

Halal Food Logistics: The Challenges among Food & Beverages Small and Medium Sizes Manufacturers

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Abstract - This paper presents a part of a larger study in the perspective of halal food logistics (HFL) towards halal food & beverages (F&B) manufacturers in Malaysia. The rising of halal product demands of Muslim consumers, mainly F&B has increased the potential for implementation of HFL services. However, the current condition suggesting that there is a low demand of HFL due to some challenges arose throughout the halal supply chain. These challenges are described from two perspectives; logistics service providers (LSPs) that offering HFL services and the halal product's manufacturers, mainly from small and medium enterprises (SMEs). Some of the challenges were identified such as the complex management of warehousing and terminals, the lack of trust and knowledge, perceived risk, and others that related to the halal matters.

Keywords: *challenges; food; halal; logistics; SMEs*

1. Introduction

The swift development of Muslim population throughout the most recent couple of decades directly affects the worldwide request of the halal market, which it winds up plainly a standout amongst the most potential business ideal models [1] (International Trade Center, 2015). According to [2] Pew Research Center (2017), the Muslim population was around 1.6 billion in 2010 and will be ascending to 2.67 billion toward the end of 2050 with roughly 29.7% of the general total world population. The interest for halal products and services likewise will be relied upon to rise exponentially as the inside guaranteed as of now, the value of worldwide halal market was over US\$3.6 trillion, and it is anticipated to be worth over US\$5 trillion out of 2020. Furthermore, the halal food advertise alone is

confronting be worth more than US\$1.6 trillion of every 2018.

The worldwide Muslim requests have a wide range of tastes and intrigue yet they have similar standards of Islamic law (Shariah) as direction on how the handling (from seed to fork) can be made. In any case, a larger part of the items or administrations offered do not follow the Shariah. Thus, a large number of Muslim purchasers' prerequisites are not generally met in the worldwide halal markets. They are sitting tight for more providers who can deliver halal products and services to venture up. An study done by [3] asserted that the world's provisions for the popularity of products and services are as yet deficient and are extremely constrained because of specific issues in recognizing the halalness at certain broaden. Irrefutably, the halal market has its own particular arrangement of difficulties, for example, fluctuating interpretations of religious decisions, diverse models of naming and control of structures starting with one nation then onto the next.

Then again, an ascending of popularity for halal items in worldwide markets has expanded the interest for HFL managements. The significance of HFL is for taking care of the Muslim's demand straightforwardly, as well as it is guaranteeing the halal trustworthiness of the entire parts' logistics to meet and follow the Shariah laws. Concurring by [4], the usage of HFL will guarantee the positive of halal uprightness along the supply chains; crude materials, fixings, various handling, putting away and warehousing and transportations. Fundamentally, the HFL will lessen the rate of Syubhah while a surge the rate of security, cleanliness and honest about any defilement of blending the halal and haram materials [5], [6]. In this manner, the HFL turns into the vital driver in assurance the halalness of F&B items or others by following the Shariah law as through the

appropriate methods for transportation, distribution center, stockpiling and taking care of inside the store network arrange until the point that it conveys to the last customers [7],[8]. The reason for this paper is to exhibit a piece of a bigger report on HFL. It covers a halal synchronization viewpoint, the difficulties experienced by the LSPs and some halal issues confronted by F&B producers, incorporating SMEs in Malaysia.

2. Literature Reviews

Other factors that behind the rising of halal demand around the world is because of the awareness based knowledge and education among the Muslim consumers towards religious responsibilities. The increasing application of Internet technologies makes Muslim consumers educate and aware of their dietary laws and religion responsibility, thus they have to pay more devotion in selecting a variety of products and services that they digested or utilized. On the other side, suppliers and all players along the halal supply chain are tiring to get halal certification for their F&B products as well as the premises (factory, warehouses, and storage), transportation and other related machinery and equipment. Currently, there are growing numbers of F&B manufacturers getting the halal certificate from Jabatan Kemajuan Islam Malaysia (JAKIM) either from Muslim and non-Muslim manufacturers.

Table 1. Value of Halal Product Exports

Year	No. of Halal Company	Value (RM Billion)
2011	2336	24
2012	3320	32
2013	4443	33
2014	5415	38
2015	5726	39.4
2016	N/A	42.2
Year	Ownership (%) of Exporter Company	
2014	67 (Non-Muslim)	33 (Muslim)
2015	68 (Non-Muslim)	32 (Muslim)
2016	N/A	N/A

Source: HDC, 2017

This demonstrates the halal market has pulled in numerous business organizations to keep putting resources into acquiring halal certificate and furthermore enhancing different sorts of business things to take care of client demand. On the other hand, a report from the [9] shows most of the Malaysian exporters are coming from non-Muslim manufacturers (refers to Table 1). It is supported by [7] where he discovered that most F&B products marketed in Malaysia are dominated by non-Muslim. This likewise demonstrates halal products and halal markets at universal level have been perceived by non-Muslim consumers and the providers.

Halal

The word halal (حلال ḥalāl, "passable") is an Arabic word that alludes to anything that is legal, reasonable and allowed under the terms of Shariah (Islamic) law, in which sustenance items to be devoured by Muslims must consent to its rules. It is additionally successive to apply to nearly anything that can be devoured, wore and apply, for example, attire, makeup and human services items, pharmaceutical, protection, managing an account and money related administrations.

