

## Factors Influencing Sertu Cleansing Integrity in Halal Logistics

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### Abstract

*Nowadays, the integrity of halal product status is important for Muslim consumers. Sertu cleansing operations is to ensure that transportation and logistics carrying halal products are assured with no occurrence of contamination from non-halal sources in halal logistics. However, the study on sertu cleansing in Malaysia is still low. Therefore, this concept paper attempts to discuss factors in sertu cleansing integrity as stated in Malaysian Standards MS1500: 2009 for halal food production, preparing, handling, and storage, and MS2400: 2010 for halalan-toiyibban assurance pipeline or known as halal supply chain management. The factors in halal cleansing that influence the halal product integrity such as: sertu procedure; process or method of sertu cleansing; people engaged in these activities; and the sertu cleansing products. This paper generates awareness and provides better understanding on the factors influencing sertu cleansing in assuring halal integrity of halal food products and other related products.*

**Keywords:** Halal products, halal supply chain, sertu cleansing, halal integrity

### 1.0 Introduction

Halal food products are an important aspect for the halal industry; and for any food or beverage product to be approved by the authorities, it must comply with Islamic dietary laws as specified in the Quran or the Hadith and Sunnah.

The improvement in food technology and distribution has resulted in Muslims today being more vulnerable to food produced and in the control of food distribution. A clear division of halal food products, or haram food, is not always possible because of the ambiguity in their production (Talib, Zailani, & Zainuddin, 2010). Therefore, more information is needed to categorise them as halal food, or haram. These products can be halal if the raw materials used are halal and the processes meet the requirements of Islam.

Halal food is no longer seen as a purely religious requirement for Muslims since non-Muslims have also started demanding the same, due to the perception that halal food

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is cleaner, more hygienic, and delicious (Abdul Talib, Mohd Ali, & Jamaludin, 2008; Belkhatir, Bala, & Belkhatir, 2009). The food and other related products made from halal animals are no longer halal if they have been contaminated by haram products or haram equipment during manufacturing or distributing. Therefore, the Muslim consumers must clean through shariah way if the halal foods, including the additives and the ingredients, contain any haram substances and if contaminated equipment were used.

The main goals of halal food supply chain are to ensure customer satisfaction and halal product status remain in the entire process of the supply chain (Bahrudin, Ilyas, & Desa, 2011). The integrity of the halal food product must be protected and necessary steps must be taken by all parties involved in the supply chain to avoid any cross contamination that will lead the product to become non-halal, or haram.

In the past years, many academic publications deliberated on the areas of halal food supply chain and halal integrity; however, not much of this literature focused on sertu cleansing. Most of the publications in the current halal industry focused on consumer perception studies particularly purchasing behaviour of Muslim consumers; and awareness of consumers toward halal products (Bonne et al., 2007; Bonne & Verbeke, 2008; Wan Omar, Muhammad & Omar, 2008; Suddin, Geoffrey Harvey & Hanudin, 2009; Golnaz et al., 2010; Alam & Sayuti, 2011).

Therefore, it is important to create a proper awareness and better understanding among the parties involved in the halal food supply chain. This involves the importance of protecting halal integrity of food products through sertu cleansing in transportation and containers. The main objective of this paper is to investigate factors in sertu cleansing integrity in enhancing the integrity of halal product supply chain.

## **2.0 Halal Supply Chain Management**

The emerging business of food industry, cosmetics, pharmaceutical, health care products, and the academicians has captured global attention that require halal supply chain and practice, integrated with the halal concept. The practitioners must understand the halal supply chain to support halal integrity of the halal products. According to Ngah and Zainuddin (2012), activities in halal supply chain include warehousing, sourcing, transport, handling and delivery of halal products, inventory management, and other business management strategies such as lean management and value-based management. This is similar to the list of activities by Bahrudin et al. (2011) who mentioned that 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 flow through the organisation that complies with the general principles of Shariah law. Meanwhile, *toyyib* or *toyyiban* refers to clean, hygiene, safety, and wholesomeness of the halal product (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), as 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 recognised as the leading authority on matters relating to development of halal policies, halal certification processes and auditing standards with collaboration from the 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 the process of planning, implementing, and controlling the efficient and effective flow, and storage of goods, services, and related information from point of origin to point of consumption at the right time, right quantity, and condition to fulfil customer requirements. Logistics management involves a series of activities namely transportation, storage and warehousing, inventory management, material management, product scheduling, and customer service, and act in an important 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, 2011). 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 how these halal products are delivered to the consumers, that is the transportation and logistics, that segregate between halal cargo from non-halal cargo. 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, Iberahim, and Shabudin (2012) highlighted that the consumer consumption trends are not only toward halal products, but also halal logistics. Thus, adopting halal into the logistics context, the halal products must be assured of its halalness during and throughout all logistics

