

Supply Chain Framework for Selling Halal Meat in Retail Business: A Case Study

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Abstract: The growth rate of Muslim population is at 1.84% per year is higher when compared to the growth of the Christian population which is at 1.32% per year. Therefore, many researched have been conducted to discuss and explain on certain topic that can related with Islamic law such as the benefits to health one can get from performing body movements in their daily Sholat. In this study, the researchers shall explore and investigate on the way to how maintain the meat halal status throughout the supply chain, starting from the meat slaughter house until it is bought and consume by the customer. This study will observe and focus on halal meat status beginning from the arrival of halal meat in the retail and throughout the supply chain such as warehousing, delivery process and transportation, inventory until it is bought and consumed by the consumer must be halal. The study was conducted to investigate the halal meat supply chain framework implemented at a retail business in Yogyakarta, Indonesia that sells fresh meat, seafood, groceries and other household products. The study result shows that there is a probability of outside contamination in the supply chain that can change the halal meat status to become non-halal if it is not properly handled. In order to determine and certify the halal status of the meat, the management of the retail business and Majelis Ulama Indonesia (MUI) must work together.

Key words: Supply chain, halal supply chain, halal meat, retail, probability, etermine

INTRODUCTION

Lately, the growth rate of Muslim in the world has increased significantly from year to year. In year 2014, the world population according to religious background shows the total Muslim population in the world is 2.08 billion. This figure was calculated based on world population data which shows the growth rate for Muslim population at 1.84% per year was higher compared to the Christians growth rate at 1.32% per year (Lipka and Hackett, 2015). Higher growth rate for Muslim population has resulted an interesting research topic because the Muslims are governed by the Syariah Laws when performing their daily activities. Many past researched were conducted in many fields of study, such as: health and medicine, industry, marketing and sales. The most important thing that a Muslim need to concern is whether the product is halal (allowed) or haram (not-allowed or forbidden) according to Islamic principles. Islam has its own halal and haram standard for food, especially for meat. In this study, the authors had focus in halal meat supply chain. Basically, Islam has the same prohibition in food as with the other religion, Islam also has prohibition.

If Hindus are not allowed to eat meat, Muslim are not allowed to eat pork and also have some requirements that should be complied before we can consume the meat. As an example, halal is not only for the product but it must also include the supply chain must be halal as well. Halal food must be clean and not contaminated with other haram elements according to Islamic law during production, transportation and storage (Van der Spiegel *et al.*, 2012). The supply chain process and tools used must also be halal.

Therefore, retail business which is providing consumers with daily products such as fresh food, instant food, clothing, kitchen tools is the best place to investigate the supply chain of the product. It serves the information related to steps the product undergo from the supplier until it ends in the customer's hand. In this study, the observation took place in a retail business located in Yogyakarta, focusing on the meat to ensure its halal status throughout the supply chain framework and thus can be consume by Muslims. Halal in retail business means that both the meat and supply chain process for the meat should be halal. This is important because

majority of the population living in Yogyakarta are Muslims, then the halal or haram status of the meat sold in the retail business become very important. Implementing the halal supply chain to keep the halal status of meat will be very beneficial to the retail business. When the retail business can provide the assurance to the Muslim consumers that meat they are selling is halal it will encourage them to buy and consume the halal meat. As a result, it can satisfy the Muslim consumers and thus helps to increase halal meat sales at that retail business.

Literature review

Halal supply chain framework: Previous research that explains about halal supply chain framework was done with the title “Conceptual Framework on Halal Food Supply Chain Integrity Enhancement”. This paper mentioned some factors that can enhance the halal integrity in halal supply chain, they are:

Halal certification: Halal products should have halal logo and certificate because it will helps Muslim consumers to easily identify halal products and build trust for them to buy the products for their daily consumption.

Halal standards: Halal standard is the basic requirement needed to certify the halal product. There are many agencies that provides halal certification but the standard might be slightly different from one to the other country. This condition makes the halal industry lacking in terms of worldwide accepted standardized halal standards.

Halal traceability: Consumer’s loyalty on the halal product will depend on the information provided by producer. Information on supply chain, quality assurance and good environmental management must be written clearly on the product.

Halal dedicates assets: Outside contamination that can make a halal product to become haram might occur in the supply chain such as in the warehouse, transportation and inventory. Therefore, to avoid any contamination to the halal product throughout the supply chain, it must be separated from non-halal product.

Trust: Without a halal logo and certification, Muslim consumer may be willing to buy the products, if they trust producers. However, a halal logo and certification can further enhanced their trust on the product. As already mentioned earlier, trust can be built by informing the consumer with clear information.

Commitment: Commitment, willingness to handle and train the retail business workers related to halal product can further enhance the halal supply chain integrity.