Halalan Toyyiban

The importance of halalan toyyiban is considerably more for F&B item utilization by a human, which is top notch, wellbeing and not hurtful as indicated by the Shariah law (reasonable and admissible). The importance of toyyiban alone can be regarding a few depictions, for example, legitimate, spotless, clean, quality, nutritious and healthy.

Haram

It is an Arabic's assertion that conveys the significance of unlawful and restricted.

Syubhah

Syubhah is additionally an Arabic word which implies the dubious. It is the grey areas amongst halal and haram. Muslims ought to stay away from them.

Halal Logistics

Since a couple of decades back, the appeal for halal items has specifically affected the regular logistics exercises. The present requirements for the execution of halal on the logistics' incorporating the entire procedure in the supply chains are truly vital. It is on the grounds that the item that asserted halal (item with the halal name) is not really halal because of the procedures that must be additionally halal as per the standard set by the Shariah laws. Subsequently, the establishment of HFL is a hearty arrangement in which can assume an imperative part to affirm the expectation and sense of duty regarding the organization that includes in the halal business and obligation to set up a halal HFL and store network administration framework. One of the halal arrangements is the obligation of the organization in ensuring the halal respectability of the inventory network. The principle parts of HFL that should be taken care are; warehousing, transportation and terminal operations. In Malaysia, there are halal gauges created by the official expert; Department of Standards Malaysia (MS) that conforms to Shariah law. They have planned a unique standard for the halal logistics which can be arranged into three areas (refers to Table 2).

Table 2. MS2400:2010

No.	Malaysia Halal Logistics Standard
1	MS2400-1:2010 (P) Halalan-Toyyiban Assurance Pipeline – Part 1: Management System Requirements for Transportation of Goods and/or Cargo Chain Services
2	MS2400-2:2010 (P) Halalan-Toyyiban Assurance Pipeline – Part 2: Management System Requirements for Warehousing and Related Activities
3	MS2400-3:2010 (P) Halalan-Toyyiban Assurance Pipeline – Part 3: Management System Requirements for Retailing

Source: Department of Standards Malaysia

F&B manufacturers in Malaysia that produce their products for local and international halal markets are supported by the authorities such as JAKIM, Halal Industry Development Corporation (HDC), Small, Medium Enterprises Corporation (SMECorp) and others, such as the Ministry of International Trade and Industry (MITI) and the Ministry of Domestic Trade, Cooperatives and Consumerism (KPDNKK). In terms of halal guidelines and standards to be followed by all parties in Malaysia, there are two official bodies that are responsible; JAKIM and Department of Standards Malaysia (MS). They provide practical guidance for the F&B sectors for the preparation and handling of halal food (including nutrient supplements) and to serve as an elementary requisite for F&B products for local and international trading.

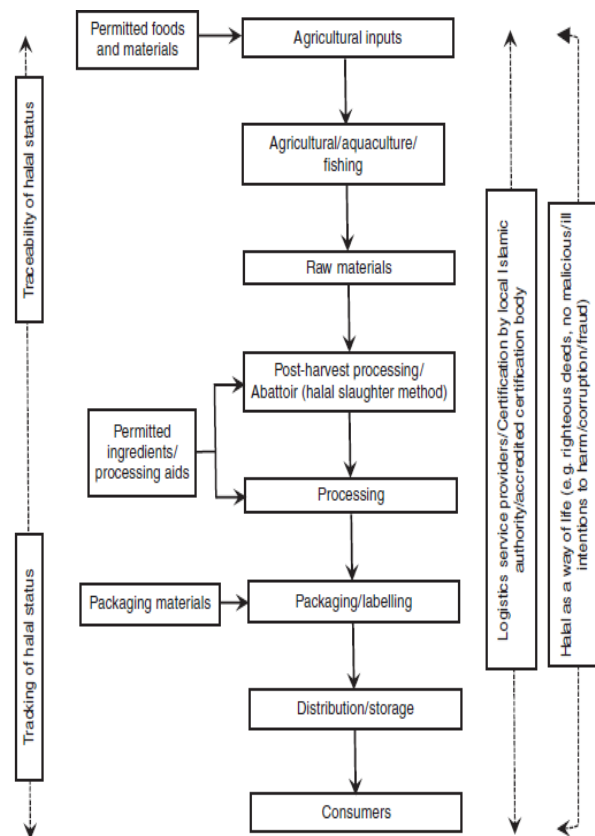
Definition of HFL

The HFL is consisting of a great diversity of processed and natural ingredients include the raw materials, ingredients and some additives that sourced from Muslim and non-Muslim countries. The processes involve are managing the procurement, movement, storage, processing and production, handling of materials, parts, livestock and finished and semi-finished products for F&B products as well as related information and documentation through the organization and the supply chain in compliance with the principles of Shariah law [4], [7]. By undertaking the right processes, manufacturers as well as consumers will ensure the halal integrity along the supply chain of food and beverages.

Halal Integrity

Today's food chains are complex and diversify which throughout the supply chain from Muslim and non-Muslim suppliers and consumers. The halal supply chains also complex and diversify, but much more specified as all processes must be compliant with the Shariah law. The halal integrity in the supply chains starts with the sourcing of permitted foods and raw

materials and ended up with consumers [10]. According to [10], to maintain the halal integrity all along the supply chain, every stage of halal processing (production) must be aligned with Shariah law (refers to Figure 1).

