

Halal Supply Chain Management Practice Model: A Case Study in Evidence of Halal Supply Chain in Indonesia

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The purpose of this study is to reveal halal supply chain practices through the exploration of constraints that occur in the field in halal supply chain management practices. It is based on the perspective of business people involved in the halal food supply chain management process. **Research Methodology/approach:** The study is an exploratory research with a qualitative approach. The main object is the halal supply chain practice of the fried duck restaurant which has become one of the favourite foods and is rapidly growing in Indonesia. Data was collected by semi-structured interviews with the supplier (poultry slaughterhouse), halal restaurant and customers. Moreover, observation of the operations and halal supply chain process was conducted. **Finding:** The findings of this study are in the formulation of halal supply chain models. The next finding is the dimensions formed based on the perspective of halal supply chain actors, namely suppliers (managers of poultry slaughterhouses), restaurant managers and consumers. The benefit of this study is to contribute to the halal food supply chain actors in the form of a supply chain practice model for halal food products and provide guidance for halal food businesses to improve the quality and consistency of halal supply chain practices in halal certified food products.

Keywords: *Halal supply chain, halal certificate, Supply chain management, halal food.*

Background

Increasing transportation facilities and the ease of travelling to various countries makes the diversity of various foods even greater as a result of globalisation. Meanwhile, the lack of a

supervisory process regarding business processes, particularly supply chains in the food business, raises a sense of concern for Indonesia's majority Muslim population, especially with regard to halalness.

East Java is one of the provinces in Indonesia with a large Muslim population. Handling the problem of halal products is carried out by the LPPOM (Institute for Food and Drug Studies and Cosmetics) of the East Java MUI, which has the following scope of activities:

1. Actively involved in the assessment of the Halal Quality Assurance System (Halal Assurance System)
2. Participate actively in promoting HAS through writing in the mass media, seminar forums, workshops, etc.
3. Participate actively in disseminating HAS through writing in the mass media, seminar forums, workshops, etc.
4. Providing consulting and training services socialisation for business people
5. Providing halal certification services
6. Build a broad network between similar institutions and supporting institutions in national and international circles
7. Conducting integrated research involving various disciplines
8. Provide regular counselling on the importance of consumers knowing their rights.
9. Conducting other activities in line with the vision and mission of the LPPOM MUI East Java (<http://lppom.mui-jatim.org/index.php/ruang-lingkup-kaktif>).

Tieman, van der Vorst, and Che Ghazali (2012) have described the implementation stages of halal supply chain management. Firstly, the "Muslim company" stage, which is a stage based on trust. A Muslim buys from another Muslim, and therefore the seller will be responsible to God to ensure that the food sold is halal. In this way, the buyer believes that the product he consumes is halal. Secondly, the stage of halal products, namely the trust in the halalness of a product based on halal certification or halal marks contained in the product as seen on the product, or halal signs at the outlets (e.g. restaurants or shops). Thirdly, the stage of "Halal Supply Chain", a sign of trust in halal has guaranteed that the entire supply chain is in harmony with sharia, which is audited and certified by an entity authorised to issue Islamic certifications. In the fourth stage, halal value chain, halal covers the entire supply chain. At this stage, multinational Islamic food controls for the entire supply chain from "seed to fork". Islamic science is important to ensure supply chains that have a high performance.

The supply chain management (SCM) can be defined as a management of halal networks with the aim of extending halal integrity from the source of raw materials to the point of purchase of consumers. In order to ensure that a product is truly halal to the point of purchase of consumers, it is very important to define the principles contained in the halal management

of the SCM. There are three factors in halal SCM, namely: direct contact with illicit goods, contaminated risks, and Muslim consumer perceptions of halal products. This perception is based on market requirements, such as thoughts, local fatwas and local customs (Tieman & Che Ghazali, 2013). What are the perspectives of halal food businesses and the implications of halal supply chain management in Indonesia? What is the role of the relevant stakeholders, in this case, the LPPOM? Are the constraints faced in implementing the ideal supply chain for halal food in accordance with the prescribed rules? What is the halal supply chain model for food products so that it guarantees a halal level while also increasing the delivery accuracy and cost efficiency?

