Supply Chain Management: Sertu Cleansing for Halal Logistics Integrity

Noorsiah Ahmad*, Sariwati Mohd Shariff

*MITRANS, Universiti Teknologi MARA, 40450 Shah Alam, Malaysia

Abstract

This literary paper aims to provide a literature review on halal sertu cleansing for halal integrity in supply chain management. Halal logistics is important to maintain integrity of halal products supply chain. Sertu cleansing operations is to ensure transportation and logistics carrying halal products are assured with no occurrence of contamination from non-halal. The awareness on the sertu cleansing operations in Malaysia among industry players is relatively low. Therefore, this study explores the literary review on sertu cleansing operations and procedural requirements, as stated in the Malaysian Standards MS2400:2010 for halalan-toyyiban assurance pipeline, or known as the halal supply chain management. Halal cleansing operations is significant for halal integrity implementation in the halal logistics’ equipment not only through compliance of this MS2400 requirements but what is more important to carry out with in-depth understanding and observance of the Shariah requirements. In summary, the knowledge and literature on sertu cleansing operations can be used as a reference for the halal authority, halal logistics service providers and researchers in halal logistics and supply chain management.

Keywords: halal logistics; halal supply chain; sertu cleansing operations; halal integrity.

1. Introduction

Halal simply means “things or actions permitted or lawful” by the Shariah laws; thus halal foods and halal services means foods and services that are allowed to be consumed or used in accordance with Islamic Shariah law.

* Corresponding author. Tel.:+60355442752; fax: +60355442344.
E-mail address: sariwati@salam.uitm.edu.my
Halal foods and halal services must comply with the religious ritual and observance of Shariah law. The term halal covers and designates not only for food and drink but also all matters of daily life. The terms halal and haram distinguishing the lawful from the unlawful respectively refers to matters stated under the ‘Islamic law’ known as the Shariah (Al-Shariah) which is a moral system of living that governs every aspect of a Muslim life. Shariah refers to the body of Islamic laws which deals with many aspects of Muslims day-to-day life from food, hygiene, family, politics, banking and business (SIRIM, 2015).

Apart from halal, the Islamic religion also places strong emphasis on cleanliness (toyyiban) – in the context of spiritually, physically, mentally and health. Thus, halal management governs not only for food production or manufacturing but halal management also covers sourcing or origin of raw materials (halalness), movements, transportation and distribution processes from the upstream (origin) and downstream to the market (end users) that involves transporters, containers, modes by road, air or sea, the warehouse and distribution centers owners and operators and their operations; the wholesalers and retailers and their business to the end in hypermarkets, supermarkets and small retail outlets services must be halal compliance. This refers to halal supply chain management.

2. Halal supply chain management

Halal supply chain is now the latest emerging business that has captured global attention. It has not only attracted food industry practitioners to practice and comply with the halal concept, but other sectors such as cosmetics, pharmaceutical, health care products; and also academicians and researchers from institutions of higher learning also need to know and understand the halal supply chain in order to support halal integrity of the halal products. According to Ngah & Zainuddin (2012), the activities in the halal supply chain are warehousing, sourcing, transport, handling and delivery of halal products, inventory management and other business management strategies such as lean management and values-based management.

Halal supply chain management refers to the process of managing the procurement, movement, storage and handling of materials, parts, livestock and semi-finished inventory, food and non-food, and related information together with documentation flows through the organization that comply with the general principles of Shariah Law (Bahrudin, Illyas, & Desa, 2011). Additionally, halal supply chain adopts the conventional supply chain but with imposed Syariah law requirements. The imposition of the Islamic laws in supply chain management acts as the basic requirements for a Shariah-based halal management process: meaning everything must be halal (permissible) and also toyyib along the whole chain (Omar, Jaafar, & Osman, 2012).

Recapitulating, toyyib or toyyiban refers to clean, hygiene, safety and wholesomeness (MS2400: 2010). Malaysia is world respected in pioneering halal supply chain management standards which is the MS2400 Halal Assurance Pipeline Standards (Department of Standards Malaysia, 2010) shown in Table 1. In fact, Malaysia is also the global pioneer in halal certification system. JAKIM (Department of Islamic Development Malaysia) is also worldly recognized as the leading authority on matters relating to development of halal policies, halal certification processes and auditing standards with collaboration of Department of Standards Malaysia (JAKIM, 2012).