**Figure 1.** Halal Integrity in HFL

At the same time, the F&B manufacturers are encouraged to meet the standards such as ISO9000, Codex Alimentarius, Quality Assurance (QA), Hazard Analysis Critical Control Point (HACCP), Good Hygiene Practice (GHP), and Good Manufacturing Practice (GMP) [11]. For example, the agricultural inputs – all materials must be free from haram elements such as seedlings, plantlets, fertilizers, pesticides, and irrigation waters. The water must not take from any sources within a vicinity of pig farms. Another example is with logistics activities where all raw materials, ingredients, packaging materials and storage included the transportation of halal products must not be contaminated with any of haram elements. Unfortunately, misconduct, dishonest behavior and unethical manners of the company in managing the HFL could be happening. Table 3 presents some of the real case examples of the halal contamination.

Table 3. Halal Contamination

Year	Place	Item	Reference
2014	Turkey	Marshmallows, Gummies	Demirhan et al. (2012)
2015	UK	Slaughter House	Press Association (2015)
2015	Italy	Chicken Sausage	Di Pinto et al. (2015)
2016	Spain	Marshmallows, Hard Candies	Munoz-Colmenero et al. (2016)
2017	Malaysia	Lamb Meat	News Straits Times (2017)

Based on Table 3, there is a common issue regarding all the cases except the slaughter house in the UK where the process of animals slaughtering was not following the Shariah law. Other cases are related to contamination of porcine DNA and pork mixing elements. The case of lamb meat in Malaysia was shocking the country where the authority found three containers containing pork mixed with goat meat from Spain in a raid at Tanjung Pelepas Port (PTP). The authority has seized a meat supply worth RM2 million with an estimated 120 tons. The importer is a local frozen company and assumed to have the halal certificate from JAKIM.

3. Challenges

In today's food supply chains are considered multifaceted and diversify with many sources of ingredients and products coming from Muslim and non-Muslim producers and countries, which create a lot of challenges [12], [13], [10]. Fundamentally, the challenges of the HFL of F&B products arise when there is a potential mixing storage of halal and non-halal. Meaning that the logistics alone can be a sensitive issue among Muslim since they are taking care on the halal integrity of the supply chain [6]. In Malaysia, there are many issues regarding the HFL. One of them is about the application procedures applying by JAKIM. According to [14], local logistics service providers (LSP) face a lot of problems during their application of the halal certificate for logistics purposes. Currently, not many of the local LSP have the JAKIM's approval for practicing the HFL. According to them only nine (9) out of 303 registered LSPs in Malaysia are obtained the halal certificate and the halal logo. Other challenges are regarding the SOP of halal procedure implementation at their properties. They must operate the logistics activities according to the new SOP that must be developed only for halal practices. It may include the new machines and equipment, hiring halal knowledge workers, sertu process application avenues, attending halal workshops and seminars

[14]. The whole process to implement halal procedures may take several years and needs highly dedication from the top management to lower ground subordinates.

Transportation

Transportation is referred to the movement of cargo or container of goods from one place to another by using many types of specified during a period of time. From [15] point of view, an international logistics field around the world faces a number of challenges. Some of the examples are extending lead times, multiple consolidations and break points, multiple freight modes, cost options, long and unreliable transit times. Such challenges will be more severe if a halal compliant application is required for every activity in the transportation. In details, the halal logistics, including the transportation must accomplish the movement of products across the supply chain by preventing from any potential of cross-contamination [16]. A study conducted by [17] contends that the lack of manufacturer's demand could be regarded as the main obstacle to adopt and practice the HFL.

Meanwhile, [18] found even the demand for halal products is huge, and the halal logistics play a key role in supporting the halal industry, but the demand for the HFL services is low. Perhaps some of the reasons on these hindrances are; the supplier readiness, low awareness and complexity from top management of F&B manufacturers towards the HFL [19]; financial constraint, resistance to change and underutilized services of HLF adoption [15]; the conflict with the international halal logistics standard [16].

Warehousing

There are two types of warehousing; production warehouse and distribution warehouse. Basically, the function of warehousing is to smooth the process of storing, handling and distributing the product flow between manufacturers and their consumers. However, the halal warehousing must according to Shariah law where it is clearly halal and non-halal products should be consistently and continuously be separated in warehousing and during transportation activities as to avoid the contamination [20]. If any direct contact occurs (between halal and haram products), the halal product will lose its status and no longer to be considered as halal. It's automatically become haram and cross-contaminated [8]. As an example, there was a case regarding the meat cross-contamination happened in Malaysia on 17-18 July 2017. According to Department of Malaysian Quarantine and Inspection Service (MAQIS), had found 160 packs of pork legs and 116 boxes of

animal's internal organs stored inside the four 30-tonnes containers where the lamb halal frozen meats were stored together in the warehouse shipment area [39]. This is a matter with a subtle contempt and betrayal committed by the irresponsible company that granted the halal certificate by JAKIM. Therefore, Muslim consumers should be more aware of this deliberated hazard when procuring the halal products [18].

