

Halal Logistic Business Model Development in Indonesia

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Abstract— As the study on halal logistic has been gaining recognition, this study aims to develop the business model for the halal logistic in Indonesia. With the biggest number of Muslim population, the shifting toward to halal logistic becomes critical in keeping the business sustainability. Adopting the VIP framework, this study defines a business model through an elaboration of primary and secondary data. Primary data is derived from an in-depth interview with three industries representing agribusiness, retail, and logistic provider; while secondary data is derived from a comprehensive literature review to discover the halal logistic business model development. Through an extensive analysis, value exchange (V), information exchange (I), and business process (P) are presented as the basis to construct a business model of halal logistic in Indonesia.

Keywords— *Business model, halal logistic, VIP framework, Indonesia.*

1. Introduction

Muslims in the world have a population of 28.26%, or as much as 2038.4 million of the total population amounted to 7151.51 million in 2014 (<http://www.muslimpopulation.com>). In line with the growth of the Muslim population worldwide, the halal industry is growing (Marzuki 2012; Marzuki, Hall and Ballantine 2012a). Therefore, the halal concept becomes critical in every activity throughout the supply chain, from the supplier to customers. Jaafar et al. (2011a)

stated that in the process of handling halal products, it must be separated and cannot be mixed with illicit products. This led to the concept of halal logistics that should be developed and understood by all industries instead of only halal food.

Halal is a term in Islam to explain that a product is allowed to be consumed; while halal logistics is a physical activity of storage and delivery of goods which are equipped with directional information and communication between the parties involved in the supply chain, by applying the concept of halal in its activity (Kamarudin et al., 2012). The basic concept of halal logistics is to ensure the processes in the supply chain lawful conduct charge separation of cargo non-halal. It is necessary to avoid cross contamination and ensure that all the logistics system that guaranteed not contaminated non-halal material. Therefore, halal logistics can be expressed as the application of halal concept throughout the supply chain from supplier activity, manufacturing, warehousing, transportation and distribution of products in order to ensure the halal status of a product.

According to Bruil (2010), there are three principles underlying the formation of

halal logistics, namely the avoidance of contamination, the avoidance of errors / based on Islam law, and guarantee that the logistical operations consistent with the concept of halal. To guarantee the fulfillment of these three principles, halal logistics should be able to control and guarantee halal condition in activity along the supply chain. For example, halal control and assurance in warehousing activities include admission, placement, storage, cross-docking, value-added logistics, order picking, and delivery of halal products. Control and halal assurance in transportation activities include hygiene tank / container / vehicle, loading / unloading, and product documentation halal. Further, halal control and assurance are including inspections at the terminal, temporary storage, consolidation, storage, and documentation of halal products. The concept of halal is not only related to the food industry, but also includes the industry related to lifestyles, such as the cosmetics industry and the apparel industry / textile. With consumer awareness of Muslims associated with the concept of halal, halal logistics is of particular concern to developing not only in Malaysia, Indonesia, Brunei and the Middle East, but also in non-Muslim countries to provide halal assurance in the supply chain process. Non-Muslims see halal products, particularly halal food as a symbol for food safety, quality assurance, and lifestyle choices (Dollah et al., 2012). Ambali and Burn (2013) also states that non-Muslims would prefer halal food of security, cleanliness, and quality is through the strict requirements, thereby reducing the risk of contamination of the disease. This led to the increasing number of multinational companies are involved and invested in handling halal product market segments (Alserhan 2010). However, in ensuring the

implementation of halal logistics, industries, consumers, and governments face many problems and challenges since the many industries do not understand how the halal concept is applied in the supply chain. Also, there are also concerns of the industry how the process of supply chain operations can be performed by separate products, facilities, and the process of distributing halal and non-halal.

The problem is seen today by the industry is the problem related to the application of halal logistics concept, which means incurring additional costs such as warehouse separation, segregation according to the nature of the product, and others. Today the main problem encountered in the application of the concept of halal logistics industry is the emergence of additional costs such as warehouse separation, segregation according to the nature of the product, and others. This is an obstacle for the industry to implement the halal logistics.

