



Strategy to Strengthen the Halal Slaughterhouse Industry in Indonesia

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Abstract. There are three types of slaughterhouse management in Indonesia, namely: by the government, individuals and the private sector, each with different management standards. This research aims to analyze strategies for strengthening halal slaughterhouses. The analysis method uses Analytical Hierarchy Process (AHP) and Important Performance Analysis (IPA) from expert judgment data representing bureaucrats, academics and practitioner. The results of the AHP show that the priority strategy for strengthening the halal slaughterhouse industry is certification for slaughterhouses and meat retailers as well as training for halal slaughterhouses and human resources. Halal performance attributes that are prioritized be improved by the three slaughterhouse managements are hygienic carcass cutting process and the presence of halal supervisors.

Abstrak. Terdapat tiga jenis pengelolaan rumah potong hewan di Indonesia, yaitu oleh pemerintah, perorangan dan swasta, yang masing-masing memiliki standar pengelolaan yang berbeda. Penelitian ini bertujuan untuk menganalisis strategi penguatan rumah potong hewan halal. Metode analisis yang digunakan adalah Analytical Hierarchy Process (AHP) dan Important Performance Analysis (IPA) dari data expert judgment yang mewakili birokrat, akademisi dan praktisi. Hasil AHP menunjukkan bahwa strategi prioritas penguatan industri rumah potong hewan halal adalah sertifikasi bagi rumah potong hewan dan pengecer daging serta pelatihan bagi rumah potong hewan halal dan sumber daya manusia. Atribut kinerja halal yang diprioritaskan untuk ditingkatkan oleh ketiga pengelola rumah potong hewan tersebut adalah proses pemotongan karkas yang higienis dan keberadaan pengawas halal.



INTRODUCTION

Indonesia is a country with the second largest Muslim population in the world (after Pakistan), which is home to an estimated 236 million Muslims (Wiguna, 2024). This is 88.25% of the Indonesian population and nearly 13% of the world's Muslim population (World Population Review, 2021). The large Muslim population is an opportunity for Indonesia to develop Islamic economics. The Government of Indonesia (GOI) is preparing various policies and programs to become a leading sharia economic center in the world by 2024. One of the efforts is to establish the National Sharia Finance Committee (KNKS) in 2016 which was transformed into the National Sharia Economy and Finance Committee (KNEKS) based on Presidential Regulation (Perpres) Number 28 of 2010. Until 2023, Indonesia's ranking based on the Global Islamic Economy Indicator (GIEI) will still be below Malaysia and the UAE (DinarStandard, 2024).

Consumer spending in the global Islamic economy, which continues to increase, is an opportunity for Indonesia to achieve the target of being the world's leading sharia economic center by 2024. In 2022 consumer spending in the global Islamic economy real sectors grew 9.5% YOY. The biggest contribution was from halal food which reached 61.27%, other contributions from modest fashion, media recreation, Muslim friendly travel, halal cosmetics, and halal pharma (IMARC, 2024).

Market size of global halal food in 2023 reaches US\$ 2,467.9 billion (IMARC, 2024). The market is mostly driven because of the growing Muslim population, and increasing awareness of health and safety concerns. According to Global Muslim Population (2024), the proportion of the Muslim population is around 25% of the world population which is 8.12 billion or around 2.03 billion. The growth of the world's Muslim community is also the fastest compared to the growth of other religious communities, especially in Europe and the United States. The growth of the Muslim community comes from the fertility of the Muslim community, migration and religious conversion from non-Islam to Islam.

Increasing awareness of health and safety concerns regarding halal products has also attracted non-Muslim communities to consume halal products. For non-Muslims there is no prohibition on consuming halal products. On the contrary, they believe that halal and good products (*halalan thayiban*) are healthier for consumers. Especially if the definition of halal is further expanded. Not only the material, but also the process from procurement of raw materials, production process, to distribution to consumers, everything is done in a halal manner.

Indonesia needs to strengthen the halal ecosystem to capture market opportunities and make Indonesia the world's halal food center through developing the halal food industry. The development of the halal food industry requires halal value chain management from upstream to downstream, to ensure the halal quality of products and services. One of the upstream parts of the halal value chain is a slaughterhouse that provides meat products, where the risk of non-halalness is very high (LPPOM MUI, 2022), so a halal certificate is needed.

In Indonesia, slaughterhouses are classified into 4 types based on slaughtering capacity and facilities available. Type D, namely slaughterhouses in sub-districts, the slaughtered meat only circulates in that area. Type C, the slaughter room meets the requirements with the number of slaughter between 5 and 15 cattle, and the slaughtered meat is distributed within the inter-district area. Type B, namely a slaughterhouse that meets the requirements for a type C slaughterhouse, has a chilling room and has a refrigerator truck. Meat from slaughter is distributed between provinces within a country. The number of livestock slaughtered is more than 25 cows (large livestock). Type A, namely the slaughterhouse has met the requirements of type B plus the availability of laboratories and experts who can recommend that the meat produced is free from residues, antibiotics, hormones, heavy metals, insecticides and residues of radiation

or other radioactive materials. Meat produced by type A slaughterhouses can be sent or circulated between countries (exports).