Table 1: MS2400: 2010 HTAP Standards

| Malaysian Halal Standards MS 2400: 2010          |
|---------------------------------------------------|
| MS 2400-1: 2010 Part 1 Halalan-Toyyiban Assurance Pipeline: Management System Requirement for Transportation of Goods and/or Cargo Chain Services. |
| MS 2400-2: 2010 Part 2 Halalan-Toyyiban Assurance Pipeline Management System Requirements for Warehousing and Related Activities. |
| MS 2400-3: 2010 Part 3 Halalan-Toyyiban Assurance Pipeline Management System Requirements for Retailing. |

2.1. Halal Logistics

Logistics is defined as the process of planning, implementing and controlling the efficient, effective flow and storage of goods, services and related information from point of origin to point of consumption for the purpose of
conforming to customer requirements. The purpose of logistics is to ensure that customers are able to consume the products at the right time, right quantity and in good condition. Therefore, logistics management involves a series of activities namely transportation, storage and warehousing, inventory management, material management, product scheduling and customer service.

Logistics plays a key role in protecting the quality and conditions of products through proper transportation, storage and handling within the supply chain, until it reaches its final destination (Tieman, 2008). The success of the halal industry relies on logistics service management capabilities in ensuring the integrity of halal products. All halal products must comply with the Shariah law which states that products must be safe, not harmful and wholesome right from the origin until final consumption.

The main element that ensures halal products remain halal is when these halal products reach the consumers is transportation and logistics. The basic principle of halal transportation is to ensure physical segregation of halal cargo from non-halal cargo in transport. This is to avoid possibility of cross-contamination; to avoid the possibility of making mistakes and to ensure the transportation system meets the expectations of the various muslim consumers throughout the world (IHIAS, 2010). Kamaruddin et al. (2012) mentioned the consumers’ consumption trends are not only towards halal products but also halal logistics. Thus, adopting halal into logistics context, the halal products must be ensured its halalness during and throughout all logistics activities that are specifically: transportation, storage and warehousing and retailing too must adhere to Shariah principles as a whole.

Zulfakar, Mohamed Anuar & Ab Talib, (2014) describe halal logistics as similar to conventional logistics activities, comprising of planning, implementing and controlling the distribution and storage of halal certified products from the source to the point of consumption. In halal logistics, halal products must be protected from non-halal products or substances until it arrives at the final destination. However, there is high tendency of halal products may be cross-contaminated during stuffing and delivering due to the transport or containers being contaminated (Zulfakar et al. 2014). The potential of cross-contamination can or may happen when the halal product may or come into physical contact with non-halal substance of previous delivery by the same transport which results in the halal product becomes haram or non-halal. The same goes to the container usage that carries a halal product but is affected by the previous non-halal element in the said container or transport vehicles. Tieman (2011) again reemphasized the distribution, storage, handling and procurement of halal products must follow the Shariah principle in order to be considered halal. Hence, halal logistics competencies and Shariah-cum-technical know-how are crucial in order to maintain the integrity of halal products.

2.2. Halal Integrity

Halal logistics requires a process approach, where processes and procedures have to be clearly documented as proof of a halal logistics system (Tieman, 2013). Although an established and well-documented halal logistics system should be able to prevent contamination from occurring, proactive corrective measures will need to be defined to mitigate or at least minimize the risk of contamination on halal products; and business strategies to address the perceptions and sensitivity of the muslim consumers. The main objective of halal logistics is to ensure the halal integrity of halal products for the end-consumers (Jaafar, Rahman & Muhammad, 2014). Integrity means the quality of being honest and having strong moral principles; moral uprightness. Integrity is synonymous with solidarity, coherence and cohesion, highly ethical, truthfulness and trustworthiness (Dictionary.com, 2015). Hence, halal integrity in halal logistics and halal supply chain means to uphold the state of halal for the foods and cargo; and toyyib for the manner the foods and cargo being handled and delivered along the supply networks by the service providers from transporters, warehouse operators and retailers; and the man himself are ethical, truthful and trustworthy in carrying out their operations and system of works in halal industry.