Besides that, the halal materials should be used in the warehousing, especially for the tertiary packaging of the halal products [5]. Rationally, any haram materials used for the process will be harmful to human health and thus only halal materials should be applied. Other challenges are regarding the lack of demand to make use the HFL, mainly the warehousing and storage rooms. According to a study done by [16], the current demands for the services are relatively low. They have identified about 5 out of 9 LSPs that offering the services and found less than 30% of the total capacity provided (for the halal warehousing) are occupied. The majority of the LSPs claimed that non-compulsory issuance of the halal certificate (F&B products) is the reason why they have very low demand. In addition, most of F&B manufacturers are refused to use HFL because of high operating costs. They have to do the ritual cleansing (sertu) the containers and rent a dedicated place or frozen rooms which can increase the operating costs in the long run [21].

Terminals

Terminals are a dedicated area in the seaport, dry port, airport and others in which containers are prepared for loading into a vessel, train, truck, or airplane or are stacked immediately after discharge from the vessel, train, truck, or airplane. In other means, the terminal also a location or special facility for the handling and/or temporary storage of cargo as it is loaded/unloaded or transferred between companies and the LSPs. Currently in Malaysia, there are several terminals have been upgraded to be halal compliant such as the dry port of Kontena Nasional (KN) and Port Klang Free Zone (PKFZ) and seaports such as North Port Klang, and Penang Port. Other terminals that solely for halal are Techpark@Enstek and Tanjung Manis Halal Hub. All these ports are designed for high-tech commercial and industrial zone, including the world class halal facility. They are also acting as a regional distribution halal hub as well as a trade and logistics center that offering extensive distribution and manufacturing facilities. Among the issue of the terminals are regarding the incoming containers from different countries, which have no clear procedures and facilities to handle halal containers. In general, there is a lack of worldwide

acceptable to halal compliant process, the high cost of halal based operations and low demand from the halal F&B or other halal product manufacturers [22]. Presently, JAKIM only recognized about 60 halal certified bodies from 40 countries around the world and a few seaports that could manage the HFL [23] such as Rotterdam Port and Penang Port. A study from [24] shows inconsistent with the assessment on halal logistics and halal principles by the Muslim authorities in different countries. Hence, several authors such as [5], [15], [25] have suggested an official requirement for the establishment of a global halal logistics system in the halal product's trading to be more convenience, fair and practical as according to Shariah compliant.

On the other side, there are a number of challenges from the halal F&B manufacturers in adopting the HFL. According to the study by [26], currently there are low numbers of the halal manufacturers in Malaysia that adopting the halal supply chain services, including the HFL, warehousing, storage, handling activities and transportation. The halal F&B manufacturers seem concerned about the additional cost that could be imposed by the LSP such as sertu process charges. In addition, they are also lacking in terms of organizational readiness to comply with HFL standards. As suggested by [17], [15] organizational readiness play an important role in the top management in the decision-making process either to adopt the HFL or to stay in the conventional ways. At the same time, most of them (halal F&B manufacturers) is concerned with the halal integrity. They actually rely on the trust of LSP that can provide the HFL [8], [26]. This was driven by the consumers' sentiment on halalan toyyiban where the F&B products must be tasty, safe, nutrition and hygiene.

Thus, the success of the halal food supply chain and the overall halal industry are depending on HFL service management capabilities in ensuring the integrity of halal F&B products [10]. On the other hand, consumers, especially the Muslim as well as the non-Muslim around the world is getting much more concerned towards the F&B products which aligned to the concept of halalan toyyiban. They are demanding on information that any F&B products to be consumed must be ensured for the safety, quality, nutritious, authenticity and hygiene. According to [2], today's consumers are getting more aware, knowledgeable and cautions on the healthiness of F&B products coming from various sources via the available information.

Trust

Trust is an important element that bonds between LSPs and their consumers. A study by [27] claimed that there is a high level of trust impacted the cooperative behaviors between partners in dealing with logistics activities. If any action of misconducting the activities will raise the issue of distrust and uncertainty that definitely will result in the breach of agreements [28]. Therefore, to prolong and develop well-established long-term relationships and cooperation both parties must have the constant communication, knowledge sharing and teamwork. The similar approach applies to the issuer of halal certificate and logo (JAKIM) to their clients (F&B manufacturers, LSPs). All parties involved in the halal markets must fully understand the terms, procedures and any impacts towards the misconducting of the certificate. Trust is also helped to lower the transactional and operational cost, including boosting the cooperation between the parties. As suggested by [29] by trusting each other, they can perform a better alliance in technological collaboration, enhancing relational performance and changing the environmental demand. Other than that they also can reap the trust benefits in terms of levelling the communication standards, a high level of data sharing/transfer and highly synchronization [27].

On the other hand, F&B manufacturers should seriously ensure their food safety and to gain consumers trust. As claimed by [30] food manufacturers should create food safety as a competitive advantage and guarantee all the products transportable safely through the halal supply chain. Unfortunately the CEO of Cargill, David MacLennen, he found out one of the biggest problems in today's supply chain was a little trust spirit's practice among the players, mainly the F&B manufacturers, and they should focus more on a strategy to gain consumers' trust as well as transparency [31]. The impact of food safety is clear to the F&B manufacturers, and if it found jeopardized, the consumers' trust will be losing. Until now, there many cases of food safety occurred in Malaysia. For example, back in 1988, several children died because of noodle due to the excessive volume of boric acid and aflatoxin. Even, until 2008 the same stuff that killing the children still be used in the noodle industry. As claimed by [32], Malaysian people are taking food so serious but less concerned about food safety. Therefore, a challenge for the food industry is to ensure the food is safe at chemical, physical or biological risk. Food safety is accordingly receiving more attention as links between food and health, which is now increasingly be recognized [31].