Type C is generally individually owned by carcass traders in traditional markets. Types D and B are managed by local governments, while type A is a commercial slaughterhouse, managed by the private sector or BUMN. The number of all types is 1644 slaughterhouses, but only 523 (31.81%) have been certified halal (BPJPH, 2024). To realize halal industrial slaughterhouses, it is necessary to improve all supporting infrastructure, both physical infrastructure and institutional infrastructure. This improvement involves many stakeholders starting from the government, business actors and the community who use halal slaughterhouse products. The large amount of infrastructure that needs to be improved, as well as the many stakeholders (actors) involved, requires a priority scale so that the strategy for strengthening halal slaughterhouses is effective. This research aims to analyze strategies for strengthening halal slaughterhouses industry in Indonesia. Strategies at the regulatory level (government level) were analyzed using the Analytical Hierarchy Process (AHP) method, and strategies at the slaughterhouse level were analyzed using the Important Performance Analysis (IPA) method.

LITERATURE REVIEW

Halal Policy in Indonesia

The government of Indonesia (GOI), determines that a food product is declared halal if the production process has passed an audit by the LPPOM (Institute for the Study of Food, Drugs & Cosmetics), and attaches a halal label to the product packaging. Halal decisions are taken from fatwas, legal opinions issued by scholars based on interpretations of verses from the Koran (holy book) and hadith (records of the behavior or sayings of the prophet Muhammad) (Mehmood et al., 2015). Rules regarding consumer protection, certainty halal food producers in fulfilling obligations regarding halal products for consumers, and adequate halal food trade facilities at scale national and international as stipulated in Law no. 33 of 2014. Producers, the obligation to provide halal products is regulated in Law no. 33 of 2014. According to Ratanamaneichat and Rakkarn (2013), developing the halal food industry is important in order to protect consumers Muslims from consuming non-halal products and increasing economic value in the field halal food exports.

The halal standard policy set by GOI is parameters that must be adhered to by food industries. Standards are set through consensus committee consisting of producers, policy makers, consumers, and other people with relevant interests (Ahmad et al., 2017). According to Mol (2014), standards are guidelines that can be accepted both nationally and internationally international regulations (voluntary or mandatory) that apply in aspects of food production, handling, marketing and trade oriented towards improvement and guaranteeing food safety and quality. Standards are set through consensus committee consisting of producers, policy makers, consumers, and others with relevant interests (Ahmad et al., 2017). The halal guarantee standard is form of control over the integrity of halal food.

Halal Food

The definition of halal food has two meanings. Firstly, food sources are obtained legally and free from fraudulent sources called halal ethics. Second, halal in terms of the type or category that must be consumed like animals or ingredients contained in food which is approved by Islam, through physical considerations that have permission Ratanamaneichat and Rakkarn (2013). The main halal management practice is maintaining halal status processing starting from slaughtering, washing and cleaning, packaging, storage, to transportation, and sales. Relevant practice related to personnel and guaranteed cleanliness of the premises for safety, good manufacturing practices, storage and distribution.

Halal food cannot be separated from the safety properties of food products which are in one unit, namely *halalan thoyyiban*. The word *thoyyib* is Arabic which means good. In Islam, the sentence *thoyyib* is in perspective. Food has meaning in the goodness of the contents contained within the food itself contains nutrients, vitamins and other good things needed in the body. *Thoyyib* is a quality standard for food means good, both in terms of nutrition and the content contained in it (Ali and Suleiman, 2018).

Regulations regarding food safety are written in government regulations RI No. 28 of 2004 concerning Food Safety, Quality and Nutrition, GOI Law no. 7 1996 concerning food, and Republic of Indonesia Law no. 8 of 1999 concerning protection consumer. Food safety is an important requirement that must be adhered to food that all Indonesian people want to consume. Production quality and safe food can be produced from food industry that maintains the integrity of halal food as long as it is halal guaranteed and cleanliness standards are implemented according to the halal certificate guarantee and food quality safety standards.

Slaughter House

Law No. 41 of 2014 concerning animal husbandry and animal health states that every regency in Indonesia must have an animal slaughterhouse that meets the applicable requirements. Animal slaughter businesses based on the completeness of carcass withering facilities can be divided into 2 (two) categories, namely category I is animal slaughter businesses without withering facilities to produce warm carcasses and category II is animal slaughter businesses equipped with withering facilities to produce cold carcasses or frozen carcasses (Minister of Agriculture Regulation 13/2010).

The requirements and implementation of a sanitary hygiene system in slaughterhouses is a process to obtain food of animal origin in the form of meat that is safe, healthy, whole and halal. Meat is said to be healthy and safe if it does not contain pathogenic bacteria that cause disease and residues when consumed by the public (Rohyati et al., 2017). Kuntoro et al. (2012) stated that bacterial contamination in meat must be minimized in order to obtain good quality and healthy meat. To obtain healthy and quality meat, sanitation and hygiene must be implemented in every slaughterhouse.

The government of Indonesia is trying to monitor the supply of halal meat by giving advice to livestock businesses to implement the criteria regulated by the Veterinary Ministry. Determining Veterinary Control Numbers (NKV) for food production facilities of animal origin is one of the government's monitoring efforts. NKV is a form of documentation that is legally registered in a livestock industry that has implemented hygienic and sanitation practices as a reference for food safety suitability.