To answer the questions above, research needs to be conducted to reveal the conditions of halal supply chains by photographing the conditions that occur in the field. Furthermore, it is necessary to explore the constraints that exist in the field, especially to implement the halal supply chain. This research will be conducted on halal-certified business people in East Java as one of the provinces with the largest Muslim population in Indonesia. The number of producers who want halal certification for their products is increasing, in line with the increased awareness of Muslim communities about the halal food they consume. Increased public awareness of halal food products makes restaurant entrepreneurs vying to register their restaurants to obtain halal certification.

The Government of Indonesia stipulates SNI (Indonesian National Standard) as a food quality control standard in Indonesia regulated in the PPRI (Government Regulation of the Republic of Indonesia) Number 28 of 2004 concerning food safety, quality and nutrition. In terms of halal food products, the government appointed the LPPOM MUI (Institute for Food, Drug and Cosmetic Studies of the Indonesian Ulema Council) to provide standards for halal products according to Islamic law. Based on the two standards set by the government, many restaurants have begun to realise the importance of halalan toyyiba food (halal and good). The company has its own challenges in getting the best quality halal raw materials because of the ability to meet a limited demand. The fulfillment of halal raw materials is more difficult than conventional products, which only have quality standards. For that, companies need to have good relationships with suppliers and perform careful calculation of raw material inventories (Ali & Suleiman, 2018).

The research is intended to investigate the practice of supply chain management for businesses relating to halal certified foods. The research was carried out on halal-certified business people who acted as suppliers, namely halal slaughterhouses (halal/duck) and halal-certified restaurants. This research produces a halal supply chain model and halal dimensions of supply chain based on the perspective of halal supply chain actors for halal certified food businesses.

Theoretical Background

This section presents the main theoretical concepts of the study: supply chain management, supply chain integration, and halal supply chain management.

Supply Chain Management

The term "Supply Chain Management" emerged in the late nineteen-eighties and began to be widely used in the nineteen-nineties. Before that, the term pertaining to Permas was "Logistics Management", then developed into an integrated logistics management system, which combines concepts and practices in business with regard to transportation, inventory and warehousing issues in order to streamline and minimise the cost of distributing goods from producers to consumers. Furthermore, with the development of information technology and the increasing collaboration between organisations involved in distributing goods to consumers both at national and global levels, a more complex concept is needed to integrate the network of organisations involved in it. Supply Chain Management encompasses all stages related to both directly and indirectly meeting consumer demand. This is as stated by Copra and Simchi Levi, that:

“A supply chain consists of all parties involved, directly or indirectly, in fulfilling a customer request. The supply chain includes not only the manufacturer and suppliers, but also transporters, warehouses, retailers, and even customers themselves. Within each organization, such as a manufacturer, the supply chain includes all functions involved in receiving and filling a customer request” (Chopra & Meindl, 2014).

Supply chain management is a set of approaches used to efficiently integrate, suppliers, manufacturers, warehouses, and stores so that merchandise is produced and distributed at the right quantities, to the right locations, and at the right time in order to minimise systemwide costs while satisfying service-level requirements (Simchi-Levi, Simchi-Levi, & Watson, 2004).

Based on the above two definitions, it can be stated that supply chain management is a combination of several companies involved both directly and indirectly in the process of distributing service products. The parties directly involved are suppliers, manufacturers and distributors to retailers. While the parties that are involved indirectly but have a role in the distribution of goods and services, among others, include transportation companies, shipping services, warehousing services, and banking. The integration between the various parties is very important in providing the best service.

Integrated Supply Chain

The purpose of supply chain management is "adding value". Zigiari (2000) argues that supply chain management is an important tool in achieving the company's strategic objectives, such as reducing working capital, accelerating cash turnover, and increasing inventory turnover, among others.

An integrated supply chain is effective coordination of the supply chain process through the flow of upstream and downstream supply chain information. Supply chain integration serves every part of the supply chain that looks into capacity and storage from other parts of the supply chain (Krajewski, Ritzman, & Malhotra, 2013). With the integration in the supply chain, there will be a cross-functional learning process that occurs between functions within the organisation (Zulaeha & Priyono, 2017). Raw material integrity overing safety, purity, authenticity, and quality should be tested before suppliers make shipments to companies to produce. Production integrity focusses on ensuring processes, management systems, and facilities that can jeopardise halal integrity during the production process. Service integrity has three elements in the spotlight, namely food service through human resources, capital for outsourcing decisions, and franchising. Information integrity is needed by consumers because it determines the assessment of food characteristics and purchasing decisions by consumers. The integrity of information needs to contain the integrity of raw materials and the integrity of the process of the products and services offered. Supply chain integration, when viewed from the elements in it, is classified into consumer integration, supplier integration, information integration, distribution and logistics integration, and purchase integration (Narasimhan & Das, 2001). Chain restaurants have special requirements on their raw materials and processed products. They usually look for suppliers who can produce raw materials with high specifications, have an unchanging and standardised quality, and deliver on time (Mawson & Fearn, 1997).