Knowledge

A lot of food humiliations (from the manufacturers of halal products) have threatened the consumers' confidence in the product's integrity of what they consumed. Cross-contamination cases, for example, are among the highest issues reported by Muslim consumers and the official authority for halal management, especially in a meat-based food supply chains. According to halal principles, cross-contamination happens when halal food products have straight contact with non-halal elements throughout several phases in the halal meat supply chain [4]. Other elements such as biological, physical and chemical hazards may also contribute towards cross-contamination risks in the meat processing and also during the transportation process.

For example, there are issues of mixing of halal and non halal meat together in the same storage, container or transport as most of the local transport companies in Malaysia involved in a small volume of meat trading [33], [19]. Other reasons for such issues because of the meat-based food along the supply chain has been consisting of many critical control points and risks ranging from raw materials, production process, warehouse. Transport until the meat products reaches the end consumers [34]. The lack of knowledge of the causes of cross-contamination and the inappropriate behaviors to manage the halal practices may lead to consequence [12]. As it discusses by [5], [35], there must be a global standard guideline to clearly define the cross-contamination (between halal and haram elements) to be implemented worldwide. Thus, it can optimize the HFL services and increase the concern of Muslim consumers on getting the halalan toyyiban products. Inadequate of knowledge among the F&B manufacturers involved in halal production as well as in logistics may lead to higher cost for HFL execution [17], [15].

Perceived Risk

To produce decent halal F&B products the manufacturers must meet the requirements as initiated by authorities such as JAKIM (e.g., halal certification and halal logo), Department of Standards Malaysia (e.g., MS1500:2009; MS2400:2010) and food quality assurance (e.g., ISO1900, HACCP, GHP, GMP). A lot of recent cases in Malaysia regarding cross-contamination of halal and non-halal products and halal certified products issues require halal manufacturers to re-align their current practice of risk assessment, risk communication and risk management [36]. The delay of the enforcement will cause consumers to avoid to make the purchasing. A study by [37] indicated if consumers perceive the physical risk (cross-contamination) from halal F&B

products (e.g., spread by news via newspapers, the Internet or social media applications) their purchase intention will be diminished. In general, SMEs are positioned at higher ranking to risk's exposure such as operational, financial, strategic, compliance and social [38].

Their study also suggested SMEs in F&B industry are facing a lot of risks in dealing with cross-contamination issues, halal regulations, policies and SOP from the authority (e.g., JAKIM) and technology-based operation's production and management. In addition, most of them (SMEs) are lacking key know-how in technology-based operations and ICT skills, which may expose them to financial and strategic risks if they decided to enter digital economy (e.g., E-Commerce) [39]. However, those risks can be lessened if the government and private sector together build up the ICT infrastructures, incentives and ideal halal ecosystem to support tech halal entrepreneurs. Directly the halal global e-Marketplace will bring more innovation, wide-range competition and overall growth of halal industry in Malaysia [40].

Cost

The lack of demand for HFL from the F&B product manufacturers (mostly are SMEs) is one of the reasons why higher operating cost occupies during the implementation of halal logistics [16]. The halal-dedicated infrastructure, such as halal warehouses, frozen and storage rooms, halal transportation convoys, halal containers (sertu) and halal-only handling equipment, are known to expand the overall cost of halal logistics operations [17]. Henceforth, due to financial limitations, and the fact that the majority of LSPs in Malaysia are SMEs [4] not all LSPs can afford to offer total halal logistics services. Indeed, LSPs claimed that they have to separate the halal products in warehousing and storage that using different tools for handling and carrying, which require more investment [16]. Since the halal certificate and halal logo (Figure 2) are not mandatory in Malaysia, plus with less demand from halal product manufacturers and higher cost incurred to invest those requirements for HFL, the practicing of it is not practical yet [25]. Meaning that the dedication to exercise the halal logistics is not worth at present time. Hence, HFL practices are not applied by most LSPs, and suggested the halal and non-halal products would be continuing to be transported together or deposited in the same warehouse [17].

Halal Funding

There are various programs that support the halal industry such as Halal Industry Master Plan (HIMP) and halal parks. The government also looking for

more concrete measures to encourage the growing of halal industry and actively improving the implementation of its policies, strategies and measures [9], [41]. Currently, the F&B product is categorized under Fast Moving Consumer Goods (FMCG) including the pharmaceutical and healthcare, confectionery, bakery products and cosmetics, which amounted to 73% of a halal international market worth US\$2.3 trillion per annum [42]. Unfortunately Malaysian's halal export only worth US\$9.8 billion in 2016 and thus, there is a huge gap needs to be fulfilled by Malaysian halal industry. Although the halal international market is lucrative, the majority of Malaysian SMEs (mainly the F&B manufactures) are not ready to grab the opportunity yet. According to [43] a major obstacle for halal SMEs to grow up is a limitation of financial. They have difficulty to loan fund from the Islamic finance institutions due to the requirement of collateral. A report by [44] said that the Malaysian government has funded even more than RM100 million for SMEs (F&B) via Halal Technology Development Fund (HTDF) but there is a limitation.