Role of government: Government can provide authorization with respect to the halal certification. Government can also play the role in controlling and minimizing the unethical counterfeit halal certification.

Halal meat supply chain: Halal standardization is based on the Islamic Law as mentioned in Al-Qur’an and Hadith. According to the Islamic Law some requirement needed to be followed when conducting animal slaughtering process for Muslim to consume and also on the supply chain to handle halal meat to ensure the meat is still halal until it finally reach the Muslim consumers. From Saddadi Ibnu Aus, Rasulullah saw said: “Indeed, Allah has given to do good against everything. If you kill, kill well. If you want to slaughter, slaughter well and sharpen the knife and give pleasure to the slaughtered animals”.

Rasulullah saw said: Anything that can draw blood and called in the name of God, thus you can eat, not the teeth and nails and I’ll tell you about it, while teeth are bones and nails is the weapon of Habsy”. The aspects that need to consider and halal parameter related to supply chain based on Islamic Law and some references are explained as follows:

Slaughtering process: Based on Al-Quran and Hadiths, the following steps need to be followed when slaughtering an animal according to Islamic Law:

- The animal must be allowed-to-be-consume based on Al-Quran and Hadiths
- The animal has to be slaughtered when it is still alive except animal living in the sea
- The tools for slaughtering the animal must be sharp, it can be made from metal, stones or bamboo but tools from teeth and nails are not allowed
- Starting slaughtering process by reciting/saying Basmalah (in the name of Allah)
- Slaughter by put the knife on the neck of the animal until its right and left jugular vein is cut

Delivery process: Halal and non-halal meat must be separated (not allowed to be mixed), different load carrier, container and transportation vehicle. Before stuffed or loaded with the halal meat, the vehicle or container must be cleaned, to avoid the contamination of non-halal things especially in wet (frozen) environment.

Warehousing: Same as the transportation, the warehouse of halal meat must be separated from non-halal meat. The halal logo need to be placed outside of the warehouse which indicate only for halal meat.

Packaging: Packaging is a way of communication. Special package for halal meat must be attached with the halal logo or label. Consumers must be able to easily see the halal statement and product ingredients on the package which will encourages them to willingly buy the product (Yunus *et al.*, 2014).

MATERIALS AND METHODS

Object: Retail business is the best place to observe the halal meat supply chain framework because it can clearly shows the flow of the meat from the supplier arrival until it arrives in the final consumer's hand. This study has chosen a famous retail business located in Yogyakarta which provides daily products to the mass market at affordable prices. This supermarket is normally chosen by the local customers to their daily shopping for fresh produce, meat, groceries and household products.

Study protocol: The study was conducted based on the stages shown in Fig.1. The study was divided into three main stages. The first stage was observation, during this stage all important information should be collected because this study will be based on the result of the observation. In this stage, there are four sub-stages to be observed; place for supplier arrival where the halal meat will be dropped from the supplier (starting point of supply chain framework), inventory where the meat will be placed as stock, process place where before the meat can be sold it need to be cut into small pieces and/or mill and finally put in display tray. The second stage is literature study which was conducted to know the parameter of halal meat and halal supply chain. In order to provide a comprehensive report, the third stage were designed to discuss the result of the observation and provide the necessary recommendation.

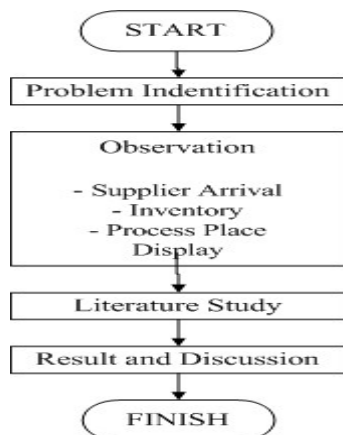


Fig.1: Flowchart of study protocol

RESULTS AND DISCUSSION

There are some meat products that were sold together with non-halal meat. Non-halal meat was also included in the supply chain explanation with the aim to observe the possibility of contamination from non-halal meat. This contamination need to be carefully observed because if there is contamination from even small part of non-halal meat such as blood, fluid and ice, it will make the halal meat to become non-halal as well.

Local meat: The local meat supplier guaranteed the slaughtering process is certified halal by MUI (Majelis Ulama Indonesia). Local meat will be sold as chill product which could maintain the meat freshness by storing it in the fridge at lower than the room temperature without freezing the meat. By using this method, the meat can be kept fresh in the fridge up to three days and one day in the display tray. Since the arrival of the local meat from the supplier, it will be placed in the chill fridge (inventory) then it will be periodically (once or more a day) moved to display tray to be sold. If in the afternoon the meat in display tray is already sold out then the sales assistance will take out the meat from the fridge and bring it to the display tray but if until the closing time at 21:00 in the evening the meat displayed is still not sold yet then the meat will be discarded and replaced with the new chill meat taken from the fridge in the next morning. If the chill meat is not sold in one a day then the chill meat from display tray will be discarded as shown in Fig. 2).