activities, which are specifically: transportation, storage, warehousing, and retailing, which must adhere to Shariah principles as a whole.

In halal logistics, halal products must be protected from non-halal products or their substances until it arrives at the final destination. However, there is high tendency for halal products to be cross-contaminated during handling and delivering due to the transport or containers being contaminated (Zulfakar, Anuar, & Talib, 2014). The potential for cross-contamination can or may happen when the halal product comes into physical contact with non-halal substance of previous delivery by the same transport or usage of the container that has been contaminated, which results in the halal product becoming haram or non-halal. Tieman (2011) again reemphasised that the distribution, storage, handling, and procurement of halal products must follow the Shariah principles 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. Not many academic publications discuss on sertu cleansing on the transport and container to ensure halal integrity.

### **3.0 Halal Integrity**

#### *3.1 Overview of Halal Integrity*

As highlighted earlier, food products including other related halal products, move in global supply chains and are associated with various handling procedures, such as transportation, warehouse, and other logistics activities before it reaches its final end users. This situation has generated ambiguity regarding the authenticity of the halal status and whether the halal products are truly maintained as halal.

Ensuring halal integrity is a critical challenge for the halal industry. Since the halal industry involves “farm to table” operations, the issue of integrity throughout the halal supply chain and halal logistics indeed becomes a major factor for consideration. There have been cases of fraudulent halal certification and physical contamination of halal food products during manufacturing and distribution that questions the authenticity and integrity of halal food consumed, which becomes a major issue for Muslims (Halal Expo Europe, 2015).

Lodhi (2009), Khan (2009), and Tieman (2011) highlighted that halal integrity assurance is the key factor in developing a well trusted halal food supply chain in the currently competitive environment. All of these authors also agreed that to protect halal integrity, it is important to completely understand the whole halal food supply chain. All parties involved must be able to anticipate every possible action to protect and assure the integrity of the halal supply chain.

In halal logistics operations, a company that supplies halal products needs to provide transportation and special containers to carry halal products to the consumers to ensure

the products' safety, cleanliness, and hygiene, as this would guarantee halal integrity. Logistics service management capabilities are important for the halal industry to ensure integrity. Halal logistics play a key function in protecting halal integrity along the supply chain. All the related parties involved in the halal food supply chain should share responsibilities to ensure the integrity of halal status is protected along the supply chain to the end users, so as to guarantee that the food product can still remain halal.

Jaafar, Endut, Faisol, and Omar (2011) shared similar opinions on this matter. Their study highlighted that halal integrity of a particular food product would be intact as long as the product is in the producer's custody. However, once the product moves along the supply chain, the integrity of the product will only be intact if the next party in charge within the supply chain has similar understanding and operational practice of handling halal products. All efforts taken by the previous party in safeguarding the halal integrity status would be useless and thus increase the possibility of cross-contamination.

This is further supported by the study prepared by Melatu Samsi, Tasnim, and Ibrahim (2011) who indicated that the participation of all parties or stakeholders in the halal supply chain is required in order to achieve supply chain integrity. The study, not only identified the parties involved directly in the transaction, such as the halal food producers, its suppliers, employees, and customers, as the ones who should bear the halal integrity responsibilities, but also included those indirectly involved such as trade associations and government bodies that should play similar roles to ensure the products remain halal from the beginning to the end of the supply chain.

### 3.2 *Sertu Cleansing*

The halal transport vehicle and containers need sertu cleansing, and this cleansing is to remove dirt, traces, and other substances of an earlier non-halal or unknown shipment which mitigates the possibility of contamination and najis with respect to the Shariah law principle. Hence, it is worthy to understand what sertu cleansing is and why it is needed, and to comprehend why cleansing in halal logistics is warranted and relevant in maintaining halal integrity in halal logistics.