Currently, the business competition is no longer between one company and another, but between trading partners in the supply chain (Farahani et al., 2014; Adida and De Miguel, 2011). In this era of globalization, where the level of competition is so fierce, supply chain management is used to maintain and improve the competitiveness of enterprises through increased control, maintaining product quality, improve industrial networks, and customer satisfaction (Rahman dan Rosli, 2008). Indonesia has a population of 220 million people of which 85% are Muslims. As a country with the largest Muslim population in the world, halal issues and demands of the majority of consumers in Indonesia. One of the obstacles faced by companies in Indonesia in applying the concept of halal is a lack of understanding

of how the halal concept is applied in accordance with the role of each company in the supply chain; lack of understanding of the possibility of halal logistics business network in Indonesia; and lack of cooperation with other parties in the development of the halal supply chain logistics. Therefore, it is necessary to develop business models for various industries in Indonesia by implementing the concept of halal therein. Whereby when handling the logistics and supply chain of halal products, the industry business model is different and more complex than the business model in general. Industrial mapping and mapping capabilities of the industry also need to be developed in this study as a halal logistics blueprint various industries to assist companies in setting business strategy and business planning with the concept of halal in Indonesia.

Answering this need, this study aims to develop the business model for the halal logistic in Indonesia. Further, this study contributes to theoretical development and provides practical implications. Firstly, it may strengthen the theoretical on halal logistic management field. Secondly, it may provide a comprehensive understanding and provide input for industry on how to implement halal logistic.

2. Literature Review

The business model is “a distinctive description of how a company structures its operations and resources performs on the market and makes a profit in their daily business” (Sandberg et al., 2011; Solaimani and Bouwman, 2012). It describes the rationale of how a firm creates value, delivers value, and captures value. Debei, et al (2008) indicates that

value proposition, value architecture (the organizational infrastructure and technological architecture that allows the movement of products, services, and information), value finance (modeling information related to total cost of ownership, pricing methods, and revenue structure), and value network articulate the primary constructs or dimensions of business models. Further, Osterwalder et al. (2005) present nine “Building Blocks” supporting the business model: values proposition; target customer; distribution channel; relationship; value configuration; core competency; partner network; cost structure; and revenue model. In the context of logistic process, a sustainable business model can be achieved when there is alignment between inter-organizational and its processes (Dahan et al., 2010), improved intra-organizational capabilities and stronger interconnections between the key elements (Stubbs and Cocklin, 2008; Trkman, et al., 2015). In short, the alignment of the business model and process are critical in this case.

A business process is defined as a collection of activities that takes one or more kinds of input and creates an output that is of value to the customer (Hammer and Champy, 1993; Solaimani and Bouwman, 2012). In this case, it describes the activities and relations among each other. With respect on Solaimani and Bouwman (2012), business is characterized by the processes of all kinds, belonging to different units, and representing a wide range of internal and external activities. This complexity increases exponentially when multiple actors from distinct sectors work together in a value network towards a common objective (Solaimani and Bouwman, 2012).

To ensure the alignment between a business model and process, Solaimani and Bouwman (2012) proposes VIP framework. Firstly, "Value exchange" in which called as V-layer consists of actors, value objects, value activities and value dependencies. Secondly, "Information exchange" in which called as I-layer consists of data objects, information objects, knowledge objects, information flow, information authorization and trust dependency. Thirdly, "Business Process" describes how the activities are carried out, and how they are related to each other (Solaimani and Bouwman, 2012). In the context of business model development which involves several actors in a supply chain, the Bidirectional application of VIP framework is shown in the following figure.

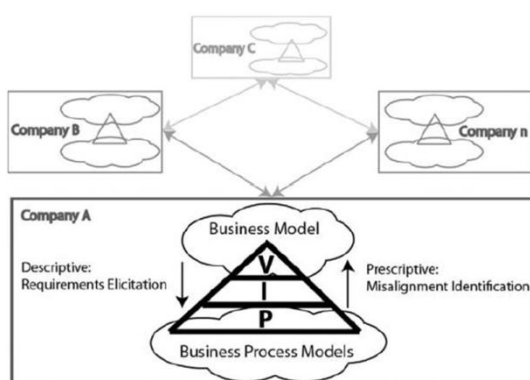


Figure 1. Bidirectional application of VIP framework

(Source: Solaimani and Bouwman, 2012)

3. Methodology

The data presented in this study are collected from secondary and primary data. Primary data is derived from in-depth interview with three industries representing food manufacturing, retail, and logistic provider; while secondary data is derived from a comprehensive literature review to

discover the halal logistic business model development. A semi-structured interview guide is developed in the interview process (e.g., Yin, 2003). The collected data related to the case company consists of three parts. First, the business process referring to the case company, particularly processes related to logistic management. Second, highlight the implementation halal logistic. Third, the obstacles and potential of halal logistic implementation. The case study analysis is conducted based on a theoretical framework of VIP framework (e.g., Solaimani and Bouwman, 2012), which is used as the basis to develop a business model of halal logistic.