Imported meat: Imported meat will be sold as a frozen product which will be placed in special fridge that has low temperature to keep the meat frozen as hard as stones. Thus it makes the meat can survive a week in fridge. Since the arrival of the imported meat it will be placed in the freezer then will be periodically moved to display tray and sold as shown in Fig. 2. The meat is discarded if the meat had already passed a week shelf-life in the both fridge and display tray.

Packaged meat: Packaged meat is the meat that has undergone a maturation process and usually mixed with the other material. The packaged meat product such as:

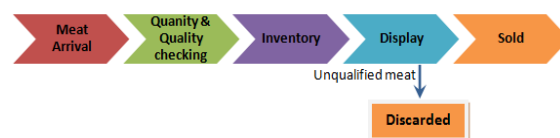


Fig. 2: Local and imported meat chain

sausage, meat ball, smoked meat and cornet consists of halal meat and non-halal product. It is different compared to fresh meat, the supply chain and data system process of packaged meat is totally controlled by the supplier. Sales representatives from the supplier company are sent to the Supermarket to stock the product, to collect the data, to discarded expired product and to re-stock the product. Thus, there is no inventory for packaged meat product in the supermarket and at least once in every three days the sales representative shall go to the supermarket to inspect the product.

The review of halal supply chain can only starts from arrival of the product (i.e., in this case the packaged meat), in the supermarket area because the slaughtering process at the supplier places is not being observed. This review aim to know whether the meat can keep its halal status from the beginning until it ends in the consumer hand. The requirement for halal food, it must be clean or not contaminated with another haram things according to Islamic law during production, transportation and finally storage (Van der Spiegel *et al.*, 2012). The supply chain process and tools used must also be halal. Halal product must be purchased in truly halal all the way. Thus, the supply chain must also be halal (Zulfakar *et al.*, 2014). The supply chain framework currently implemented in the supermarket.

Slaughtering process: Since the observation is limited in the supermarket area, the slaughtering process cannot be determined whether it is halal or not. The supermarket management cannot show the halal certification of meat supplied slaughtering process. However, supermarket management have laid down the rule for the supplier that all the groceries that supplied in the supermarket must fulfill the requirements of Islamic law and only sell packaged non-halal meat.

Packaging: It is important for packaging to be supplied with the information related to the product. For fresh meat there are no other information related to the product because it is only a plastic wrap. While for packaged meat there is information related to halal logo from MUI for halal meat, the ingredients and the expired date. For fresh meat the plastic wrap can be used to keep the meat away from outside contamination thus, in this supply chain the halal status of the product can be guaranteed.

Delivery process: Halal and non-halal goods must be separated (not allowed to be mixed), different load carrier, container and transportation vehicle (Ngah *et al.*, 2014). Before stuffed or load the halal goods, the vehicle or container must be cleaned, to avoid the contamination of

non-halal things especially in wet environment (Tieman and Ghazali, 2014). Each supplier has its own truck to deliver the meat to the supermarket. For local and imported meat, they were taken to the supermarket by using truck only loaded with halal meat, there are no other goods in the same truck. The truck also need frequent cleaning, no blood and any material that can contaminate the meat.

Transporting load: The load is transported by using a trolley to move the meat from arrival place to the inventory area. The trolley used to carry the meat should not be mix with the halal and non-halal meat in the same trolley but in the supermarket the trolley used to carry the halal meat from arrival place to the inventory area is probably mixed with non-halal meat because there is no sign or special trolley used to load the halal meat. However, since both fresh product and package product were wraps by vacuum plastic it can avoid the contamination from outside material to the meat inside the plastic wrap.

Inventory: There are two different inventories for frozen and chill. Frozen freezer only loaded with the frozen (import) meat while in chill freezer it is loaded with chill meat and chicken. In addition, the chill meat is always wrapped by plastic so it can keeps the meat from outside contamination. Since there is no inventory (in the freezer) for non-halal meat, therefore the freezer is free from non-halal meat contamination.

Processes: Processes related to the tools used to process the meat such as knife, grindstone and milling. The supermarket only sell packaged product for non-halal meat which means there is no processing done of non-halal meat in the supermarket. Therefore, the tools used to process the meat are only used for halal meat which means it is prevented from non-halal contamination and also the tools is always cleaned before being use.

Display: There are three different places for displaying the chill, frozen and packaged meat which means each of the display is not contaminated to each other. But there is no halal sign or logo in the displays for local and imported halal meat, the only sign attached in the display section is for non-halal meat.