Halal Supply Chain Management

The halal foundation of the SCM is determined by three factors, namely: direct contact with the illegitimate, and risks based on product characteristics, which are based on the perceptions of Muslim consumers (Tieman, 2011).

The Islamic religion has determined decisively about halal and haram laws. Halal means allowed. In the context of food, all foods are halal except those mentioned in the Qur'an. Haram is something that is not allowed. In the context of food, unclean food means food that is forbidden to be consumed, so that it will be sanctioned by religion in the form of sin for violating Muslims.

The current supply chain model does not completely conflict with sharia principles, but an important aspect of halal in the design of measuring supply chain halal performance is not yet in the model. The core of the halal SCM model is derived from the food supply chain built by Tieman et al. (2012), which is based on the SCM framework (Bowersox, Closs, & Cooper, 2002). The level of linkages between supply chain actors is also illustrated by Ali and Suleiman (2018), which offers eleven nuances to maintain the integrity of halal food, such as the purity of raw materials, the number of suppliers, the quality or quantity, the origins of raw materials, does halal define quality, an over-reliance on halal certification, one too many meta-system, quality assurances — laboratory the next future, the challenge of franchising, human resources, outsourcing, and the adequacy of labelling in the era of the internet.

Halal integrity is the foundation of the halal food industry. Protective and preventive measures must be taken to ensure that halal food products remain halal even though it may have travelled a greater distance and undergone various handling activities within the supply chain. All parties in the supply chain, downstream and upstream, must take individual and joint responsibilities to protect the halal food products from being cross contaminated, whether intentionally or unintentionally (Ali et al., 2017). The framework for the integrity of halal food defines four distinctive dimensions of supply chain integrity: raw materials integrity, production integrity, service integrity, and information integrity.

The major purpose of raw materials integrity is to prevent any supply that might be sourced from a disreputable supplier and to stop problematic materials from being incorporated into the food prior to its production. The subdimension of raw material integrity consists of safety, purity, origin and quality.

The main goal of production integrity is to ensure that all the processes, management systems and facilities are non-halal proof. The firm's actions should cover all manufacturing procedures, including that the quality management systems and strategies adopted are aligned with the aim of safeguarding the halal integrity. The subdimension of production integrity consists of the internal system and manufacturing strategy.

Service integrity occurs when the management considers involving a third party for the service. In cases of franchising and outsourcing, they may involve different sets of risk to the halal integrity of the focal firms' product.

Information integrity is the action of providing the truth and being honest to the consumers in disseminating information. It attempts to lessen the probable speculation with regard to integrity that can rupture the halal food supply chain integrity. The subdimension of information integrity is labelling. It concerns the appropriate and true labelling and logo displays conveyed to the consumers.

This research intends to use dimensions that have been formulated by Ali et al. (2017) by using multiple respondents from each participating firm in completing the view of the supply chain, upstream and downstream of the supply chain.

Research Method

This study uses an inductive theory building qualitative approach through a single case study. Inductive theory building is used to compile propositions about phenomena that have not been widely explored; theories and limited empirical evidence (Eisenhardt, 1989). The stages of this study follow the stages of research carried out by Gioia, Corley, and Hamilton (2012), a stage of developing new concepts and theories which is a systematic approach that balances the need to develop new concepts inductively while meeting the high standards of accuracy required by the top journals. The stages (Gioia, Corley, & Hamilton, 2013) also allow researchers who conduct research inductively to do analysis systematically, produce reliable interpretation of data, and can convince readers that the conclusions produced make sense.

The researcher used several data collection methods, namely interviewing and collecting archival documents such as material owned by the LPPOM. The researchers also carried out pilot interviews with halal food product businesses. Furthermore, the researcher made observations, field notes and recording data which was unnoticed by the object under study.

