Halal Certification Management in Indonesia

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This study seeks to map research related to halal certification in Indonesia published by Dimensions indexed journals from 2015 to 2023. NVivo 12 Plus was used to conduct thematic studies and frequency was used to evaluate 91 publications in the scientific literature. The results found that the number of publications fluctuates from year to year related to halal certification research in Indonesia, which indicates that this topic is an interesting topic and must continue to be developed. In addition, various focuses of discussion and cluster analysis that describe research paths in halal certification research in Indonesia include Halal Certification Process in Indonesia, Halal Product and Halal Certification in Indonesia, Halal food and Halal Certification in Indonesia, International Trade and Halal Certification in Indonesia, Halal Certification System and Halal Certification in Indonesia, and Industry and Halal Certification in Indonesia. This research can be used as a starting point for experts to build a graphical visualization of halal certification research patterns in Indonesia in published scientific research.

Keywords: Halal certification management, Indonesia, NVivo
INTRODUCTION

The halal industry has experienced significant growth and development in recent years, focusing on the production of halal products that meet the needs of Muslim consumers. According to Darmawati et al. (2023) the halal industry has become the fastest growing global business, reaching 1.8 billion consumers globally with an estimated value of USD 2.1 trillion. Consumer spending on halal food, with total global Muslim consumer spending of USD 1.17 trillion in 2019, is expected to continue to increase to USD 1.38 trillion by 2024 (Kashim et al., 2023). Indonesia itself, as the country with the largest Muslim majority in the world, plays an important role in the growth of the global halal industry. The Royal Islamic Strategic Studies Center (RISSC) report estimates that 237.56 million Indonesians, or 86.7% of the total population, are Muslims. This large Muslim population makes Indonesia a promising market for halal products and services. In addition, awareness of the halal status of a product is increasing among consumers, especially after the COVID-19 pandemic. For most Indonesians, halal labeling is an important aspect that they consider when making purchases (Nabila, 2023).

The Indonesian government has required halal certification for all products ranging from food, cosmetics, to medicines based on the rules of Law No. 33 of 2014 concerning Halal Product Guarantee (Oemar et al., 2022). The certification process is divided into two types, namely the general process for large-scale businesses and the self-declarative process for MSMEs. The Halal Product Guarantee Agency is responsible for the certification process, and businesses must apply to the agency to obtain certification. The certification process covers halal-based ingredients and production, including storage, packaging, display and sale of products (Ruhana, 2021). This explains that halal certification is a process to ensure products comply with Islamic law and do not contain prohibited substances.

Halal certification offers many benefits to both businesses and consumers. Halal certification provides consumers with an added layer of protection, ensuring that the food they buy is safe and free from contaminants. Halal certification bodies have strict requirements for food production, handling, and labeling, which can result in more sales and better return on investment (ROI) for businesses. In addition, halal certification promotes transparency in the production process, allowing consumers to make informed decisions about the products they consume. Displaying the halal logo on products, websites and marketing materials can help businesses attract a larger customer base, including Muslim consumers and those who prefer halal products. Furthermore, with more and more businesses obtaining halal certification, it is increasingly important for businesses to obtain certification to remain competitive and demonstrate their commitment to producing safe and high-quality halal-certified products. Halal certification can also help businesses streamline their supply chain and reduce the risk of cross-contamination. Furthermore, halal certification allows businesses to tap into the growing global halal market, which is estimated to be worth trillions of US dollars. Lastly, obtaining halal certification opens these businesses to an entirely new halal consumer market, increasing the potential customer base for the company's products and services (Department of Halal Certification EU, 2023).