Halal Certification

Higher demand for F&B products has influenced the increasing for halal certificate and halal logo. In Malaysia, JAKIM is only one and official authority which can issue those credential. The validation period for most halal products is two years, and many of the manufacturers are still applied it even though it was expired. According to [11] this scenario happened because the process of renewal takes so much time and incurred a new cost as well as to go through the stringent process. The implication of (late renewal) process has affected the operating efficiency and the halal governance [28]. Moreover, the majority of F&B manufacturers are SMEs and they are lacking halal knowledge as well as halal procedures. Hence, they have difficulty in completing the halal (process) documentation, defrayment of certification fees and incognizant of information to be submitted. Presently, the halal logo is an accompaniment with the halal standard developed by Department of Standards Malaysia (refers to Figure 2).



Figure 2. Halal Logo and MS

The halal standard also covers the requirement on Shariah critical control points (SCCP) within an organization's process or activities and the introduction of Shariah compliant towards the organizational asset value's management [45].

4. Small and Medium Enterprises (SMES)

Undeniably, the halal industry is now growing rapidly from year to year, especially for F&B products. This is because consumer awareness of halal food products has been increasing [46]. Once, halal products are the only Muslim choice, but now it has become a standard of all the people around the world regardless of race, religion and culture. Furthermore, because of halal food products emphasize the concept of halalan toyyiban, towards the safety, nutrition, freshness, hygiene and tasty for all consumers [16], [46]. According to a study by [47] they found more and more entrepreneurs claimed that by having halal certification for the company's product is an advantage to enter the larger market (international market), especially for the SME F&B manufacturers. In any country in the world, the businesses are a majority monopolies by SMEs which approximately 90% to 98% [47]. The importance of SMEs to the country is significant. They can provide to the global economy as a major contributor to job creation, poverty mitigation, provision of products and services in the developing and emerging economies.

Presently, the halal industry is one of the fastest growing industries, fast-moving and highly competitive [41]. More and more countries around the world are focusing on the development of halal industry such as Malaysia, Brunei, Indonesia, Singapore and Thailand. Businesses either SMEs or large companies are designing and investing into new halal product development (NHPD) for halal marketplaces around the world. The government on the other sides also providing a lot of supports to these businesses via halal planning and programs, including halal infrastructures and financial schemes (e.g., Halal Parks, HIMP, Shariah Compliant SMEs Financing Scheme) as to be relevant to the current economics demand. According to [23], currently there are 1,158 SMEs manufacturers hold the halal certificate, mainly in F&B industry. MITI's report in 2016, shows halal export revenue has reached RM42 billion in 2015 (as compared RM38 billion in 2014) and more than 800 SMEs were listed as halal exporters [9].

According to [48], many of SMEs owners (Muslim) feel that they be able to compete with non-Muslim in the local halal industry but the lack of readiness in

terms of exporting into international markets. As claimed by [9], the Muslim SMEs are still left behind as compared with their competitors (Table 2). Among the obstacles face by the SMEs in F&B industry are; lack of international halal market knowledge, insufficient capital invested in NHPD, less ICT adoption, conventional machinery and equipment, high standards for export products, excessive documentation and limitation of production [49], [50]. They are also lacking of ICT knowledge and expertise to understand the JAKIM's E-Halal System, fail in managing documentation, unfamiliar strategizing the halal application and market positioning and less updating on halal news and SOP [9], [41], [14], [28], [43]. Perhaps they also encountered the problem in terms of exchange currency. Presently, Malaysian's currency (Ringgit Malaysia) is instable and when the currency was not strong, it is harder for SMEs to remain competitive in international markets.

5. Conclusion

The rapid growing of Muslim population over the last few decades has increased the global demand for the halal products. A number of Muslim populations worldwide is estimated to be 2.2 billion by 2030 [2]. At the same time, the halal logistics becomes a more important function in guarding and protecting the halal integrity through a proper design of halal guidelines (Shariah compliant) via warehousing, storage, transportation and handling activities throughout the supply chain [17], [4]. Importantly, the halal industry is depending upon the capability of LSPs and they are involved in the collection, consolidation, storage handling, value added, track and trace including control and monitoring the movement of products from manufacturers to end consumers. Therefore, the adoption of halal integrity via HFL should be implemented by the LSPs as important requirement needs by the country to be the halal international hub soon [13], [16]. At the same time, Malaysia is currently one of the major halal F&B products providers to the global halal markets. Thus, the importance of maintaining the halal integrity along the supply chain is crucial. And the enlargement of JAKIM's halal certificate needs to be appropriately marketed. It is not just about religion but more on the quality standard. Now halal certificate has become a new standard for the quality assurance. Maybe in near future, the halal certificate will get more world recognition as a new benchmark in quality assurance and a symbol of safety. Thus halal certificate has the bright potential to be a standard associated not only with product quality but also with international best practices throughout the entire supply chain.