The food safety assurance system makes NKV a requirement in the evaluation guidelines to be able to implement Standard Sanitation Operational Procedures (SSOP) and Good Slaughtering Practice (GSP) in slaughterhouses. GSP is a requirement for slaughterhouses to obtain NKV through a good production process starting from the process of bringing in livestock, halal slaughter, to distributing the meat to consumers. SSOP has an important function in an industry in carrying out its activities. According to Harris and Jeff (2003), to carry out GSP, the factors that must be considered are facilities, livestock reception, exsanguination (removal of blood), evisceration (removal of viscera), sanitation, final trimming and carcass washing. Meanwhile, to carry out SSOP, the conditions that must be considered are water sanitation, location/area, and clean surfaces that come into direct contact with food, avoiding cross-contamination, cleanliness of staff, protection against the origin of contamination, use of toxic products, employee health checks, and guarding against nuisance animals (Soeprapto and Adriyani, 2009).

Slaughterhouse Higienies

The main aspect that causes microorganism contamination of a food product is the implementation of a sanitation and hygiene system that is not optimal in terms of site, personal hygiene and the handling

process. Apart from that, other causes of microbial contamination of meat are the water used during the slaughtering process at the slaughterhouse and personal hygiene which is involved in the livestock handling process right up to the carcass/meat handling process. According to Aerita (2014) that food products of animal origin are very susceptible to contamination from slaughter areas such as water, dust, soil and air. A good handling method to avoid *E.coli* contamination is to pay attention to and avoid the potential for contamination such as direct contact between the carcass/meat and the floor during the skinning process. The water source used for production activities at this slaughterhouse comes from drilled wells. Therefore, it is best to have water tested periodically so that its quality can be determined.

Fikri et al. (2017) stated that to avoid cross-contamination through the floor, skinning should be done by hanging the carcass first and sterilizing the supporting facilities that will be used. The same opinion was also expressed by Tolistiawaty et al. (2015) that post-slaughter is a critical point for microbial contamination, namely during skinning, removing the innards and during packaging.

Apart from the factors above, previous research has proven that contamination can be caused by equipment used during the production process and means of transportation that do not meet cleanliness standards. Contamination can also occur if the equipment used during the production process up to the distribution stage is not sterilized first (Ahmad et al., 2017). Sugiyoto et al. (2015) said that if the equipment used for slaughter is not sterilized first, then microorganisms can move from the livestock's body during bleeding and will cause contamination. Elsie and Harahap (2016) stated that the factor causing the high *E.coli* content in beef found in Pekanbaru traditional markets is the lack of hygiene of the equipment used during the slaughtering process.

The high number of Coliforms on the officers' palms indicates poor results, possibly because the officers did not wash their hands using running water. According to Ollong et al. (2020) this can cause cross contamination from personal and water moving to the carcass and vice versa. Personal hygiene is part of the occurrence of cross contamination which affects the quality and safety of the products produced. Nurwantoro et al. (2012) stated that the main factor in contamination and the high number of coliforms in meat was caused by 60% and 40% water from the staff. Personal hygiene training is really needed because slaughterhouses must produce final products whose quality, safety and halal are guaranteed (Priyatno, 1999).

Sartono (2011) explained that apart from personal hygiene, facilities or areas used for the production process should be sterilized first in order to limit direct contact between microbes and meat. Apart from the factors mentioned before, the floor is also a critical point for opportunities for microbial contamination of meat. The opportunity for *E.coli* contamination can occur when the skinning process is carried out, which often touches the surface of the floor. Haileselassie et al. (2013) stated that *E.coli* bacteria are bacteria that are often found as contaminants on floors, animal cutting tools and unsanitized water sources. Meat that has a relatively high *E. coli* content will reduce the quality of the meat so that the meat cannot be consumed and will cause digestive disorders for humans such as diarrhea (Sartika et al., 2005). The aim of facility sanitation and personal hygiene is so that the meat obtained from the slaughterhouse is truly halal meat and suitable for consumption.