However, despite this, Indonesia still faces a number of challenges and problems in implementing halal certification as a whole. According to Mubarok & Imam (2020), one of the problems in implementing halal certification is the lack of knowledge about how to manage the certification process, which can make it difficult for businesses to obtain certification. In addition, Ruhana (2021) explains in detail the challenges faced by the Indonesian government, including the infrastructure aspect being one of the challenges in implementing halal certification in Indonesia. This includes the lack of halal-certified facilities and equipment, making it difficult for businesses to produce halal-certified products. Technical aspects are also another challenge in the implementation of halal certification in Indonesia. This includes the lack of technical expertise and knowledge in halal certification, which can make it difficult for businesses to obtain certification. The regulatory aspect is also a challenge in the implementation of halal certification in Indonesia. This includes the lack of clear regulations and guidelines regarding halal certification, which can make it difficult for businesses to understand the certification process. The inter-relational aspect is another challenge in implementing halal certification in Indonesia. This includes the lack of cooperation and coordination between halal certification bodies, businesses, and government agencies, which can lead to confusion and delays in the certification process (Ruhana, 2021). Despite these challenges, the Indonesian government has sought to optimize the halal certification process to find the right balance between consumer and business interests (Syahida & Nabillah, 2020). The government...
has also implemented regulations and guidelines to ensure the safety and quality of halal-certified products.

To answer these challenges, and solve problems in terms of Indonesian halal certification, research is needed that can specifically examine and map the development of research related to Indonesian halal certification. One of the analytical tools that can be used to deepen this research is NVivo. NVivo analysis can be used to find out and visualize keywords, research developments or research topics on a topic, which in this study is Indonesian halal certification. A number of relevant studies include Ruhana (2021) examining research related to Halal certification. The results of the analysis show that the number of publications regarding the development of halal certification in Indonesia has increased significantly. The most popular keyword topics are halal, product, and Indonesia. Based on the literature, there are at least 4 aspects of the problem of implementing halal certification in Indonesia, namely: infrastructure, technical, regulatory, and inter-relational aspects.

Othman et all (2016) examined the potential implementation of halal certification in ASEAN. The results of this study show that ASEAN countries (Malaysia, Indonesia, Singapore, Brunei, Thailand, Vietnam, and the Philippines) have similarities and differences in implementing halal. However, the findings prove that all countries are even in line in placing sharia as a guide by following the Quran and Sunnah as a reference. In addition, this study also shows that not all countries have the same infrastructure and capabilities in technology and standard preparation.

Fauzi (2023) reviewed relevant studies on consumer purchases of halal-certified products. The results found there are five streams of research drawn from this systematic review, the context of halal studies, adapted theories, covariance-based structural equation modeling (SEM) vs partial least squares SEM, Muslim vs non-Muslim consumers and the role of religiosity. Although there is an increasing interest in quantitative approaches in consumer purchase behavior on halal-certified products, researchers in halal consumer studies should have greater efforts. This includes incorporating various theories in the framework, sophisticated SEM approaches, and relevant determinants to capture consumer purchases of halal-certified products in the highly anticipated and lucrative Muslim market. Hiya & Nawawi (2021) examined the dynamics of halal certification research in Indonesia. The results found that research related to Halal Certification mostly discussed the regulations for implementing halal certification as many as 6 articles (33%), then discussed how the halal certification process was 5 articles (28%) followed by a discussion of the impact of halal certification on the economy and socialization of 4 and 3 articles respectively.

Based on these studies, there is no research that specifically examines halal certification in Indonesia using NVivo analysis. Therefore, this study seeks to map research related to halal certification in Indonesia published by Dimension indexed journals from 2015 to 2023.

**METHODOLOGY**

As for the analysis of this 91 paper, it combines qualitative methods with descriptive statistics. Qualitative deepening is a research technique that focuses on exploring the meaning, characteristics, symptoms, understanding, concepts, symbols, and descriptions of a phenomenon using many methodologies and narrative styles. Qualitative methods are seeking, collecting, evaluating, and interpreting extensive visual and narrative data to gain deeper knowledge about an event or topic of interest. Descriptive research is qualitative in nature; it studies the techniques of collecting, compiling, and summarizing research data in a statistical discipline. Data must be frequently and adequately summarized for evaluation in tables, graphs, and other graphical displays. In addition, other advantages of qualitative methods are richness in data collection, valid coding, and reliable interpretation (Moretti et al., 2011).