Cleaning is an activity, action, process, or procedure to make a work station, a warehouse, an equipment, a lorry and container, to mention a few, free or removed from dirt, dust, grime, oil, stain, litter, or any other contaminants. Cleaning activities that are most commonly carried out include sweeping, dusting, scrubbing, vacuuming, and washing, and it depends on the object to be cleaned, the type and degree of stains, and the medium or agent used in washing.

The common medium or agent used for washing is water as this is easily accessible, cheap, and natural, however, stubborn stains, oil and chemicals, and persistent contaminants require appropriate chemicals and agents to remove them. This cleaning concept applies to halal logistics and halal supply chain as all equipment, transportation, and warehouses must be clean with good housekeeping procedures to ensure they are all

clean, neat, tidy, and orderly; this is synonymous to how one would need to clean oneself for personal and health hygiene to work. Thus, all Malaysian halal and food standards state mandatory requirements for premises, infrastructure, facilities, and personnel to maintain cleanliness, and where appropriate, to disinfect to avoid contamination of all sorts for maintaining halal integrity and cleanliness (toyibb) (MS2400, 2010).

Cleansing aims not only to purify but also to filter and remove all possible remaining traces of contaminants in total so that no evidence of contamination remains. Hence, sertu cleansing in halal logistics and transportation refers to sertu procedures; and that sertu cleansing is carried out in the transportation vehicles and containers if there is any evidence of najis contamination present; or when one is in doubt on the status of halal and cleanliness (toyib) of the said containers and trucks.

According to Ahmad and Shariff (2015), shariah sertu cleansing refers to removal of contaminants based on cleansing procedures in accordance to the shariah requirements as stipulated in MS2400 standard requirements. Shariah sertu cleansing protocol and procedures are outlined in accordance with Islamic rulings stated in the Holy Quran on precisely how sertu cleansing should be carried out to cleanse and purify all taints and contamination from the three types of najis. MS2400 standards stipulate the shariah ritual cleansing requirements in Clause 6.7; quote: "Clause 6.7.1 – The organisation shall ensure that Shariah sertu cleansing is performed when and where contamination by severe najis occurs."

Sertu means cleansing something from mughallazah najis such as dogs, pigs, and their descendants. Mughallazah najis should be cleansed by using one time water mixed with soil and followed by six times with clean/mutlak water (Malaysia Halal Certification (3rd Edition), 2014). Sertu or shariah ritual cleansing or purification cleansing is only for the cleansing that involves the highest level of impurity or severe najis (najis mughallazah) in Islamic laws that concerns contamination (or in physical contact) from dogs, pigs, and its descendant (Life Happenstance, 2014). Example, if a Muslim is 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 cleansing (Ahmad & Shariff, 2015).

### 3.3 *Factors Influencing Sertu Cleansing Integrity in Halal Logistics*

This section of the paper discusses on the factors influencing sertu cleansing that are critical toward integrity of halal logistics. Based on critical analysis on available documented sertu guidelines in Malaysia, this paper categorises the elements into the following variables:

- i. procedure (policy of cleansing);
- ii. product (soil or agent of cleansing);
- iii. process (method of cleansing); and
- iv. people carrying out the cleansing and verification.

The factors listed are as stated in the Malaysian Standards (MS1500: 2009 and MS2400: 2010) as in the following sections.

### 3.3.1. Sertu Cleansing Procedure

Procedures are the specific methods employed to express policies in action in day-to-day operations of the organisation. Procedures ensure that a point of view held by the governing body of an organisation is translated into steps that result in an outcome compatible with that view.

The Department of Islamic Development Malaysia (JAKIM) has set the manual procedure for Malaysia Halal Certification (3<sup>rd</sup> Edition) in 2014 with sertu guidelines for halal industry practice as shown in the excerpt below.