Halal integrity is the assurance of the halal products particularly for halal food industry. Protective and preventive measures must be taken to ensure that the halal products still remain halal even throughout the transportation process within the supply chain. Thus, halal supply chain management assures halal integrity is secured from the source (origin) to the point of consumer purchase (end). This means halal logistics plays a crucial role in halal supply chain management in connecting the individual suppliers, supplier of suppliers, customers, customers of customers to the final consumers: thus creating a halal supply network (IHIAS 0100:2010); however the halal integrity in the halal supply chain has yet to be assured in the industry and its logistics practices.
Zulfakar, et al (2014) stated halal integrity assurance is the key factor in developing a well trusted halal food supply chain in the current complex and competitive environment. These researchers also posited the challenges for halal integrity lie ahead due to variations in the definitions of halal; unavailability of single, worldwide halal standards; and lack of comprehensive understanding of the whole halal food supply chain. Hence, all the parties involved must be committed with every possible action to protect the integrity of the halal supply chain. Zulfakar, et al (2014) added on that halal integrity means that the products are being sourced, produced, processed, stored and distributed with compliance with the Islamic values; these are also in line with the universal values such as high quality, safety, hygienically produced and respect for animal welfare and fairly traded. The authors quoted: “halal food products now travelled greater distance and involved a lot of handling before it reaches its final point of consumption; this situation creates uncertainty on the authenticity of the halal status and whether the food products still remains halal. Therefore, it is a big challenge for all the parties involved to ensure the integrity of the halal product is intact throughout the whole supply chain”.

Talib et al. (2013) claimed factors hindering halāl logistics adoption were due to: lack of government support, collaboration issues among logistics service providers, lack of knowledge on halāl issues such as cleanliness of transport and containers, and the perception of additional and increase in operation costs. Zulfakar et al (2014) study postulated seven identified factors affecting halal integrity as: 1) halal certification; 2) halal standards; 3) halal traceability; 4) halal dedicated assets; 5) trust among supply chain members; 6) commitment of supply chain members; and 7) the role of government. However, all these studies do not address contaminations and sources of contamination that affect halal integrity (Mohd Shariff & Ahmad, 2015).

2.3. Contaminations Sources

Contaminant has varied definition; it can be in the form of solid, liquid, natural or artificial; visible or invisible to the eyes such as microbes; odour or odourless; an element, a substance, a process, an activity or a reaction that are intentionally or unintentionally causing directly or indirectly ‘adulterating’ or affecting the original nature or state of a process; a medium; or an environment. Contaminants can also be derived from the interactions or a combinations of all the above. Contamination is the act of contaminating; or of making something impure or unsuitable by contact with something unclean, bad as by making it unsuitable, harmful, or unusable (Dictionary.com, 2015). In the context of halal supply chain and halal logistics, contaminants are any non-halal or detrimental (mudhorat) substances that are intentionally or unintentionally added which render the halalan products as non-halal (MS2400: 2010).

Contamination refers to the state of being in contact, infected, adulterated by contaminants or precursors that violates the Shariah laws (Mohd Shariff & Ahmad, 2015). Contamination is the state of being contaminated either by contaminants or precursor which affects the halalan toyyiban status (MS2400: 2010). Hence, the presence of contaminants in the halal supply chain operations poses a probability or likelihood of exposure to cross contamination to the halal products; thereby causing the halal products to be contaminated and hence haram and non-halal. Therefore, the contaminants in halal logistics and supply chain that are prevalent are najs and precursors that may exist possibly in the transport and containers that are formerly carrying non-halal products; and traces of contaminants that originate from the non-halal products due to a combination of factors (environment, temperature, humidity, air pressure, quality of air), or human handling at the warehouses operations and also at retailing end (Mohd Shariff, Jaafar & Muhammad (2014).

In Islamic law, najs or najis are contaminants; things that are ritually unclean because of their characteristics. The Malaysian MS1500: 2009 and MS2400: 2010 standards categorized najis as shown in Table 2 below.

| Types of Najis (Filth) | Types of Najs (Najis; Filth) |
|------------------------|------------------------------|
| a. Mukhaffafah (Light) | Light najs is urine from a baby boy at the age of two years and below who has not consumed any other food except his mother’s milk. |
| b. Mutawassitah (Medium)| Medium najs which does not fall under severe or light najs such as vomit, pus, blood, khamar, carrion, liquis and objects discharged from the orifice |
| c. Mughallazah (Severe) | Severe najs which are dogs and pigs including any liquid and objects discharged from their orifices, descendants and derivatives. |
Precursor is predecessor in operations or activities refer to a person, animal or thing that precedes (that goes before) as in a job or a method for an example. Precursors are dominant in chemistry and food processing where a chemical that is transformed into another compound, as result of a chemical reaction; and therefore precedes that compound in the synthetic pathway. In the context of halal logistics and supply chain, precursor is the result of activity (s) of halal substance (s) not intended as part of the product that may affect the toyyiban status and intended use of the product. Contaminations may also happen from the product characteristics itself such as frozen meat, chilled milk and dairy products due to the presence of chemical, physical and biological hazards that are present in the food products.