Furthermore, the research process used NVivo 12 Plus software. NVivo, one of today's most popular qualitative data management programs has its roots in NUD*IST. Software developers have described it as an improved and expanded version of NUD*IST3. NVivo has features such as character-based coding, rich text analysis capabilities, and multimedia functions that are essential for qualitative data management. One of NVivo's strengths lies in its high compatibility with research design. The software is not methodologically specific and works well with a variety of qualitative research designs and data analysis methods such as discourse analysis, grounded theory, conversation analysis, ethnography, literature review, phenomenology, and mixed methods (Zamawe, 2015). In addition, another advantage of using NVivo 12 Plus is that it can collect, organize, analyze, and visualize unstructured or semi-structured data by importing data in various file formats, organizing demographic data, source code,
capturing ideas, running queries, and visualizing project items (Izza & Rusydiana, 2022).

Finally, data in excel and csv formats are processed and then analyzed using NVivo 12 Plus software to automatically utilize and separate data in files with sentences, paragraphs, or unique text strings by utilizing the autocode wizard. From the sources analyzed, the Auto Code Wizard is then used to provide results related to the topic of halal certification in Indonesia.

RESULTS
Word Frequency Query

![Figure 1. Wordcloud of Halal Certification or Assurance in Indonesia](image1)

The analysis through the word frequency tool aims to find the research problem with the highest repetition in terms of the searched material. Frequently used words and terms in the text are shown in Figure 1 based on automatic coding. The word size in the word frequency results shows a higher frequency of occurrence than others.

Based on the results of word frequency from 91 Scopus indexed publications on the theme of halal certification or halal assurance in Indonesia obtained from mapping and percentages calculated automatically by NVivo 12 Plus Wizard. The words with the highest frequency in journals published after the word halal are "food" with a percentage of 1.43%, followed by "certification" at 1.39%, and followed by the third highest word, namely "products" at 1.23%. In addition, the automatic coding results also show several other interesting terms such as tourism, business, value, industry, assurance, quality, chain, management, supply, government, awareness, certified, and others.

![Figure 2. Hierarchy Chart "Title"](image2)
Based on the coding, the automatically generated hierarchical chart on the title brings up several relevant words that appear frequently, including halal, halal certification, food, and products. Among these charts, the word "halal" has a larger square size than the others.

**Figure 3. Hierarchy Chart "Author's Keywords"**

Based on the coding, it automatically generates a hierarchical chart based on the author's keywords. Figure 3 presents the relevant words that often appear including certification, food, and products. The word "certification" has a larger square size than the others.

**Figure 4. Hierarchy Chart "Abstract"**

Based on the coding, it automatically generates a hierarchical chart based on the abstract. Figure 4 presents some relevant words that appear frequently, including halal, products, certification, and food. The word "halal" has a larger square size than the others.
The next tool presented from Word Frequency analysis is a treemap. A treemap is a diagram that shows data in hierarchical order, as a collection of nested rectangles with different dimensions, sizes, and shapes. The size shows the number by frequency and percentage. Treemaps are scaled to fit the space offered. The size of the rectangles should be considered in the network's relationship to each other which results in a larger area view at the top left of the chart, versus, a smaller rectangle view at the bottom right (Help NVivo, 2020). From the Word frequency analysis in the form of a treemap generated from this analysis has shown three different aspects of halal certification or halal assurance in Indonesia:

- **Concerns** consists of several terms namely: Halal, Certification, and Indonesia;
- **Focus** consists of several terms namely: Food, Products, Tourism, SMEs, and Industry;
- **Anecdotes** consist of several terms, namely: Quality, Chain, Consumption, Enterprises, Awareness, Marketing, Supply, Branding, Certificate, Application, and Standard.

Furthermore, figure 6 shows cluster analysis, which is a technique used in exploring and visualizing patterns in the theme of halal certification or halal assurance in Indonesia in general in scientific research by grouping similar or related sources or words using automatic codes from NVivo 12 software based on title, abstract, and author's keywords. This is used to obtain detailed and comprehensive results so that it can determine the research path related to halal certification research or halal assurance in Indonesia. There are 6 main clusters in general that group words and their relationships.