#### *Garis Panduan Sertu Mengikut Perspektif Islam*

*Garis panduan ini disediakan untuk dijadikan sebagai panduan kepada semua pihak yang terlibat dalam menguruskan proses sertu bagi kilang, premis, peralatan, pakaian, atau anggota manusia dan sebagainya yang terkena najis mughallazah untuk memastikan semua perkara tersebut suci dari segi syarak. Garis panduan ini juga menjelaskan secara terperinci kepada mana-mana pihak yang memerlukan panduan dalam proses sertu menurut pandangan syarak.*

The information and knowledge guidelines on the cleaning and cleansing requirements are also stipulated in MS1500: 2009, Halal Food production, Preparing, Handling and Storage – General Guidelines (MS1500, 2009). This Malaysian standard serves as practical guidelines for the halal food product and food trade or businesses in Malaysia that also emphasises on sertu cleansing in terms of the use of utensils and machines in the production of halal food, as shown in Table 2.

Table 2

#### *Cleansing Requirements in MS1500 Standards*

| Clause | MS1500: 2009 Halal Food Production, Preparation, Handling and Storage – General Guidelines  |
|--------|---|
| 3.2.7  | The premises shall be effectively separated and well-insulated from pig farms or its processing activities to prevent cross-contamination through personnel and equipment.  |
| 3.3.1  | Devices, utensils, machines, and processing aids used for processing halal food shall be designed and constructed to facilitate cleaning and shall not be made of or contain any materials that are decreed as najis by Shariah law and shall be used only for halal food.  |
| 3.3.2  | Devices, utensils, machines, and processing aids which were previously used or in contact with najis al-mughallazah shall be washed and cleansed as required by the Shariah law.  |
| 3.3.3. | In the case of converting najis al-mughallazah line or processing line containing najis al-mughallazah into halal production line, the line shall be washed and ritually cleansed as required by the Shariah law. This procedure shall be supervised and verified by the competent authority. Upon conversion, this line shall be operated for halal food only. Repetition in converting the line to najis al-mughallazah line and back to halal line shall not be permitted. |

The objective of sertu cleansing is to set an intention in the heart (*nawaitu*) and mind to execute proper cleansing with prescribed procedural steps designated, and to adhere with Islamic law together with spiritual faith, Islamic beliefs, and values with the motive to purify and remove all traces of najis in total for cleanliness (*toyyib*) and halal. Sertu cleansing needs to be conducted, supervised, and verified by a Shariah competent person or a person who is authorised by the State of Islamic Affairs Department or professional sertu or samak cleaners certified or recognised by the Department of Islamic Development (JAKIM) in Malaysia. Malaysia Halal Authority has drafted Malaysia Standard 1500:2009, as indicated in Table 3, where it shows an overview of the najis purification method which is commonly practised among Muslims in Malaysia in compliance with the guidance outlined in the Holy Quran and Islamic teaching syllabus in religious schools in Malaysia.

Table 3

*Purification Methods for Najis*

| Najis  | Najis Purification Method  |
|--|--|
| a. Light Najis (Mukaffafah); 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.   | Clean Najis, followed by sprinkling water over Najis area with no need to soak with forceful clean water.  |
| b. Moderate Najis (Mutawassitah); blood, lymph, water, vomit, excrement, urine, animal carcass (with exception of human, fish, and grasshopper), and milk from these animals prohibited for drinking, etc. | Clean Najis and soak with forceful clean water to remove all colour, odour, and taste. Three sessions of water soaking are recommended.  |
| c. Severe Najis (Mughallazah); pig, dog including liquid and objects discharged from their orifices, descendants, and derivatives.   | Clean Najis and soak with forceful clean water seven times. Once in those seven times shall be clean soil water in compliance with Islamic Law that has unclear appearance and suspended solid or in the form of chalk solvent. Soil water is recommended in the first soak. |

Source: Islamic Teaching School (Manual Procedure for Malaysian Halal Certification)(3<sup>rd</sup> Edition, 2014)

There are three types of najis that have different procedures to cleanse so as to remove the najis from the contaminated area. Light najis (*mukaffafah*) requires a simple cleaning process by just sprinkling with clean water and/or hand wash. For the moderate najis (*mutawassitah*) mentioned in Table 3, the cleansing process is slightly rigorous with forceful clean water so as to remove the colour, odour, taste, and stains of the



contaminants until visibly removed. It is recommended that at least three times of soaking in water to assure the entire removal and purification of the najis is assured with certainty (MS 2004, 2009).

