pramono, A. (2020). *A Novel Multiplex-PCR Assay to Detect Three Non-Halal Meats Contained in Meatball using Mitochondrial 12S rRNA Gene*. 40(4), 628–635.
- Chebong, C., Takano, E., Kitayama, Y., & Sunayama, H. (2021). Biosensors and Bioelectronics Molecularly imprinted polymer nanogel-based fluorescence sensing of pork contamination in halal meat extracts. *Biosensors and Bioelectronics*, 172(November 2020), 112775. <https://doi.org/10.1016/j.bios.2020.112775>

- Denyingyhot, A., Srinulgray, T., Mahamad, P., & Ruangprach, A. (2022). Modern on-site tool for monitoring contamination of halal meat with products from five non-halal animals using multiplex polymerase chain reaction coupled with DNA strip. *Food Control*, 132(July 2021), 108540. <https://doi.org/10.1016/j.foodcont.2021.108540>
- Dinar Standard. (2022). *State of the Global Islamic Economy Report*.
- Farouk, M. M., Pufpaff, K. M., & Amir, M. (2016). Industrial halal meat production and animal welfare : A review. *MESC*. <https://doi.org/10.1016/j.meatsci.2016.04.023>
- Faujan, H. (2020). *Potential application of grey oyster mushroom stems as Halal meat replacer in. 4*, 179–186.
- Feriyanto, N. (2016). *Supply chain framework for selling halal meat in retail business*.
- Floren, J., Rasul, T., & Gani, A. (2020). Islamic marketing and consumer behaviour: a systematic literature review. *Journal of Islamic Marketing*, 11(6), 1557–1578. <https://doi.org/10.1108/JIMA-05-2019-0100>
- Fuseini, A. (2019). *The Brain , Unconsciousness and Death : A Critical Appraisal with Regard to Halal Meat Production*. 28, 165–171.
- Fuseini, A., Teye, M., & Lever, J. (2022). *An update on halal slaughter: Current methods and ongoing research on halal meat production techniques and their implications for animal welfare*. *May 1971*, 269–276. <https://doi.org/10.7120/09627286.31.2.010>
- Fuseini, Awal, & Knowles, T. G. (2020). *The ethics of Halal meat consumption : preferences of consumers in England according to the method of slaughter*. *January*. <https://doi.org/10.1136/vr.105287>
- Halal Monitoring Authority. (2023). *GLOBAL HALAL MEAT MARKET TRENDS, GROWTH, DEMAND, FORECAST, 2023 2025*. <https://hmacanada.org/global-halal-meat-market-trends-growth-demand-forecast-2023-2025/>
- Kabir, S. (2017). *Growing Halal Meat Demand : Does Australia Miss Out A Potential Trade Main Title : Growing Halal Meat Demand : Does Australia Overlook A Potential Trade Opportunity ? August*. <https://doi.org/10.1111/1759-3441.12101>
- Magsi, H., & Randhawa, A. A. (2021). *Halal meat production in Pakistan : status and prospects*. 12(5), 941–950. <https://doi.org/10.1108/JIMA-05-2019-0094>
- Mahkota, B. I. (2022). *Malaysian Muslim consumers' awareness, confidence, and purchase behaviour on halal meat and its products after the meat cartel scandal*. 6(December), 273–279.
- Majeed, I., Al-zyoud, H., & Ahmad, N. (2019). *Jurisprudence and demand for halal meat in OIC*. 2013. <https://doi.org/10.1108/BFJ-08-2018-0562>
- Masudin, I. (2020). *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*. 13(3).
- Meixner, O., Friedl, R., & Hartl, B. (2018). *Preferences for Attributes of Halal Meat : Empirical Evidence from the Muslim Community in Vienna , Austria*. 265–278.
- MUI. (2023). *Halal dan Thayyib Lebih dari Sekadar Mutu*. <https://mui.or.id/berita/halal-mui/28246/halal-dan-thayyib-lebih-dari-sekadar-mutu/>
- Naeem, S., Ayyub, R. M., Ishaq, I., Sadiq, S., & Mahmood, T. (2020). Systematic literature review of halal food consumption-qualitative research era 1990-2017. *Journal of Islamic Marketing*, 11(3), 687–707. <https://doi.org/10.1108/JIMA-09-2018-0163>
- PewReserachCenter. (2011). *The Future of the Global Muslim Population*. <https://www.pewresearch.org/religion/2011/01/27/the-future-of-the-global-muslim->

population/

- Sherwani, M., Ali, A., & Ali, A. (2018). *Determinants of halal meat consumption in Germany*. 9(4), 863–883. <https://doi.org/10.1108/JIMA-01-2018-0009>
- Siddaway, A. P., Wood, A. M., & Hedges, L. V. (2018). How to Do a Systematic Review: A Best Practice Guide for Conducting and Reporting Narrative Reviews, Meta-Analyses, and Meta-Syntheses. *Annual Review of Psychology*, 70(1), 747–770.
- Study, C., & Yang, S. (2019). *Do traditional market consumers care about the halal meat label? A case study in Taiwan*. 22(5), 781–794. <https://doi.org/10.22434/IFAMR2018.0102>
- Thomas, A. M., White, G. R. T., & Plant, E. (2015). *Total Quality Management & Business Excellence Challenges and practices in Halal meat preparation : a case study investigation of a UK slaughterhouse*. May, 37–41. <https://doi.org/10.1080/14783363.2015.1044892>
- Tieman, M., Che, M., Jack, G., Tieman, M., & Ghazali, M. C. (2013). *Consumer perception on halal meat logistics*. <https://doi.org/10.1108/BFJ-10/2011-0265>
- Zulfakar, M. H., & Chan, C. (2017). *Institutional forces on Australian halal meat supply chain (AHMSC) operations*. <https://doi.org/10.1108/JIMA-01-2016-0005>
- Zulfakar, M. H., Chan, C., Jie, F., Pandiyan, V., & Sundram, K. (2019). *Halal Accreditation and Certification in a Non- Muslim Country Setting : Insights from Australia Halal Meat Supply Chain*. 8(1), 10–17.