4. Findings

In this study, three companies are used as the case study to describe the halal logistic activities. Company A (Halal logistic provider) was established in the early 1990s based in Indonesia. It provides logistics services and also serves freight containers and large-sized cargo. In 2002 company A presents as a logistics company to meet customer needs and strengthen the business in the field of logistics services across the country. Company B (Agribusiness) based in Indonesia. It is operating as an integrated agribusiness group that provides a resilient business model with significant economies of scale and cost advantages. Company C (retail) based in Indonesia is running convenience stores which serve fresh food of the highest quality, good taste, hygienic, and in competitive price. Both of company B and C are using the logistic services from Company A.

4.1 Understanding of halal logistic

Most of the companies are having an understanding on halal logistic, and highlight particular benefits of

implementing halal logistic. As mentioned by company A:

A: The process of handling of goods or raw materials through the supply chain accordance to halal standards, such as the handling of the flow of goods from farmers to the end customer is in compliance with Halal standards in the process means that there is no potential for contamination between kosher and non-kosher products. Another notion of the combination of supply chain with food safety, and food security hygiene.

4.2 Commitment in adopting halal logistic

Both of Company B and C are having business collaboration with Company C in term of halal logistic services. As a logistic service provider, company C has been certified with halal logistic indicates the commitment of the implementation. The collaboration between companies B, C with company A shows that they are having the same opinion regarding the criticality of halal logistic which yields a good awareness, level of understanding, and motivation among those companies.

4.3 Halal logistic mechanism

The mechanism of halal logistic basically similar, in which ensuring the logistic processes are conducted accordance to halal requirement. However, differences may occur depends on the company's business process. As mentioned by:

A: for halal logistics in the transportation is focusing on handling. Ensure no mixing between kosher and non-kosher products. In addition, we also aware of the tools used, such as forklifts, pallet trolleys, to common transportation vehicle. In addition, there should be oversight from the port, warehouse, and distribution. That is, if port and warehouse already applying halal assurance, and then automatically the food distribution must also have halal

assurance.

B: As a food manufacturer, we definitely ensure our halal product. Further, as we expect to have a good logistic process, we collaborate with company A to provide us with halal logistic services. So far, the implementation halal logistic provided by company A is excellent. It is safe and credible in ensuring the halal assurance.

C: As we expect for having on-time distribution, status up-dated, unit clean, cheap price, and security is ensured, we work with company A. Since company A already has a certificate for transportation of halal assurance, then it becomes our added value which is also a company that produces food. This means that our company and company A has the same objective in carrying out lawful activities of logistics which is now a requirement for every company. So far since using Full Truck Load, so our company is not too worried about mixing stuff.

4.4 Challenge in Halal logistic

Challenges in halal logistic are shown in the following part:

A: It takes effort to introduce halal logistic awareness and acceptance to all employees; pressure on continuous innovation; needs to improve value and image through additional competitive advantage of halal logistic.

B: It needs periodic monitoring and evaluation in the context of logistic process.

C: With halal logistic, company needs to find a good trade-off between better qualities of process following halal standard, with process speed.

Further, a more detail discussion with three companies is conducted to explore the value, information and business process. The summary of the findings

based on VIP framework are described in table 1 to 5

Table 1. Value exchange

Aspect	Descriptions
Actors (stakeholders)	Supplier/ vendor, distributor, government, community, media, university, customer, halal trade, Islamic finance
Value objects	Goods, services
Value activities	Input/supply, transportation, production, warehousing, distribution
Value goals	Provision of halal, politeness, cleanliness, safety, high quality of products and services
Value dependencies	Collaboration on logistic activities

Table 2. Information exchange

Aspect	Descriptions
Data/Information	Contracts, deliverables status, product information, location/ route, time
Information flow and authorization	Data and information access

Based on the discussion above, global business model in halal logistic can be defined from the perspective of industry sector (i.e., agribusiness, retail, logistic provider) in the context of halal logistic within the business process. The following figure shows the business model canvas.