### 3.3.2. Sertu Cleansing Process

Process is a series of actions or steps taken in order to achieve a particular plan. Process in sertu cleansing is important to identify the series of action or steps in this activity. Islamic law permits contamination even involving heavy najis, but states the cleaning process clearly and specifically. However, there are complications in the interpretation about the source of earth/soil water and cleaning process. Because of such confusion, this made it difficult for people to practise the cleaning process in conjunction with the contamination allowances. In several cases, the Islamic committees that oversaw this issue denied the contamination of serious najis because of complications with the cleaning issue.

The process of sertu is to cleanse (wash) the affected area or parts seven times where one wash uses mutlak water mixed with soil and six washes with mutlak water alone. The cleansing process guidelines are stated in MS2400:2010 standards, are quoted below:

- i. It is required to wash seven times, one of which shall be water mixed with soil.
- ii. The first wash shall be to clear the existence of najis, even if a few washes are needed. The water from first cleansing shall not remain behind and the next wash shall be counted as the second wash.
- iii. The amount of soil used is just enough to make a suspension.
- iv. The usage of cleansing agent containing soil is permitted.

Sertu 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 najis (MS2400, 2010). According to Shariah law, *mutlak* water is purely water in its original state with no mixture and it is able to clean and cleanse. *Mutlak* water is water that has not been in contact with or in use; be it to wash oneself or to wash away filth and such, or mixed with any soap or other such chemicals. *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; Life Happenstance, 2014).

This section concentrates on cleansing method for severe najis (*mughallazah*) that is called sertu or samak cleansing, which is relevant to transport vehicles, containers, and other related equipment in halal logistics operations. Sertu cleansing for purification, cleansing, and getting rid of all traces of severe najis require three basic elements namely: 1) water, 2) soil or agent of cleansing, and 3) procedure of cleansing (MS2400, 2010).

### 3.3.3. Sertu Cleansing Products

Khan (2009), Lodhi (2009), and Talib et al. (2010) stated that adequate and appropriate equipment to handle, store, and transport halal food products will help protect the

integrity of food products as the food products are segregated from other potential non-halal elements that might cross-contaminate them. In terms of transportation activities, the possibility of cross-contamination with other non-halal products can be reduced to a minimum level or to zero in the situation whereby the halal food producers have their own transportation fleet and make the delivery themselves to their next buyers. The concern is on protecting halal integrity by avoiding the cross-contamination and separation from haram products. Sertu cleansing is the most appropriate measure to ensure the transport vehicle, container, and other related equipment used are cleaned from severe najis.

Kassim, Hashim, Mat Hashim, and Jol (2012) indicated that as in the traditional practice of samak, clay or soil can be used to cleanse extreme najis without any restriction on the concentration of clay used. However, for industrial application, it requires some modifications of this traditional practice. This is to ensure that it will not cause any damage and scratch specific accessories of the equipment which are very delicate and expensive.

The clay particle size distribution (PSD) should be studied in order to preserve the safety of machines, equipment, and users. The particle size of clay must be fine and contain no other particles that can cause blockages or scratches to the equipment. Most importantly, it must comply with safety and quality of the products manufactured as well as the regulations and guidelines practiced. Therefore, a specific samak clay standard for industrial application is needed to meet the halal requirement as well as meet the specifications of the equipment and machines.

The conditions of the soil must be free from najis; and not mustakmal (soil which had been used for dry ablution) (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 germs and potential illness causing microbes that may be present in the contaminants in mughalazah najis is by using soil (Life Happenstance, 2014). Soil generally refers to clay; however modern technology has developed agents of cleansing such as soap and chemical agents for sertu cleansing.

This paper is also concerned about the compositions that could be used to clean dirtiness according to Islamic regulations. It could be used for production lines, household wares, and as a general cleansing agent as well. The important compositions of this invention are surfactants and white clay, together with other specific ingredients. The focus of this effort is to develop a liquid soap product for cleansing all kinds of dirtiness according to Islamic regulations, while being considered safe for consumer use.