The research was carried out on halal certified food businesses. In this case, there are two actors, namely halal-certified poultry cutting companies and halal-certified restaurants. The main concern in this research starts from the purchase of raw materials, through to transportation, processing, storage, and to serving consumers. The informants in this study consisted of a human resources (HR) manager and operational restaurant, a supplier managing slaughterhouses with halal-certified poultry, and a number of restaurant customers. The HR manager oversees controlling employees and has direct control of the halal products made. Aside from working as a HR manager and operating the restaurant, the respondent also works in the livestock service. Consumer respondents consisted of 12 people who were restaurant customers.

Analysis and Result

A description of the results of interviews with supply chain actors related to halal-certified restaurant research objects obtained from suppliers, restaurant managers and consumers. Based on the interviews with suppliers, four dimensions were formed with regard to supplier integrity: 1) Quality of halal; 2) Delivery process; 3) Purity and halal raw materials; and 4) Quantity of raw materials.

The first dimension, halal quality, becomes a very important factor, so that all production flows are carried out by suppliers without the help of outsourcing. Day old duck (DOD) or baby's age to become an adult are cut by suppliers from generally 40–45 days to 26–30 days. The second dimension is the delivery of raw materials using containers transported with containers, such as plastic bags or other containers placed on motorbikes. Meanwhile, shipping raw materials to branches in Kupang, East Nusa Tenggara, uses a cargo plane package. The third dimension, purity and halalness, is explained that halal cutting must at least cut two large veins in the neck of the duck. In order not to torture animals, the knife used must be really sharp. Cleaning the ducks from their feathers is done manually, to make sure the ducks are really dead because they are slaughtered, not due to cleaning using an automatic milling machine. In the fourth dimension, the quantity of raw material suppliers, initially the restaurant has two suppliers. However, after submitting halal certification to the LPPOM-MUI, one of the suppliers did not fulfill the halal standard and the contract had to be terminated in order to maintain the integrity of high halal standards. Now, the restaurant only uses one supplier as a supplier of the main raw materials for the products sold.

Based on the interview with the owner of the restaurant, three dimensions were obtained which were of concern for the halal raw material received: 1) Challenge of franchising; 2) Human resources; and 3) Quality assurance.

In the first dimension, this restaurant originally had a franchise in Banjarmasin. However, because of the breach of the agreement made by the franchise, the termination of the contract must be undertaken. Within the second dimension of human resources, specifically in regard to the quality of hygiene, it considers washing hands before touching raw materials for cooking. The control of the duck presentation process is carried out by an employee appointed to take DOD. In the third dimension, the duck has undergone a ripening process for two hours. Thus, it is assumed that the cholesterol contained in the ducks is wasted or dissolves into the wastewater used to boil the duck.

During the interviews with the 12 consumers of halal restaurants, it was found that most customers believe in halal labels listed on food, yet only a few people check the official website of the LPPOM-MUI to find out the truth about the halal labels listed. There are also customers who are not very concerned about halal products. They put food quality as a reference for products to be consumed. Based on the results of interviews with consumers, it is known that only one dimension is important for consumers, namely the existence of a halal logo or label.

The analysis of data from suppliers is seen from four dimensions, namely 1) halal quality; 2) origins of raw materials; 3) purity of raw materials; and 4) quality versus quantity of suppliers. In respect to OLM Resto for the first dimension, quality deficiency is a very