The probability of contamination(s) may occur at any stage along the halal supply chain process: transport, warehouse and retailing operations. The likelihood of contamination depends on the probability of exposure, duration of contact, and frequency of exposure to the contaminants or najs’ and its severity effects (as result or resultant effects) onto the halal goods being carried (Mohd Sharif & Ahmad, 2015). In the event of contaminations do occur, the logistics operations need to be prepared for remedial preventive and corrective actions to assure halal and Shariah compliances (Mohd Shariff, et al. 2010). One of the control mechanisms is the Shariah ritual cleansing or called sertu cleansing procedure for transport containers carrying halal products (MS2400: 2010).

3. Shariah Sertu Cleansing in MS2400 Standards

Cleaning simply refers to an activity to make a work station, a warehouse and a container free from dirt, stains or any contaminants that are present. Cleaning activities most commonly carried out are sweeping, scrubbing, washing etc as it depends on the degree of stains and the medium or agent of washing (Mohd Shariff, 2011). The common agent used for washing is water as it is cheap and natural; however, stubborn stains, oil and chemicals may require chemicals and agents. On the other hand, cleansing is more than just cleaning as it involves elements of purification, spiritual and religious values and faith. Ritual cleansing serves not only to remove body filth, but also remove negative energy and bad spirits in accordance with the religious values, faith and beliefs with full sincerity and integrity. For example: ablution – washing body parts with water with religious motive and faith citing Islamic verses.

Halal logistics operations involve the use of transport, trucks and containers; warehouse and its working, surrounding areas and infrastructure such as floors, loading bays, storage rooms, equipment used (forklift, stackers, racks); and the people that involves in systems of work: handling, sorting, transferring and stacking. All these are possible sources of contaminations and if there are presence of najs (dogs and pigs and derivatives); evidence of prior handling on known non-halal product or cargo; evidence of cross-contamination from due to mixed storage or mistakes by human. This section emphasizes on cleansing operations for severe najs (mughallazah) that are relevant to the transport and container operations; and this process is called Shariah halal ritual cleansing or sertu. Sertu cleansing of severe najs requires three basic elements namely: 1) water; 2) soil or agent of cleansing; 3) procedure of cleansing (MS2400:2010). MS2400:2010 standards are the standards to be used to establish halalan toyyiban supply chain management for transport of goods/cargo in Malaysia. Based on analysis on sertu guidelines in MS2400: 2010, the key variables identified are: 1) raw material (water); 2) product (soil or agent of cleansing); 3) process (procedure of cleansing); 4) people whom carrying out the cleansing and verification; and 5) records. Table 3 depicts the MS2400 requirements on sertu cleansing requirements for logistics service providers and warehouse operators to assure contaminations are being mitigated.

| Clause | Clause 6.1.1 | Clause 6.1.2 | Clause 6.2.3 |
|--------|-------------|-------------|-------------|
| MS2400: 2010 Part 1 – Halalan-Toyyiban Assurance Pipeline Part 1: Management System Requirements for Transportation of Goods and/or Cargo Chain Services | The design and layout of premises should permit good hygiene practices, including protection of goods/cargo against cross-contamination between and during operations. Construction and layout of the depot shall permit adequate maintenance and cleaning. | Internal structure of premises should be soundly built from durable materials and be easy to maintain, clean and where appropriate able to be disinfected or perform Shariah ritual cleansing. | The management shall ensure that all equipment used in the transport chain activities meet specified requirements and are appropriately designed, constructed and installed to facilitate maintenance, adjustment, cleaning and use. |
6.5.1 Equipment should be kept in an appropriate state of repair and condition to facilitate all sanitation procedures including Shariah ritual cleansing; and prevent contamination of goods/cargo from non-halal materials and dangerous or hazardous materials.

6.6.1 The organization shall establish and maintain a procedure to outline suitable cleaning methods and materials depending on the nature of the organization’s business; to describe cleaning and disinfection programs undertaken to ensure all parts of the premises are appropriately clean and in accordance to the halalan-toyyiban requirements. The cleaning program should include the cleaning of the cleaning tools and Shariah ritual cleansing where required.

Sertu or Shariah ritual cleansing or purification cleansing is for the cleansing that involves the highest level of impurity or severe najs (najs mughallazah) in Islam laws that concerns contamination (or in physical contact) from dogs, pigs and its descendant. Example, if a muslim were in skin contact with a dog (its saliva) be it by accident or intention, the muslim has to cleanse the part of contact by way of sertu. Shariah sertu cleansing protocol and procedures are outlined in accordance with Islamic rulings stated in the Holy Quran on precisely how ritual cleansing should be carried out to cleanse and purify all taints and contaminations from the three types of najs. MS2400 standards stipulate the Shariah ritual cleansing requirements in Clause 6.7.1 quote: “the organization shall ensure that Shariah ritual cleansing is performed when and where contamination by severe najs occurs.”