### *3.3.4 People who Perform Cleansing and Verification*

Traditionally, trust in the halal food supply chain can be as simple as pure trust (Tieman, 2011). Halal consumers will be able to purchase halal food from a halal supplier, or shop, based on the trust that Muslims have relating to the religious obligation of selling only halal products in their daily business activities.

Halal dedicated assets can be extended to include the human workforce that handles the halal food supply chain on the day-to-day basis. Jaafar et al. (2011) assured that by creating a dedicated team of workers to handle halal food products, it will reduce the possibility of cross-contamination to a very minimal level, avoiding unnecessary human mistake and thus, help to protect the integrity of the halal food supply chain. This dedicated team of workers can be given exclusive training on ways to handle the halal food products which will cover the different aspects of handling, storage, and managing the products.

Sertu cleansing needs to be conducted, supervised, and verified by a Shariah competent person or a person who is authorised by the State of Islamic Affairs Department, or professional sertu/samak cleaners certified or recognised by the Department of Islamic Development (JAKIM) in Malaysia. Malaysia Halal Authority has drafted the Malaysia Standard 1500:2009.

As mentioned in Clause 6.7.2 in MS1500:2009, the Shariah cleansing process shall be supervised and verified by a Shariah competent person. Hence, this indicates that the people or appointed cleaning contractors that perform or execute the sertu cleaning process must also be knowledgeable on the Shariah procedural requirements, and able to comply and perform the sertu cleansing while maintaining the halal integrity.

### *3.4 The Successful Implementation of Sertu Cleansing*

#### *3.4.1 Members' Commitment*

In order to establish and strengthen the trust between parties in the supply chain, a certain level of commitment must also be shown by the respective parties. According to Lu, Trienekens, and Omta (2006), the level of trust and commitment of the supply chain partners can be visibly seen when both firms are willing to increase their investment on the asset specificity to serve the special needs of their partners.

In the context of halal food supply chain, commitment such as willingness to provide dedicated clean assets to cater for the halal clients' requests, willingness to apply halal certification for raw materials/ingredients required by the buyers, and willingness to send the workers to training involving the halal food handling in manufacturing and logistics activities as well as training people who will carry out the proper cleansing procedures following the Shariah law, are among the measures that can help enhance the integrity of the halal food supply chain. With the high level of commitment to follow the procedures and processes set by the Halal Authorities, all parties in the halal food supply chain can play shared roles together in protecting and ensuring the halal integrity which will be at the highest level.

#### *3.4.2 Government Support*

The government plays an important role in ensuring halal food supply chain integrity. A research done by Melatu Samsi et al. (2011) identified government roles in ensuring

halal food supply chain integrity, include planning, developing, implementing, regulating, promoting, and educating halal industrial players and halal consumers. Furthermore, the government's part covers the setting up of agencies and monitoring bodies to authorise and regulate any aspects that relate to halal certification, auditing, and guidelines. Golan, Krissoff, Kuchler, Calvin, Nelson, and Price (2004) claimed that in order to protect the consumers from unsafe and contaminated foods, halal food traceability must be administered by specific government guidelines.

In addition, the role of the government should include establishing agencies, creating collaboration among public agencies, and training professional auditors to ensure trustworthy halal food supply chain integrity. For instance, according to Ismail (2011), Department of Shariah Affairs from the Ministry of Religious Affairs in Brunei is authorised to handle halal matters in the country, and is supported by the Halal Food Control Division (HFCD). In Malaysia, the Department of Islamic Development Malaysia (JAKIM), a governing body with the support of multiple government agencies, is responsible for halal certification matters in Malaysia. Realising the potential of the industry and strengthening its position of a halal role model in the Muslim nations, the government of Malaysia has established the Halal Industry Development Corporation (HDC) in September 2006 to help promote and develop the halal industry. This body assist in coordinating and facilitating halal activities between the government, businesses, and the consumers, and also take the necessary steps to ensure the integrity of the halal industry.

With the involvement and enforcement on the policy related to sertu cleansing from the government, illegal and unethical business practices such as falsifying halal certificates and selling non-halal products as halal products can be monitored and controlled. The enforcement on this matter will make sure the halal industry will conform and comply with this cleansing on all its related equipment in ensuring the halal status. This move will help to reduce the confusion and increase the confidence level of all parties, especially the consumers of halal products.