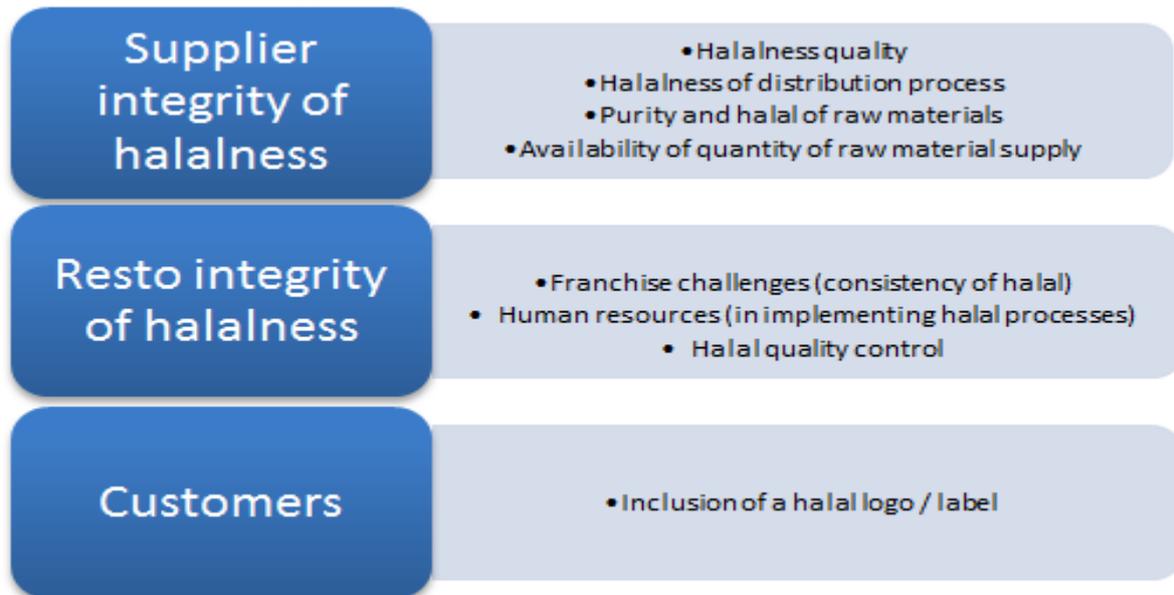
important factor. All production flows are carried out by suppliers without the help of outsourcing. DOD or baby's age to become an adult are cut by suppliers from generally 40–45 days to 26–30 days. The duck used is an organic duck, which is a duck that only consumes organic ingredients such as young papaya for enzymes, milled duck intestines for the addition of bacteria, or eggs fail to hatch above nine days than they should for protein. Suppliers do not want to use vaccines for ducks because they fear they are still left in the duck's body and endanger consumers. In the second dimension, the origins of raw materials, the delivery of raw materials to Bangkalan Madura Resto uses containers transported with containers, such as plastic bags or other containers placed on motorbikes. Meanwhile, shipping raw materials to the Resto branch in Kupang, East Nusa Tenggara, uses a cargo plane package. In the third dimension of the purity of raw materials, it is explained that halal cutting must at least cut two large veins in the neck of the duck. In order not to torture animals, the knife used must be really sharp. Cleaning the ducks from their feathers is done manually, to make sure the ducks are really dead because they are slaughtered, not due to cleaning using an automatic milling machine.

The results of the interview with the restaurant manager of the first dimension, the challenge of franchising, understood that initially the restaurant had a franchise in Banjarmasin. However, violations were carried out by the franchisee and the contract was terminated. The Resto branch located in Kupang, East Nusa Tenggara, only provides supporting materials such as rice, cucumber, basil leaves, containers and others that have been predetermined. The second dimension, human resources, pays attention to the quality of hygiene such as washing hands before touching raw materials for cooking. The control of ducks is carried out by an employee appointed to take DOD. Later, the condition of each owned farm will be reported to the duck farm owners. The third dimension, quality assurance in laboratory, ensures that the duck has undergone a ripening process for two hours before the frying process is carried out. Thus, the cholesterol contained in the ducks has been wasted or dissolved into the wastewater used to boil the duck. A non-excessive consumption is recommended by the Resto manager to avoid side effects that can arise from consuming fried duck excessively.

Finding

The following are the research findings in the form of dimensions that are formed for suppliers, restaurant managers and consumers in halal supply chains for halal certified food businesses. The halal supply chain model and the following components are then confirmed by the findings of similar research, and the following models of supply chain halal practices are formed.

Figure 1. Halal food supply chain dimensions



Conclusion

The conclusion of this study is the discovery of eight halal dimensions of the supply chain to determine the halal applied by restaurants. These dimensions include halal defined quality, origins of raw materials, purity of raw materials, availability of supply quantities, the challenge of franchising, human resources, quality assurance of the laboratory, and labelling.

The limitation of this study is that this research is only carried out in single cases, namely halal supply chain actors in only one restaurant object. Further research can be carried out by conducting empirical studies using a sample of halal supply chains in the supply chain of halal certified food that is larger in number, and the effect on the performance of the supply chain for halal food, related to halal policies in the local country.

The practical contribution of this study is in the form of considerations, factors and inputs for management to implement supply chain issues in the supply chain process, especially for halal food.

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