References

- [1] International Trade Center. "Halal Goes Global". [http://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/Halal_Goes_Global-web_\(1\).pdf](http://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/Halal_Goes_Global-web_(1).pdf), 2016. Last accessed. (2-09-2017).
- [2] Pew Research Center. "Muslims and Islam: Key Findings in the U.S. and Around the World". <http://www.pewresearch.org/fact-tank/2017/05/26/muslims-and-islam-key-findings-in-the-u-s-and-around-the-world/>, 2017. Last accessed. (19-05-2017).
- [3] Elias, M.E., Othman, S.N., and Yaacob, N.A. "Relationship of Spirituality Leadership Style and SMEs Performance in Halal Supply Chain". *International Journal of Supply Chain Management*, Vol. 6, No. 2, pp. 166 -176, 2017.
- [4] Tan, M.I.I., Razali, R.N., and Husny Z.J. "The Adoption of Halal Transportations Technologies for Halal Logistics Service Providers in Malaysia". *Information Fusion*. Vol. 6 No. 3, pp. 737-744, 2012.
- [5] Tieman, M. and Ghazali, M.C. "Halal Control Activities and Assurance Activities in Halal Food Logistics". *Procedia- Social and behavioral Sciences*. Vol. 121, pp.44-57, 2014.
- [6] Tieman, M. and van Nistelrooy, M. "Perception of Malaysian Food Manufacturers toward Halal Logistics". *Journal of International Food & Agribusiness Marketing*. Vol. 26 No. 3, pp. 218 – 233, 2014.
- [7] Tieman, M. "Establishing the Principles in Halal Logistics". *Journal of Emerging Economies and Islamic Research*. Vol.1 No. 1, pp. 1 – 13, 2013.
- [8] Tieman, M. "Halal Clusters". *Journal of Islamic Marketin*. Vol. 6 No. 1, pp. 2 – 21, 2015.
- [9] HDC. "Future Directions of Halal in Malaysia. Opportunities for Trade and Investment. Halal Awareness Seminar. G Tower Hotel, Kuala Lumpur, 18 May 2016.
- [10] Soon, J.M., Chandia, M., and Regenstein, J.M. "Halal Integrity in the Food Supply Chain". *British Food Journal*. Vol. 119 No. 1, pp. 39-51, 2017.
- [11] Majid, M.A.A., Abidin, I.H.Z., Majid, H.A.M.A and Chik, C.T. "Issues of Halal Food Implementation in Malaysia". *Journal of Applied Environmental and Biological Sciences*. Vol. 5, No. 6S, pp. 50-56, 2015.
- [12] Ali, M.H., Tan, K.H., and Ismail, M.D. "A Supply Chain Integrity Framework for Halal Food". *British Food Journal*, Vol. 119, No. 1, pp. 20-38, 2017.
- [13] Husny, Z.J.M., Hussein, M.Z.S.M., and Tan, I. "Service Innovation: Halal Logistics Intention Adoption Model". *International Journal of Supply Chain Management*, Vol. 6, No. 1, pp. 146-154, 2017.
- [14] Roslan, N.F., Abdul Rahman, F., Ahmad, F., and Ngadiman, N.I. "Halal Logistics Certificate in Malaysia: Challenges and Practices". *International Journal of Supply Chain Management*. Vol. 5 No. 3, pp.142-146, 2016.
- [15] Talib, M.S.A., Hamid, A.B.A., Zulfakar, M.H. and Chin, T.A. "Barriers to Halal Logistics Operation: Views from Malaysian Logistics Experts". *International Journal of Logistics Systems and Management*. Vol. 22 No. 2, pp. 193-209, 2015.
- [16] Zailani, S., Iranmanesh, M., Aziz, A.A., and Kanapathy, K. "Halal Logistics Opportunities and Challenges". *Journal of Islamic Marketing*. Vol. 8 No. 1, pp. 127-13, 2017.
- [17] Talib, M.S.A., Rubin, L. and Zhengyi, V.K. "Qualitative Research on Critical Issues in Halal Logistics". *Journal of Emerging Economies and Islamic Research*. Vol. 1 No. 2, pp. 1-20, 2013.
- [18] Fathi, E., Zalani, S., Iranmanesh, M., and Kanapathy, K. "Drivers of Consumer's Willingness to Pay for Halal Logistics". *British Food Journal*, Vpl. 118, No. 2, pp. 464-479, 2016.
- [19] Ngah, A.H., Zainuddin, Y. and Thurasamy, R. "Barriers and Enablers in Adopting Halal Transportation Services: A Study of Malaysian Halal Manufacturers". *International Journal of Business and Management*. Vol. 2 No. 2, pp. 49-70, 2014.
- [20] Jaafar, H.S., Endut, I.R., Faizol, N., and Omar, E.N. "Innovation in Logistics services – Halal Logistics." *Proceedings of the 16th International Symposium on Logistics*, Berlin, pp. 844-851, 2011.
- [21] Saifudin, M.A., Othman, S.N., and Elias, E.M. "Exploring in Setting a Model for Islamic Supply Chain in Malaysia". *International Review of Management and Marketing*, Vol. 7, No. 1, pp. 95-102, 2017.
- [22] Aziz, A.A., and Zailani, S. "Halal Logistics: The Role of Ports, Issues and Challenges" in Dilip S. Mutum, Mohammad Mohsin Butt, Mamunur Rashid (ed.) *Advances in Islamic Finance, Marketing, and Management*, pp. 309-321, 2016.
- [23] JAKIM. "The Recognised Foreign Halal Certification & Authorised Bodies" <http://www.halal.gov.my/ckfinder/userfiles/files/cb/CB%20List%20LATEST%20.pdf>, 2017. Last accessed (21-7-2017).
- [24] Iberahim, H., Kamaruddin, R., and Shabudin, A. "Halal Development System: The Institutional Framework, Issues and Challenges for Halal Logistics". *IEEE Symposium on Business, Engineering and Industrial Applications*. 2012.
- [25] Zailani, S., Kanapathy, K., Iranmanesh, M. and Tieman, M. "Drivers of Halal Orientation Strategy among Halal Food Firms". *British Food Journal*. Vol. 117 No.8, pp. 2143 – 2160, 2015.
- [26] Ngah, A.H., Zainuddin, Y., and Thurasamy, R. "Applying the TOE framework in the Halal Warehouse Adoption Study". *Journal of Islamic Accounting and Business Research*. Vol. 8 No. 2, pp. 161-181, 2017.
- [27] Ramazan, K., and Salih, B.A. "Logistics Service Accountability and Their Effects on Service Buyer's