METHOD

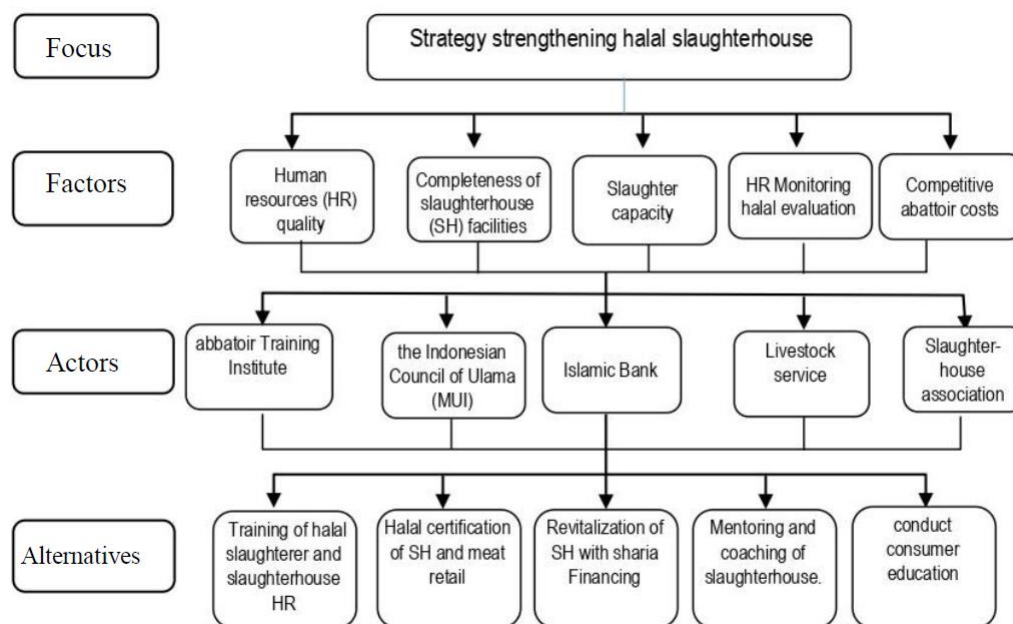
Analytical Hierarchy Process (AHP)

The AHP model is used to determine priority strategies (Saaty et al., 2022). In this study, priority strategies are ranked using 2 aspects, namely actors and factors, so that there are 4 levels as shown in Figure 1. The top (level 4) is the priority strategy, level 3 is the factor, level 2 is the actor, and the lowest is the alternative

strategy. The proposed alternative strategies, actors and factors considered were obtained from the results of FGDs and literature studies, including research on strategies to encourage certification (Mehmood et al., 2015), research on factors influencing certification (Ratanamaneichat and Rakkarn, 2013), modernization of halal slaughterhouses (Ahmad et al., 2017). The FGD in AHP aims to validate the results obtained from the literature studies.

AHP analysis is based on stakeholder judgment, because it used to produce policies. Therefore, respondents were determined purposively, namely representing practitioners (slaughterhouse industries), academics (lecturers and researchers), bureaucrats (Livestock Service), and NGO (YLKI=Indonesian Consumers Institute Foundation). The determination of respondents was based on experts in the halal slaughterhouse industry. Overall there were 11 AHP respondents.

The assessment principle in the AHP method is pairwise comparisons of the level of importance of one element with elements at one level based on the panelists' considerations, using criteria (Saaty at al., 2022) (see Table 1). The geometric mean values of the respondents who were compared were processed using Excel to interpret the dominant factors and actors that influence the priority strategy for strengthening the halal slaughterhouse industry (level 4).



Source: Research finding by authors, 2024.

Figure 1 Analytical Hierarchy Process (AHP) structure of strategy to strengthen the halal slaughterhouse industry in Indonesia

Important Performance Analysis (IPA)

The IPA method is often used to analyze services, to determine which service attributes need to be improved in order to improve service performance. Some research that uses IPA includes the Service Quality of E-Government Web Portals (Yuhefizar et al., 2022), public transport service (Esmailpour, 2020). Slaughterhouse is a service industry that provides slaughtering of animals, so it is appropriate to analyze it using IPA to find out which attributes are priorities for improving its performance.

Important performance analysis (IPA) is used to map the gap between attribute performance (perception) and attribute importance (expectation) of stakeholder (Tseng, 2020). IPA method identifies 'gaps' that cause slaughterhouses do not meet the halal industry. Stakeholder generally match the service they 'experience' with the service they 'expect' (Oli, A and Dhanasekaran, 2023).

IPA method was used in halal slaughterhouses managed by individuals, by private sector and by government. Performance is assessed using a scale of 1 to 5 (very poor to very good). Likewise with the level of importance, from 1 (very unimportant) to 5 (very important). IPA is an effective analytical tool when used to identify the need for accelerated certification, because it emphasizes the attributes of halal slaughterhouses whose performance is a priority.

The stakeholders analyzed using IPA are the government as the regulator (15 respondents) and the slaughterhouse industries as the perpetrator (15 respondents). The government is preparing institutional infrastructure in the form of legal regulations and halal certification institutions. Legislation is needed to encourage every slaughterhouse to carry out certification. The certification body acts as a guarantor of the halalness of the slaughterhouse. Meanwhile, the slaughterhouse is preparing the infrastructure and human resources needed to create a modern, halal slaughterhouse.