5. Conclusion

This study aims to develop the business model for the halal logistic in Indonesia. Through an extensive analysis, value exchange (V), information exchange (I), and business process (P) are presented as the basis to construct business model of halal logistic in Indonesia. However, as this is considered as a preliminary study, first, a further study to improve current business model by sharpening the VIP aspects is needed. Second, more cases

representing different industry sector are needed to enrich the perspectives of halal logistic implementation in Indonesia.

Table 3. Company A business process

Business Process	Input Order	Document	Operational	Monitoring	Delivery
Business Activities	1. Booking order Which consist of: <ul style="list-style-type: none"> • Contract Dedicate • Monthly Contract • On Call Basis. 	1. Completing document for ekspor impor activities: <ul style="list-style-type: none"> • Export, such as Shipping Instruction, Delivery Order, Kartu Ekspor and Loading document. • Import, such as Import card and Container claim letter. 	1. Provide driver dan transportation unit For domestic and export-import activities 2. Provide Delivery permit letter.	1. Transportation unit position monitoring. 2. Report transportation unit position to customer	1. Delivery goods to customer
Business actor	1. Customer	1. Sea Forwarder 2. Customer	1. Operasional	1. Transport Management System (TMS)	1. Driver
Halal checking item*	Vendor halal certification; halal species data	Vendor halal certification; halal species data	Halal logistic certification; Proper display and storage; Control of contamination; Good customer care and after-sale services; good training and education; good team	Complete traceability and monitoring system; audit	Control of contamination; handling system; facilities hygiene

*Sources: Lodhi (2009); Zulfakar et al. (2013); Zulfakar et al. (2015)

Table 4. Company B business process

Business Process	Input Supply	Transportation	Production	Warehouse	Transportation	Distribution Center
Business Activities	1. Provide palm oil and processed into semi-finished or Crude Palm Oil.	1. Transporting Crude Palm Oil by tanker to the pier or harbor. 2. Transporting the palm oil to the oil mill to use tankers.	1. Through a 4-stage process: <ul style="list-style-type: none"> • Neutralization • Bleaching • Deodorises • Fractionation 2. The company sells cooking oil on a large scale to companies like Indomart, Holland Bakery and KFC.	1. Packaging. 2. Packaging. 3. Labelling. 4. Storage and preparation on the shelf. 5. Make a deposit code.	1. Transporting the finished products from the warehouse to be shipped to the distribution centre.	1. Storage stock or inventory to finished product before it is distributed.
Business Actor	1. PT Perkebunan Nusantara which located in Lampung, Jambi, Pekanbaru and Manado. 2. The processing oil plant.	1. Sea Transport Companies. 2. Other Land transportation vendor	1. Company B	1. Company B	1. Company B	1. Company B
Halal checking item*	Vendor halal certification; halal species data	Control of contamination; handling system; facilities hygiene; Certified Halal transit and logistics Practices	Dedicated machinery and equipment; Proper techniques; Separation between Halal and non-Halal processing lines; Appropriate labelling, packaging, storage and transit; Halal certification establishments and procurements; Certified Halal raw material; Certified Halal added ingredients; Good	Accurate labelling; Appropriate storage and transit; Halal certification establishments and Procurements; Complete traceability and monitoring system	Control of contamination; handling system; facilities hygiene; Certified Halal transit and logistics Practices	Control of contamination; handling system; facilities hygiene; Certified Halal transit and logistics Practices

			team; Good training and education; audit			
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*Sources: Lodhi (2009); Zulfakar et al. (2013); Zulfakar et al. (2015)

Business process	Transportation	Trading	End Customer
Business Activities	1. Transport from the distribution centre company B to some retail.	<ol style="list-style-type: none"> 1. Unloading. 2. Check the condition of the goods. 3. Matching back the number of orders. 4. The goods data input into the system. 5. Displaying and arrange items on the shelves. 	1. Customer person will buy cooking oil products from Retail Company.
Business Actor	1. Company A	1. Retail company such as Lotte Mart, Alfamart, Hypermart, etc.	1. Customer
Halal checking item*	Control of contamination; handling system; facilities hygiene; Certified Halal transit and logistics Practices	Halal certified supplies; Maintain good hygiene standards; Proper storage conditions; Control of cross contamination of any Halal products; Good customer care and after-sale services;; Certification of establishments by reputable Halal certifier; Complete traceability and monitoring system	Halal certified retail outlet; Hygiene; Proper storage conditions; Moderation in food purchase; Moderation in food consumption; Reduce and reuse of domestic food waste; Reasonable limited profit margins when serving low income communities