- **Cluster 1 Halal Certification Process in Indonesia**

  Santoso et al (2021) analyzed problems and solutions for food and beverage SMEs (Ecraf) related to the Halal Certification Process and Perceptions of Halal Certification Costs with Actors' Intentions to obtain halal certificates. The results showed that the halal certification process (with assistance) has a very
strong correlation with the intention of the perpetrator and is significant, the perception of the cost of halal certification (with the cost of halal certification obtained). subsidized) has a strong correlation with the intention of the perpetrator and is significant, the Halal Certification Process has a strong correlation with the perception of the cost of Halal Certification perceived by the perpetrator and is significant, the Halal certification process and the perception of the cost of Halal certification with the intention of the perpetrator is very strong and significant. The halal certification process and the perception of the cost of halal certification, both individually and together, correlate with the intentions of food and beverage creative economy actors (MSMEs).

Faridah (2019) describes the history, development, and implementation of halal certification in Indonesia, one of which is before and after the issuance of the law on Halal Product Guarantee (Halal Law). It is necessary to guarantee halal products for products that enter or circulate in Indonesia. Halal guarantees in Indonesia are regulated by the Government through laws and regulations. The halalness of a product can be determined by conducting halal certification by examining the product starting from the selection of raw materials, the production process, to the final product. The halal certification process in Indonesia has developed. Initially, halal certification in Indonesia was taken over by the Indonesian Ulema Council (MUI) which is a civil society movement that has state support. However, after the issuance of the Halal Law, the authority for halal certification was transferred to the Halal Product Guarantee Agency (BPJPH) which is an independent state institution under the Ministry of Religion of the Republic of Indonesia. This was also followed by several changes in several policies related to halal certification. Halal certification, which was originally voluntary and did not have strong legal legitimacy, is now mandatory for business actors. The implementation of the Halal Law starts on October 17, 2019 and will be carried out in stages.

- Cluster 2 Halal Product and Halal Certification in Indonesia

Septiani & Ridlwan (2020) explain the effect of halal certification and customer halal awareness on the intention to buy halal food products. Halal has become part of lifestyles around the world so that demand for services is increasing on a large industrial and economic scale. The results of this study indicate that the variables of halal certification and halal awareness both partially have a positive effect on the purchase intention of halal food products. Meanwhile, the two variables simultaneously, namely halal certification and halal awareness, also have a positive influence on the purchase intention of halal food products.

Widyanto & Sitohang (2022) investigated the antecedents of Muslim millennials’ purchase intention towards halal-certified cosmetics and pharmaceutical products. The results showed that attitude mediated all exogenous variables fully and/or partially. Religiosity and subjective norms were found to have no direct and significant relationship with purchase intention, but indirectly influence purchase intention through attitude. Finally, both halal knowledge and halal certification have partial mediation with purchase intention through attitude as the mediating variable. By understanding the relationship between the latent constructs, halal industry players can use these findings to better understand the urgency and importance of the halal aspects of their products, particularly halal certification, with respect to the Muslim millennial generation, and design appropriate policies and strategies to capture the increasingly potential market share.

Usman et al (2021) analyzed between awareness of halal food products and awareness of halal certified food products. The results revealed that halal awareness is a different concept from halal certified awareness; knowledge of halal is a different concept from knowledge of halal certificates; awareness is the result of knowledge, but knowledge is not the result of awareness; halal awareness has a significant effect on halal certified awareness; knowledge of halal certificates has a significant effect on halal certified awareness, but knowledge of halal has no significant effect; knowledge of halal certificates is not influenced by halal knowledge and halal awareness; and exposure and religious commitment have an important role in increasing knowledge and awareness.

Another study, Setyaningsih & Marwansyah (2019) examined the effect of halal certification and halal awareness through interest in purchasing decisions for halal food products. The results of the analysis show that halal certification and halal awareness have a positive effect on consumer decisions. Abdul et al (2013) studied Indonesian small and medium enterprises (SMEs) and perceptions of halal food certification. Rattasari et al (2018) examined halal food certification to improve the competitiveness of eastern and medium-sized businesses in Indonesia.