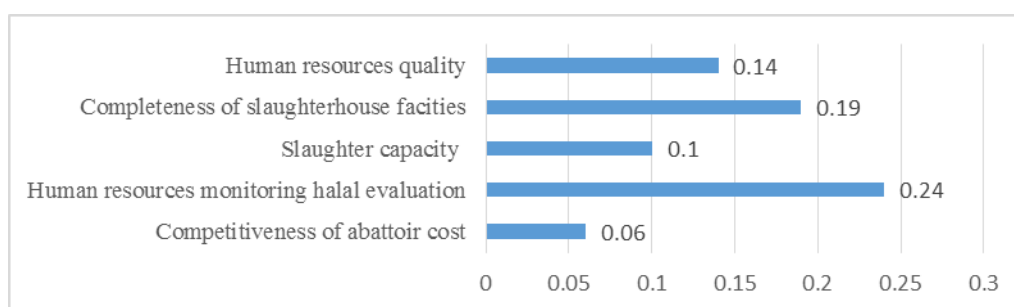
RESULTS AND DISCUSSION

Strategy Priority of Strengthening Halal Slaughterhouses Industry

From the AHP analysis, the criteria weights at each level are obtained, the results of the combined analysis of expert respondents' judgments on each paired matrix. Figure 2, Figure 3 and Figure 4 show the order of weighting of the elements of the strengthening halal slaughterhouse strategy (factors and actors), and alternative strategies. All elements have consistency ratio (CR) less than 10%, so that they meet the requirements as stated by (Mol, 2014). This means that there is consistency in the assessments made by respondents regarding the criteria for the halal slaughterhouse strengthening strategy.

Factor criteria weights

In Figure 2, the results of the AHP analysis of factor criteria (level 3) are displayed. Factor criteria based on the results of FGDs and in-depth interviews are the quality of slaughterhouse human resources; completeness of slaughterhouse facilities; cutting scale; HR (human resources) monitoring and evaluation of halal slaughterhouse; and competitive slaughterhouse costs. The weighted value based on the analysis results is 0.41 for the quality of slaughterhouse human resources (buchter quality); 0.19 for completeness of slaughterhouse facilities; 0.1 for slaughter capacity; 0.24 human resources for monitoring and evaluating halal slaughterhouses; and 0.06 for competitiveness of abattoir cost.



Source: Research finding by authors, 2025 (processed data).

Figure 2 Factor criteria weight from Analytical Hierarchy Process (AHP) analysis in the research of Strategy to Strengthen the Halal Slaughterhouse Industry in Indonesia

The quality of slaughterhouse human resources is the main factor (highest weight) in determining the halal slaughterhouse strengthening strategy. The second highest is human resources for monitoring and evaluating halal slaughterhouses. Most of the existing slaughterhouses function only as a place to slaughter. The slaughterhouse provides a slaughterhouse and water. Employees under the slaughterhouse function only as a cleaning service. Halal butcher is brought by each cattle trader who will slaughter his cow. Not all halal butcher have a certificate of having attended training as a halal butcher. According to Aidaros (2013), rules for proper application of halal slaughter is that slaughter must be performed by a Muslim (who is of sound mind, mature, and fully understands the Islamic procedure and conditions for slaughtering of animals). The number of slaughterman shall be adequate to ensure that the act of halal slaughter is conducted properly on each animal (Department of Islamic Development Malaysia, 2024).

Based on monitoring results at the two slaughterhouses visited (Malang and Padang, Indonesia), several cows were slaughtered not in accordance with the halal SOP (standard operational procedure), namely by slaughtering above the Adam's apple due to technical factors, or far back. Halal butcher is not paid in cash by the trader, but is paid with the non-carcass part (head, leg), so it is cut at a part that is far from the head. This is a halal butcher strategy, in order to get a head with more meat. Besides not being in accordance with halal SOPs, an incision location that is too far to the back of the neck increases the risk of blood vessel compression 15 times, compared to cutting according to halal SOPs. So that the process of bleeding does not run smoothly.

Modernization of halal slaughterhouses requires an increase in human resources for higher quality slaughterhouses, because slaughterhouses are a critical point for the halal meat produced. Especially human resources for halal butchers and halal supervisors. According to Indonesian National Standard (SNI Standar Nasional Indonesia) slaughterhouse (Badan Standarisasi Nasional, 1999) and Minister of Agriculture Regulation No. 13/Permentan.OT.140/1/2010, the number of halal butchers per slaughterhouse is adjusted to the number of livestock slaughtered per day (Table 1).

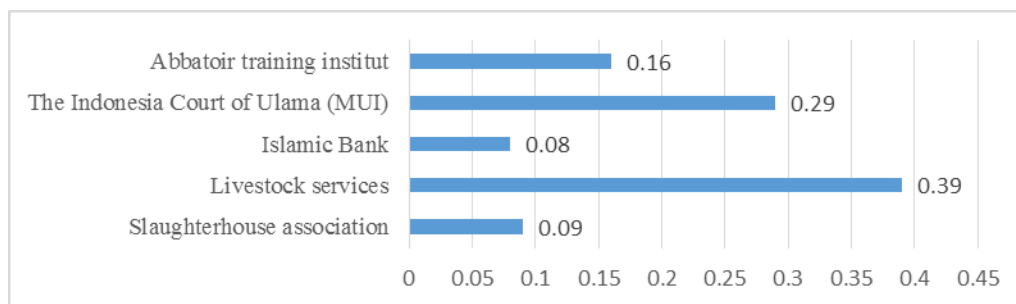
Table 1 Number of halal butchers per number of livestock slaughtered based on SNI slaughterhouse and Minister of Agriculture Regulation no.13/Permentan.OT.140 /1/2010

Large Ruminant		Small Ruminant	
Slaughter (head/day)	Halal Butcher (person)	Slaughter (head/day)	Halal Butcher (person)
50	2	100	2
51-100	3	101-200	2
101-200	4	201-300	3

HR monitoring and evaluation of halal slaughterhouses has the second highest weight, a factor that must be considered for the strategy of strengthening halal slaughterhouses. The opportunity for deviations from SNI slaughterhouse and Minister of Agriculture Regulation no. 13/Permentan.OT.140/1/2010 can be minimized through monitoring and evaluating halal slaughterhouses. Monitoring and evaluating halal slaughterhouses including halal slaughter SOPs and halal supervisors. Monitoring of halal slaughter has been carried out by the Animal Husbandry Service, as an incidental program, namely in certain months when slaughter is high (*Eid al-Fitr* and *Eid al-Adha*), and if there is a need.