*Sources: Lodhi (2009); Zulfakar et al. (2013); Zulfakar et al. (2015)

Table 5. Company C business process

Business Process	Input Supply	Transportation	Distribution Center		Transportation	Retail	End Customer
			Raw Material Stock	Production			
Business Activities	<ol style="list-style-type: none"> 1. Provide wheat 2. Provide rice 3. Provide meat 4. Provide seasoning 5. Provide vegetables and fruits 	<ol style="list-style-type: none"> 1. Transporting raw materials from Supplier to 7-Eleven Distributor Centre 	<ol style="list-style-type: none"> 1. Food <ul style="list-style-type: none"> • Frozen - 20°C • Chiller 4°C • Dry 26-32°C 2. Non Food <ul style="list-style-type: none"> • Cleaning equipment 3. Packaging <ul style="list-style-type: none"> • Cardboard • Dus • Streep 4. Entertainment <ul style="list-style-type: none"> • Brochure • Gift 	<ol style="list-style-type: none"> 1. Food Separation (frozen, chiller and dry), according to the temperature. 2. Food production such as rice bowl, bakery, big bite, etc.. 3. Save the yield (meals ready-made) to be distributed. 	<ol style="list-style-type: none"> 1. Transporting Product from Supplier to 7-Eleven Distributor Centre. 2. Have a cooler box equipped for frozen goods and chiller. 3. Provide 1 special unit used to lift production of food such as rice bowl, bakery, big bite, etc. t work out or expired items. 	<ol style="list-style-type: none"> 1. Unloading goods. 2. Check goods condition. 3. Check the number of orders. 4. Input data items to the system. 5. Arrange items in the rack. 	<ol style="list-style-type: none"> 1. Customer person buy product from retail company
Business Actor	<ol style="list-style-type: none"> 1. Vendor 	<ol style="list-style-type: none"> 1. Transportation vendor 	<ol style="list-style-type: none"> 1. Company C 	<ol style="list-style-type: none"> 1. Company C 	<ol style="list-style-type: none"> 1. Company C 	<ol style="list-style-type: none"> 1. Company C 	Customer
Halal checking item*	VeVendor halal certification; halal species data	Control of contamination; handling system; facilities hygiene; Certified Halal transit and logistics Practices	Certified Halal raw material; Certified Halal added ingredients	Dedicated machinery and equipment; Proper techniques; Separation between Halal and non-Halal processing lines; Appropriate	Control of contamination; handling system; facilities hygiene; Certified Halal transit and logistics Practices	Certified Halal transit and logistics Practices; Proper display and fair pricing; Proper storage conditions; Good customer care	Halal certified retail outlet; Hygiene; Proper storage conditions; Moderation in food purchase;

				labelling, packaging, storage and transit; Halal certification establishments and procurements; Audit; Good training and education; Good team		and after-sale Services; Adequate control of contamination with non-Halal products; Complete traceability and monitoring system	Moderation in food consumption; Reduce and reuse of domestic food waste; Reasonable limited profit margins when serving low income communities
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*Sources: Lodhi (2009); Zulfakar et al. (2013); Zulfakar et al. (2015)

Key partners: <ul style="list-style-type: none"> • Halal supplier/vendor • Halal distributor • Government • Community • Media, • University • Customer • Halal trade • Islamic finance 	Key activities: <ul style="list-style-type: none"> • Input/supply • Transportation • Production • Warehousing • Distribution 	Value proposition of halal: <ul style="list-style-type: none"> • Provision of halal • Politeness • Cleanliness, safety • High quality of products and services 	Customer relationship: <ul style="list-style-type: none"> • Trust • Transparency • Safety 	Customer segment: <ul style="list-style-type: none"> • Company with the same understanding of halal logistic (B2B) • Customer who demand for halal assurance (B2C)
	Key resources: <ul style="list-style-type: none"> • Data and information management system 		Channel: <ul style="list-style-type: none"> • Reached through collaboration with partners 	
Cost structure – Value driven: <ul style="list-style-type: none"> • R&D • Halal certification • Economies of scope • Advertising and halal campaign 			Revenue stream: <ul style="list-style-type: none"> • Sale of product • Sale of services 	

Figure 2. Business model canvas of halal logistic

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