- Cluster 3 Halal food and Halal Certification in Indonesia
Oemar et al (2023) explain awareness and intention to register halal certification in micro and small scale food businesses. The results showed that halal awareness is influenced by knowledge about halal and perceived benefits. In addition, halal awareness has a positive effect on the intention to obtain halal certification, but this intention is not significantly influenced by attitudes towards producing halal food and perceptions of procedures for obtaining halal certification. This shows that halal awareness will increase the intention to apply for halal certification. However, misunderstandings about the procedures for obtaining halal certificates make them reluctant to register.

Anggarkasih & Resma (2022) explain the importance of halal certification of processed food to increase export opportunities and review the government's real steps in implementing Halal Certification for SMEs. As the country with the largest Muslim population, Indonesia has the potential to become the largest exporter of halal food products globally, especially to OIC countries with demands for fulfillment of halal product guarantees and food safety. Currently, BPJPH is in charge of organizing halal product guarantees in Indonesia, and MUI remains the party authorized to issue fatwas to determine halalness. This fatwa will be submitted to BPJPH as the basis for issuing halal certificates. The halal certification and assurance system designed and implemented by MUI has also been recognized and even adopted by halal certification bodies abroad. Promoting halal certification for SMEs is an important strategy in increasing food exports. In addition, it is also an obligation to comply with Law Number 33 of 2014 concerning Halal Product Guarantee (JPH Law). Halal certification significantly increases the marketability of SME products.

Septiani & Ridwan (2020) analyzed the effect of halal certification and customer halal awareness on purchase intention of halal food products. The results of this study indicate that the variables of halal certification and halal awareness both partially have a positive effect on the purchase intention of halal food products. Meanwhile, the two variables simultaneously, namely halal certification and halal awareness, also have a positive influence on the purchase intention of halal food products. Katuk et al (2021) examined the attributes of food operators and their attitudes towards halal certification in Indonesia. The results showed that food operators who have halal certification can be characterized by the number of business branches owned, knowledge of halal tourism and knowledge of market segments. However, the age of their business was found to be unrelated to halal certification. In terms of attitude, this study found that performance beliefs, intention to apply, and target market segment are related to halal certification.

- Cluster 4 International Trade and Halal Certification in Indonesia

Hamzah et al (2019) analyzed Indonesia's national law on halal certification and how to resolve disputes between Brazil and Indonesia regarding chicken meat import issues. Trade activities are one of the drivers of development in a country in order to obtain national development. In the current era of globalization, trade activities opened between countries have developed quite rapidly. Indonesia has become a spinning wheel in international trade activities. Indonesia is actively involved in several negotiations regarding international trade and actively supports national development. By becoming a member of the World Trade Organization, Indonesia has carried out important export activities to all parts of the world. Indonesia itself has special rules regarding essential goods, especially foodstuffs. Indonesia stopped importing chicken because there is no halal label on the foodstuff. Indonesia is a predominantly Muslim country. The food consumed by Muslims in Indonesia is not only safe and healthy, but also halal. As a result of this rule, Brazil suffered considerable losses and filed a lawsuit at the WTO.

- Cluster 5 Halal Certification System in Indonesia

Faidah (2017) examines halal certification in Indonesia from civil society to power relations between the state and religion. The results of his research state that before the enactment of the JPH Law, the halal certification system was under the supervision of the Indonesian Ulema Council (MUI) through the Institute for Food, Drug and Cosmetics Assessment (LPPOM). The MUI fatwa commission is responsible for determining halal products, and halal labels are issued by the Food and Drug Monitoring Agency (BPOM). However, this structure causes weaknesses in LPPOM’s position as it does not have the authority to force manufacturers to certify, as halal certification is voluntary and not mandatory. In addition, the function of supervision and enforcement is also weak because there is no legal provision that requires companies to certify their products. However, with the JPH Law, the dualism of halal certification institutions is eliminated and becomes the authority of the Ministry of Religion.
This provides a strong legal basis for requiring halal certification for products and improving the monitoring and supervision system for halal products.

Akim et al (2019) describe the shift in the halal certification system in Indonesia from society-centric to state-centric. This study explains in detail the needs of domestic consumers for a legally strong halal guarantee system and the spread of global halal trends, which led to the birth of Law Number 33 of 2014. The law makes halal certification mandatory, not voluntary, whose supervision is carried out through the regulation of LPPOM MUI transferred to the supervision of the Ministry of Religion through the Halal Product Guarantee Agency (BPJPH). The results showed that the state-centered halal certification system has more benefits than the community-centered system implemented in Indonesia before. However, it cannot be proven because the new system has not yet been implemented and the supporting infrastructure is not really ready to operate.