Actor criteria weight

Based on Figure 3, the results of the AHP analysis of the actor criteria which are level 2 criteria are the Food and Livestock Security Service, Indonesian Council of Ulama (MUI/Majelis Ulama Indonesia), Islamic bank, abattoir training institute, slaughterhouse association. The results of the analysis show that the Food and Livestock Security Service is the main actor in the modernization of halal slaughterhouses with a weight of 0.39, followed by the MUI (0.29) and training institutions (0.16). Slaughterhouse association and Islamic bank have the smallest weights with almost the same value, namely 0.09 and 0.08.



Consistency ratio: 0.01

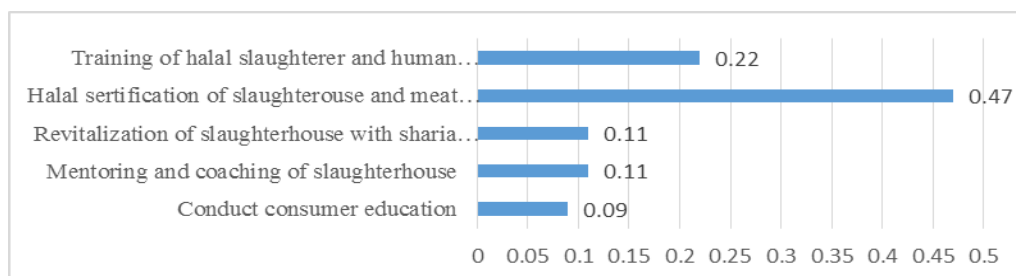
Source: Research finding by authors, 2025 (processed data).

Figure 3 Actor criteria weights from AHP results in the research of Strategy to Strengthen the Halal Slaughterhouse Industry in Indonesia

The halal guarantee for a slaughterhouse is carried out by the institution authorized to carry out halal certification, namely the MUI. The MUI's role is in line with monitoring and evaluating the slaughterhouse, which is also an important factor in halal slaughterhouse strengthening.

Weight of input criteria for AHP results

There are five alternative strategies for strengthening halal slaughterhouses, namely: halal slaughterhouse and retail certification; slaughterhouse revitalization through sharia financing; halal butcher training and slaughterhouse human resources; mentoring and coaching; and consumer education. The results of the AHP analysis show that in the strategy of strengthening halal slaughterhouses, the main priority is halal certification of slaughterhouse and retail (weight 0.47). The second priority is training of halal butcher and slaughterhouse HR with a weight of 0.22 (Figure 4). These two policies complement each other, because to carry out slaughterhouse certification, a halal butcher is required in each slaughterhouse.



Consistency ratio: 0.02

Source: Research finding by authors, 2025 (processed data).

Figure 4 Policy priorities from AHP results in the research of Strategy to Strengthen the Halal Slaughterhouse Industry in Indonesia

According to AHP respondents, the revitalization of the slaughterhouse with sharia financing as well as mentoring and coaching of slaughterhouse is considered less of a priority, with a weight of 0.11 each. Meanwhile, the smallest weight is conduct consumer education (0.09). Even though it is not a top priority, in the long term the revitalization of slaughterhouses towards halal slaughterhouses needs to be carried out, in accordance with the results of the Important Performance Analysis (IPA) which is discussed in the next sub-chapter. Likewise, consumer education needs to be done. The results of study by Pradityo (2010) show that understanding halal certificates determines the choice of product brand.

Priority Attribute for Halal Certification

The stakeholders analyzed using IPA are the government as the regulator and the slaughterhouse industries as the perpetrator. The government is preparing institutional infrastructure in the form of legal regulations and halal certification institutions. Legislation is needed to encourage every slaughterhouse to carry out

certification. The certification body acts as a guarantor of the halalness of the slaughterhouse. Meanwhile, the slaughterhouse is preparing the infrastructure and human resources needed to create a halal slaughterhouse.

Based on literature studies and FGD results, seven institutional attributes were obtained to support halal slaughterhouses. The performance of each attribute is based on the assessment of expert respondents as shown in Table 2. Overall the performance value has only reached 73.4% of the level of importance.