3.1. Raw material – Water

Sertu or ritual cleansing requires the use of water as the base element for washing and cleansing. The conditions of the water must be natural (mutlaq); and not mustakmal; and must be free from najs (MS2400: 2010). According to Shariah law, mutlak water is purely water in its original state with no mixture and able to clean and cleanse. Mutlak water is water that has not been in contact or in use; be it to washing oneself or to wash away filth and such or mix with any soap or other such chemicals. Absolute (mutlak) water is generally accepted to be as water from rivers, wells, rain water, dew, sea water, melted snow, spring water and tap water (SIRIM, 2015). The techniques of using water for the sertu operations are categorized in the subsequent process (procedure).

3.2. Product – Soil or agent of cleansing

The conditions of the soils must be 1) free from najs; and not mustkmal (soil which had been used for dry ablation) (MS2400: 2010). Sertu or purification with soil is a way to nullify the germs and illnesses that such impurity holds. Scientists have found that the only way to clean and remove the germs and potential illnesses that may be present in the contaminant in najs mughalazah is using soil. Soil generally refers to clay; however modern technology has developed agents of cleansing such as sertu clay product (Kassim, Hashim, Mat Hashin & Jol, 2014), soap and chemical agents for sertu cleansing. The amount of soil or agent used for ritual cleansing must be determined in proportionate ratio (amount) of water (raw material) used for the cleansing process.

3.3. Process – Procedure of cleansing

The process of sertu is to cleanse (wash) the affected area or parts 7 times where 1 wash using mutlak water mixed with soil and 6 washes with mutlak water. Cleansing process guidelines stated in MS2400: 2010 standards as follows; quote:

a. It is required to wash seven times, one of which shall be water mixed with soil;
b. The first wash shall be to clear the existence of najs, even if a few washes are needed.
c. The water from first cleansing shall not remain behind and the next wash shall be counted as the second wash.
d. The amount of soil used is just enough to make a suspension; and
e. The usage of cleansing agent containing soil is permitted.
f. This process shall also include controlling the flow and discharge of the cleansing and rinsing water into proper drainage and drains.
3.4. People

The Shariah cleansing process shall be supervised and verified by a Shariah competent person. Hence, this indicates the people or appointed cleaning contractor that performs or execute the sertu cleansing process must also be knowledgeable on the Shariah procedural requirements and able to comply as well as perform the ritual cleansing with integrity. This people must be trained and competent, and certified by the halal authority in order to carry out this task with integrity. Additionally, the MS2400 standard requirements also state the requirements for the organization to appoint a halalan-toyyiban leader, setting up halalan-toyyiban committed and a shariah advisor to spearhead and manage the whole halalan-toyyiban assurance management system as a whole.

3.5. Records

All sertu cleansing carried out or done shall be recorded as stipulated in Clause 6.7.3 of the MS2400: 2010. Records and documents are objective evidences of the processes that have been duly carried out and observed all Shariah requirements; for tracing and tracking purposes; and last but not the least for audit and integrity of the halal logistics system. Documents and standard operating procedures are mandatory not only to demonstrate adequacy and compliances of the halal management system with the MS2400 standards but also the sertu operations are carried out with the set procedures and guidelines. Documents such as halalan-toyyiban policy, organization chart, job descriptions of halal-toyyiban committees and halal executives, training manual, appointments of certified contractors engaged for sertu operations, communications are some of the examples; while training records and attendance, purchasing of products, processes carried out for sertu are some of the important records demonstrating sertu operations had been carried out.

4. Conclusion

Halal integrity in halal logistics is an integral part of the halal supply chain management. Halal integrity encompasses cleanliness, sertu cleansing of transport, containers and trucks, operations’ compliance with Shariah laws and tracking and traceability. Sertu cleansing is warranted for machines, utensils or equipment that are being used previously in manufacturing of non-halal food products. Sertu ritual cleansing also needs to be carried out if severe najs such as dogs, pigs and its derivatives are present in the warehouse. Carrying out sertu needs in-depth understanding of Shariah requirements and carrying out this Islamic ruling is not a task to be taken lightly. This paper concludes sertu cleansing is important to assure halal and toyyib (clean and safe) and the responsibility lies on the logistics service providers and the enforcement on its compliance lies in the halal authority. In conclusion, the literature on sertu operations can used as a reference for the halal authority, halal logistics service providers and researchers in halal logistics and supply chain management.

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