Warto & Samsuri (2020) explain halal certification and its implications for the halal product business in Indonesia. The results of the study concluded that halal product certification has positive implications in building a halal business climate in Indonesia. For consumers, halal certification provides protection, assurance, information on product halalness and becomes an instrument of business ethics. For business actors, halal certification provides benefits to increase consumer confidence and reach the global halal food market.

Other relevant studies include; Prabowo & Rahman (2016) discussing halal certification in the agricultural product processing industry sector; Anggarkash & Resma (2022) analyzing the importance of halal certification of processed food by SMEs to increase export opportunities; Hidayat & Afrizal (2022) explaining the application system for checking the status of halal products using Android and Web-based QR-Code; Park (2016) examines a comparative study of the determination of halal certification policy Key Players between Indonesia and Malaysia; and. Shalihin & Hidayati (2020) explaining the lean service approach to the halal certification service system using cost integrated value stream mapping.

- Cluster 6 Industry and Halal Certification in Indonesia

Suharko et al (2018) discuss the institutional suitability of the Halal Certification Organization (HCO) for the development of the Halal Tourism Industry (HTI). It seeks to understand how HCOs, which provide Halal certification for various products in the tourism industry, make institutional adjustments to changes in the surrounding environment. Although the organizational form and structure have not changed, both HCOs have developed innovative functions and measures to adapt to the institutional pressures of HTI. Adapting to the rapid development of HTI, the two HCOs provide Halal certificates for the protection of Muslim consumers, increase the export of goods to a number of Muslim countries, and provide Halal tourism services to enhance the competitiveness of their respective Halal tourism destinations.

Yusup et al (2022) explain the mechanisms and procedures for Halal Industry Certification, opportunities and challenges, and Halal Industry subsectors that can be developed in Bandung, Indonesia. Products and services that do not have a halal mark are considered for consumption. Therefore, some Muslim countries have a Halal Certification Agency. For example, the Institute for the Assessment of Food, Drugs and Cosmetics - Indonesian Ulema Council, known as LPPOM MUI in Indonesia. However, many food and service industry players only see this certification as a license. The perception of the halal certification process is expensive and creates several obstacles in its implementation.

Prabowo et al (2015) explored various factors that hinder halal certification in the food service industry in East Kalimantan, Indonesia. The results found that through NGT, the authors were able to obtain the top priority issues to be followed up by the relevant agencies concerned. Lack of socialization and information leads to lack of knowledge and awareness. This is the most important issue addressed by the participants.

CONCLUSION

This study aims to identify and map research related to the extent of the development of halal certification research in Indonesia in the scientific literature. The results show that there are 208 paper publications from 2008-2023 with Digital-Object-Identifier (DOI) indexed by Dimensions.

In addition, this review includes metadata information, co-occurrence, and sentiment analysis. This study also found that the number of publications fluctuates from year to year related to halal certification research in Indonesia, which indicates that this topic is an interesting topic and must continue to be developed. In addition, various focuses of discussion and cluster analysis that describe the research path in halal...
certification research in Indonesia include Halal Certification Process in Indonesia, Halal Product and Halal Certification in Indonesia, Halal food and Halal Certification in Indonesia, International Trade and Halal Certification in Indonesia, Halal Certification System and Halal Certification in Indonesia, and Industry and Halal Certification in Indonesia. Thus, the results of this study are expected to be used as a basic reference to see how graphical visualization of the development of halal certification research trends in Indonesia in published scientific research so that it can be further developed by experts. Recommendations for further research can refer to the most popular keywords that can be discussed further. In addition, it is possible to conduct a more complete bibliometric analysis with other types of software. Finally, it should be noted that this study has limitations in that the time frame is limited and the results offered are still dynamic. Suggestions for future research could use better databases such as Scopus or WoS and other sources for better results.

REFERENCES