Based on the previous studies besides the supply chain, the most important thing is halal certification. In Indonesia, certification of halal product is made by MUI. If the food product is halal, then the MUI certification logo is shown on the package or if the meat is processed

the MUI will give the halal certification to the organization that perform the slaughtering process. Display of Halal Logo and Certificate become the most important attributes to recognize the halal product, while the price of halal meat is not considered as the important consideration before making a purchase (Alqudsi, 2014). Psychologically a Muslim consumer believes that purchasing a halal-labeled product improves their experience of shopping for food products (Jamal and Sharifuddin, 2015). Halal-labeled also able to win the consumer heart which provide positive impacts to the satisfaction, commitment and loyalty of the consumer. Developing promotional messages of halal logo will encourage consumers to think about the quality, emotional, monetary and social value of that logo. In the study observation result, the halal logo was only attached at the package of packaged meat, while in chill and frozen meat there was no logo attached on the fridge.

Another, finding which proved the above theory is related to customer behavior and trust. In reality, customer behavior in the supermarket who are still buying processed meat even though without the halal logo and certification attached on the fridge, but Muslim costumers are willing to buy the products because they trusted the supermarket (i.e., the seller). This behavioral is a norm because:

Majority of the population living in Indonesia are Muslims, so all the process should be done in Islamic ways. This is the reason why many Muslims consumers still buy the processed meat even though there is no halal logo attached. There is a special place and there is also a sign for non-halal meat. That is why Muslim consumers believed that besides that area, all kinds of meat sold in the supermarket is halal.

CONCLUSION

Majority of people living in Indonesia are Muslims but it does not guarantee that all products especially food product sold is halal while. Thus, the observation related to halal food needed to be conducted especially in supermarket that sells the fresh food. Observation result shows the first weakness found in the supermarket with respect to halal status of the meat loaded and transported on the trolley the halal logo and certificate. The trolley used to transport halal meat might also be used to transport non-halal meat because there is no signage placed on the trolley to differentiate the trolley for halal and non-halal meat. The supermarket management did not clean the trolley after using it to transport non-halal meat. Tagging the trolley for halal and non-halal meat and

conducting periodic cleaning for the trolley used for transporting meat is needed. The second weakness that need to be improved is the supermarket must have its own halal certification from MUI to guarantee that meat that it is selling is halal and attached the halal logo and certification at the halal meat area.

The Indonesian government must play its role to improve the halal situation by working together with researchers in observing all supermarkets and meat suppliers to make sure that the all the processes in the supply chain are done according to Islamic laws. This could further increase the customers' belief on the halal products sold by supermarkets and retailers. The halal certification also needs to be displayed in the supermarkets and retailers shops that can guarantee halal status of the products they sells.

In addition, to improve their business competitiveness the supermarket must also conduct its business in more consumer and environmental friendly by implementing green supply chain in their business processes. In future, supermarket and retail business should practice to minimize emissions and maximize sustainability. This can be done by innovations in retail business management, including through retail room lighting by using LED (Light Emitting Diode), eco-friendly bags, packaging products are recyclable and using energy-efficient air conditioning systems.

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REFERENCES

- Alqudsi, S.G., 2014. Awareness and demand for 100% halal supply chain meat products. *Procedia-Social Behav. Sci.*, 130: 167-178.
- Jamal, A. and J. Sharifuddin, 2015. Perceived value and perceived usefulness of halal labeling: The role of religion and culture. *J. Bus. Res.*, 68: 933-941.
- Lipka, M. and C. Hackett, 2015. Why Muslims are the world's fastest-growing religious group. April 23, 2015. <http://www.pewresearch.org/fact-tank/2015/04/23/why-muslims-are-the-worlds-fastest-growing-religious-group/>.
- Ngah, A.H., Y. Zainuddin and R. Thurasamy, 2014. Adoption of halal supply chain among malaysian halal manufacturers: An exploratory study. *Procedia-Social Behav. Sci.*, 129: 388-395.

- Tieman, M. and M.C. Ghazali, 2014. Halal control activities and assurance activities in halal food logistics. *Procedia-Social Behav. Sci.*, 121: 44-57.
- Van der Spiegel, M., H.J. Van der Fels-Klerx, P. Sterrenburg, S.M. Van Ruth, I.M.J. Scholtens-Toma and E.J. Kok, 2012. Halal assurance in food supply chains: Verification of halal certificates using audits and laboratory analysis. *Trends Food Sci. Technol.*, 27: 109-119.
- Yunus, N.S.N.M., W.E.W. Rashid, N.M. Ariffin and N.M. Rashid, 2014. Muslim's purchase intention towards non-muslim's halal packaged food manufacturer. *Procedia-Social Behav. Sci.*, 130: 145-154.
- Zulfakar, M.H., M.M. Anuar and M.S. Ab Talib, 2014. Conceptual framework on halal food supply chain integrity enhancement. *Procedia-Social Behav. Sci.*, 121: 58-67.