Table 2 Performance of institutions supporting the strengthen of halal slaughterhouses in the research of Strategy to Strengthen the Halal Slaughterhouse Industry in Indonesia

No	Attribute	Performance	Important	Completion (%)
1	The existence of policies to encourage halal slaughterhouses	3.8	4.5	83.8
2	Ease of licensing to obtain slaughterhouse certification	3.5	4.4	78.8
3	Continuity in the implementation of monitoring & evaluation of halal slaughterhouses	3.1	4.3	70.8
4	Quality of monitoring and evaluation of halal slaughterhouses	3.0	4.3	69.2
5	Existence of standard operational procedures (SOP)/Halal Slaughter Process guidelines	3.4	4.5	75.0
6	The existence of standard operational procedures (SOP)/Halal Guarantee System Process guidelines in slaughterhouse	2.9	4.5	65.7
7	Association involvement in supporting halal slaughterhouses	3.1	4.3	70.8
Average				73.4

Source: Research finding by authors, 2025 (processed data).

The attribute with the smallest achievement (Table 2) is the attribute "Existence of standard operating procedures (SOP)/Halal Guarantee System Process guide in the slaughterhouse". From the results of the FGD, it was revealed that currently there is no standard operational procedure (SOP)/Halal Guarantee System Process guide at the slaughterhouse. So there are still violations, such as slaughtering cows near shoulder.

Acceleration of Halal Certification

Accelerating halal certification in existing conventional slaughterhouses

From the results of the FGD and literature study, three categories of existing slaughterhouses were identified, namely commercial slaughterhouses, government slaughterhouses and individual slaughterhouses (otherwise known as TPH slaughterhouses). Each category of slaughterhouse is analyzed separately, according to the facilities and infrastructure owned by the slaughterhouse. Each slaughterhouse category faces different problems and therefore requires different certification acceleration strategies. There are 10 halal attributes in existing slaughterhouses based on the results of FGDs and literature studies.

The performance achievements of halal attributes for each slaughterhouse category are presented in Tables 3, 4 and 5. The lowest achievements were in individual slaughterhouses (average 67.8%), then government slaughterhouses (average 78.5%) and the highest were commercial slaughterhouses (average 88%).

Therefore, in the context of modernizing halal slaughterhouses at the national level, individual slaughterhouses are a top priority. The average performance achievement of government slaughterhouses and commercial slaughterhouses is above 75%. However, the halal attribute performance of these two slaughterhouse categories still needs to be improved so that it can approach (reach) 100%. Strategies for accelerating each slaughterhouse category based on the results of the IPA analysis are described in the following sub-chapter.

Acceleration of halal certification for individual slaughterhouses

The results of the IPA analysis of halal slaughterhouse attributes in individual slaughterhouses are shown in Table 3. The main priority attributes to be improved are attributes that are considered very important, but whose performance is considered inadequate (or low achievement). The attributes with the smallest achievements (Table 3) are the attributes "Hygiene of the carcass cutting process (butchering)" and "the existence of halal supervisor".

Table 3 Performance of individual slaughterhouses on product halal in the research of Strategy to Strengthen the Halal Slaughterhouse Industry in Indonesia

No	Attribute	Performance	Important	Completion (%)
1	Completeness animal handling facilities, before slaughter	2.9	4.5	64.6
2	Completeness of cutting process facilities	2.9	4.3	67.6
3	Hygiene of the carcass cutting process (butchering)	2.7	4.3	63.6
4	Sufficiency space to support halal	2.8	4.2	66.3
5	Handling livestock (from arrival to slaughter)	2.9	4.5	64.0
6	Understanding halal cutting and handling	3.1	4.4	69.9
7	The existence of a certified halal butcher	2.8	4.3	66.7
8	The existence halal supervisor	2.8	4.3	64.9
9	Waste handling and processing	2.5	3.9	64.5
10	Utilization of waste as additional income	2.7	3.2	83.8
Average				67.8

Source: Research finding by authors, 2025 (processed data).

Individual slaughterhouses generally operate on a small scale, in makeshift slaughterhouse buildings. To upgrade an existing individual slaughterhouse into a modern halal slaughterhouse, relatively large additional investment costs are required. A relatively small cutting scale also cannot reach the BEP (break even point). The strategy that can be implemented is to carry out a merger, either a merger between individual slaughterhouses, or a merger between individual slaughterhouses and government slaughterhouses.

Meat consumers in Indonesia like hot meat. Therefore, slaughterhouses generally approach consumer centers so that after the cows are slaughtered, the meat can be sold immediately. In areas where consumers are spread widely, slaughterhouses are like conditions outside Java, a merger between individual slaughterhouses for each sub-district becomes 1 slaughterhouse for 3 sub-districts, taking into account consumer concentration and road access.

Acceleration of halal certification at stated-owned slaughterhouses

The results of the IPA analysis of halal slaughterhouse attributes in government slaughterhouses are shown in Table 4. The main priority attributes to be improved are attributes that are considered very important, but whose performance is considered lacking (or low achievement). The results show the performance achievements of the halal slaughterhouse attributes that are a priority for accelerating certification are the attributes in quadrant I. The attributes with the smallest achievements (Table 4) are the "Hygiene of the carcass cutting process (butchering)" attribute; "The existence of halal supervisor", and "Understanding halal cutting and handling".

To ensure that the slaughterman understands halal cutting and handling, competency certification is required. The halal slaughterer competency certification process will be effective if it starts with training and mentoring (Solek, 2017). This is to improve the knowledge, skills and attitudes of halal slaughterers (Adinata, 2020). In accordance with the opinion from Riyadi (2023), the skill of a halal slaughterer is having good techniques in slaughtering animals in accordance with Islamic law.