#### **4.0 Conclusion**

Halal integrity is the foundation of the halal food industry. Halal integrity in halal logistics is an integral part of the halal food supply chain management. The protection and avoidance from cross contamination measures must be taken to ensure that the halal food products still remain halal even though it has moved all over the world, depending on the origin and destination of the products, and has undergone various manufacturing and logistics handling activities within the supply chain. All parties in the supply chain, original suppliers, middlemen, and the logistics companies in the downstream and upstream, must take individual and joint responsibilities to protect the halal food products from being cross-contaminated, whether intentionally or unintentionally, including the cleanliness and hygiene of all equipment used. It is impossible for any single party to oversee these huge responsibilities.

Halal integrity encompasses cleanliness, sertu cleansing of transport, containers, and trucks, machines, utensils, or equipment used in earlier activities. If severe najas such as dogs, pigs, and their derivatives were transported using the same transport, containers etc., sertu cleansing needs to be carried out. Carrying out sertu cleansing needs an in-depth understanding of Shariah requirements and carrying out this Islamic ruling is not a task to be taken lightly. As the demand for halal food products is expected to grow even bigger in the near future, factors influencing sertu cleansing integrity such as the procedure, process, product, and people related to these activities require serious attention. The responsibility lies on the logistics service providers and other related companies, while the enforcement of its compliance lies with the halal authority. In conclusion, the literature on the factors influencing 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.

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## NOTES TO CONTRIBUTORS

### Manuscript Preparation Guidelines

#### General Text

- Manuscripts should be written in English, typed on one side of the A4 paper, double spaced with a margin of 1" on the left- and 1" on the right hand-side, Times New Roman and font size 12.
- Each manuscript should not exceed 20 pages, excluding references, notes, and appendices.
- Do not use all caps for any text.
- Grammar, spelling, and punctuation corrections must be made.
- Adverb phrases do not need to be hyphenated (e.g., actively managed, not actively-managed).
- Bullet points or small roman numerals (e.g., (i), (ii), etc.) may be used to list items.
- Please indicate the location of the figures and tables in the text.
- Dates should be written as 1980 to 1990 in the text. 1980–90 or 1980–1990 is okay for tables although it should be consistent.

#### Essential title page information

- Title. Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
- Author names and affiliations. Where the family name may be ambiguous (e.g., a double name), please indicate this clearly. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name, and, if available, the e-mail address of each author.
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#### Abstract

- The abstract should state briefly the purpose of the research, the principal results and major conclusions.
- The abstract must be able to stand alone. For this reason, references and non-standard or uncommon abbreviations should be avoided. If the abbreviations are essential they must be defined at their first mention in the abstract itself.

- The abstract should be single-spaced and not more than 150 words.

### **Keywords**

- Immediately after the abstract, provide a maximum of 6 keywords.
- Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

### **Math/Variables**

- Use the percent symbol (%) for percentages, not the word “percent.”
- Lengthy mathematical proofs and very extensive detailed tables should be placed in an appendix or omitted entirely.
- All equations, except very short mathematical expressions, should be displayed on a separate line and centered.
- Equations should be numbered consecutively in the right margin with Arabic numerals in parentheses.
- References to variables in the body of the paper (after its introduction and in equations), whether a name or letter, should be italicized. Examples: *p*-value, *t*-statistic, *Dummy*-Year.

### **Sections and Subsections**

- Divide your article into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to "the text". Any subsection may be given a brief heading. Each heading should appear on its own separate line.
- Section 1 should be the ‘Introduction’ section. State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results. The final paragraph of the introduction should outline the remainder of the paper.

### **Tables**

- Tables are numbered with Arabic numerals and must have a title and descriptive legend.
- Place footnotes to tables below the table body and indicate them with superscript lowercase letters.
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- Figures are numbered with Arabic numerals and must have a caption. There should also be a descriptive legend if necessary to explain what the figure shows.

- Indicate the location of the figures in the margin of the text of the paper.
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### **Acknowledgements**

- Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise.
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### **Appendices**

- Appendices should be lettered A, B, C, etc.
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