Table 4 Performance of government slaughterhouses on product halal in the research of Strategy to Strengthen the Halal Slaughterhouse Industry in Indonesia

No	Attribute	Performance	Important	Completion (%)
1	Completeness animal handling facilities, before slaughter	3.2	4.4	72.7
2	Completeness of cutting process facilities	3.3	4.5	72.5
3	Hygiene of the carcass cutting process (butchering)	2.9	4.5	65.6
4	Sufficiency space to support halal	3.6	4.3	84.1
5	Handling livestock (from arrival to slaughter)	3.4	4.4	76.3
6	Understanding halal cutting and handling	3.1	4.4	69.8
7	The existence of a certified halal butcher	3.5	4.6	75.3
8	The existence halal supervisor	3.2	4.5	69.6
9	Waste handling and processing	3.2	4.0	80.4
10	Utilization of waste as additional income	3.0	3.3	91.8
Average				78.5

Source: Research finding by authors, 2025 (processed data).

Acceleration of halal certification for commercial slaughterhouses

The results of the IPA analysis of halal slaughterhouse attributes in commercial slaughterhouses are shown in Table 5. The main priority attributes for improvement are attributes that are considered very important, but whose performance is considered inadequate (or low achievement). Table 5 shows that several halal attributes in commercial slaughterhouses that achieve low performance are "the presence of a halal supervisor" and "facilities for handling livestock before slaughter".

Table 5 Commercial slaughterhouses performance on product halal in the research of Strategy to Strengthen the Halal Slaughterhouse Industry in Indonesia

No	Attribute	Performance	Important	Completion (%)
1	Completeness animal handling facilities, before slaughter	3.8	4.5	84.8
2	Completeness of cutting process facilities	3.9	4.5	85.1
3	Hygiene of the carcass cutting process (butchering)	4.0	4.6	87.0
4	Sufficiency space to support halal	3.8	4.3	88.7
5	Handling livestock (from arrival to slaughter)	3.9	4.5	88.0
6	Understanding halal cutting and handling	3.9	4.5	86.7
7	The existence of a certified halal butcher	3.9	4.5	86.7
8	The existence halal supervisor	3.8	4.6	82.3
9	Waste handling and processing	3.6	4.1	87.8
10	Utilization of waste as additional income	3.3	3.2	103.4
Average				88.0

Source: Research finding by authors, 2025 (processed data).

The attribute "presence of a halal supervisor" is a priority attribute for all slaughterhouses to be implemented immediately. According to Law no. 33 of 2014 concerning Halal Product Guarantee (UU JPH), the definition of halal supervisor is the person responsible for the Halal Product Process (PPH). In Article 24 point C, companies are required to have a Halal supervisor. Meanwhile, Article 28 of the JPH Law states that one of the requirements for a Halal supervisor is to have broad insight and understand the law regarding halalness.

Apart from that, halal supervisor provisions are also regulated in Minister of Religion Regulation (PMA) No. 26 of 2019 concerning Implementation of Halal Product Guarantees states:

- a. Article 78 paragraph (3), halal supervisors must take part in the Halal Supervisor Certification Training.
- b. Article 81 paragraph (2) regarding cooperation between the Halal Product Guarantee Organizing Agency (BPJPH) and the Indonesian Ulema Council (MUI) regarding the implementation of supervisor Halal Certification Training, in point (c) it is stated that the implementation of supervisor halal certification competency tests.

The role of halal supervisors is very important in accelerating certification. These include playing a role in:

- a. Supervise the halal product process in the company
- b. Determine corrective and preventive actions
- c. Coordinating the Halal Production Process (PPH)
- d. Accompany the halal auditor of the Halal Inspection Institute (LPH) during the inspection

CONCLUSION

The results of the strategy analysis concluded that:

- a. The most determining factor in strengthening the slaughterhouse industry is the quality of human resources of abbatoir, while the actor that plays the most role is livestock service. Based on

consideration of factors and actors, the main priority strategy of strengthening halal slaughterhouses is halal certification of slaughterhouse human resources and meat retail.

- b. Institutions supporting the strengthen of halal slaughterhouses whose performance needs to be improved are the existence of standard operational procedures (SOP)/Halal Guarantee System Process guidelines in slaughterhouse and quality of monitoring and evaluation of halal slaughterhouses .
- c. Halal performance attributes that are prioritized be improved by the three slaughterhouses management are hygienic carcass cutting process and the presence of halal supervisors.

It is recommended that:

- a. The government conduct a training program for prospective slaughtermen, followed by slaughterman certification. Certification is also carried out at meat retail kiosks in traditional markets.
- b. It is necessary to immediately prepare standard operational procedures (SOP)/Halal Guarantee System Process guidelines in slaughterhouse, and to be disseminated to all slaughterhouse around Indonesia.
- c. There needs to be a credit program for the revitalization of slaughterhouse, to complete infrastructure and building needs that meet halal slaughterhouse criteria.
- d. The establishment of a supervisory institution is very urgent to ensure that all processes at the slaughterhouse implement halal standards especially in traditional slaughterhouses owned by individuals.

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