- Trust". *Procedia – Social and Behavioral Sciences*. Vol. 111, pp. 731-740, 2014.
- [28] Ahmad Radzi, N.F., Muhammad Nurul Azmi, A.F., and Samicho, Z. "Halal Food Warehouse: Challenges and Solutions". *Journal of Applied Environmental and Biological Sciences*, Vol. 6, No. 11S, pp. 80-85, 2016.
- [29] Gaur, A.S., Mukherjee, D., Gaur, S.S., and Schmid, F. "Environmental and Firm Level Influences on Inter-Organizational Trust and SME Performance". *Journal of Management Studies*, Vol. 48, No. 8, pp. 1752-1781, 2011.
- [30] Rosenfeld, I. "Why Trust and Transparency are Important to Food Safety. Brief. Food DIVE". March 2017. <http://www.fooddive.com/news/why-trust-and-transparency-are-important-to-food-safety/437305/>, 2017. Last accessed. (17-05-2017).
- [31] Shamsudin, M.S. "Food Safety & Food Security". <https://www.nst.com.my/news/2016/05/143824/food-safety-and-food-security>, 2016. Last accessed (15-04-2017).
- [32] Philip, A. "Food Safety in Malaysia". *Japan Medical Association Journal*. Vol. 58 No. 4, pp.180-184, 2015.
- [33] Fernando, Y., Ng, H.H., and Yusoff, Y. "Activities, Motives and External Factors Influencing Food Safety Management System Adoption in Malaysia". *Food Control*, Vol. 41, pp. 69-75, 2014.
- [34] Yaacob, T.Z., Jaafar, H.S., and Rahman, F.A. "A Review of Regulatory Framework for Halal Meat Supply Chain: The Case of Halal Meat Based Food Products in Malaysia". *Journal of Applied Environmental and Biological Sciences*. Vol. 6 No. 9S, pp. 14-21, 2016.
- [35] Tieman, M. and Hassan, F. "Convergence of Food System: Kosher, Christian and Halal". *British Food Journal*. Vol. 117 No. 9, pp.2313-2327, 2015.
- [36] Khalid, M.M., Yaakob, M.A.Z., Mohd Sirajuddin, M.D., Bhari, A., and Mahfor, M. "Risk Analysis in the Halal Food Industry: An Exploratory Study". In: Ab. Manan, S., Abd Rahman, F., Sahri, M. (eds) *Contemporary Issues and Development in the Global Halal Industry*. Springer, Singapore, 2016.
- [37] Yener, D. "Factors That Affect the Attitude of Consumers towards Halal Certified Products in Turkey". *Journal of Food Products Marketing*. Vol. 21, pp. 160-178, 2015.
- [38] Ismail, N., Othman, A.A., Yousop, N.L.M., and Ahmad, Z. "Empirical Evidence on the SMEs Risks Framework in Malaysia". <http://www.akademiabaru.com/wvsocial/temp/man2.pdf>, 2013. Last accessed. (16-06-2017).
- [39] News Straits Times. "MAQIS Seizes Containers of Unseparated Halal, Non-Halal Meat at Tanjung Pelepas". <https://www.nst.com.my/news/crime-courts/2017/07/258158/maqis-seizes-containers-unseparated-halal-non-halal-meat-tanjung>. 2017. Last accessed. (28-07-2017).
- [40] News Straits Times. "MITI: Halal Industry Players Need to Embrace e-Commerce". <https://www.nst.com.my/news/2017/04/227581/miti-halal-industry-players-need-embrace-e-commerce>, 2017. Last accessed. (9-6-2017).
- [41] Izham Shah. "The growth of the Halal Industry". The Malay Mail. <http://www.themalaymailonline.com/features/article/growth-of-the-halal-industry> 2016. Last accessed. (22-06-2017).
- [42] Malaysian Investment Development Authority. "Opportunity for Investment in Halal Industry in Malaysia". http://www.arr.gov.pl/data/01943/kuala_lumpur_14062016_6.pdf, 2016. Last accessed (13-04-2017).
- [43] Hameed, L.B.H., and Abdullah, M. "The Challenges of Islamic Trade Finance in Promoting SMEs for Halal Industry in Malaysia". *World Academic and Research Congress*, Ar-Rahim Hall, YARSI University, Jakarta, Indonesia, 9th- 10th December 2015.
- [44] Ragananthini, V. "MTDC to Help SMEs Boost Halal Capabilities". <https://www.pressreader.com/malaysia/the-sun-malaysia/20170307/281913067904067>, 2017. Last accessed. (14-07-2017).
- [45] MS. "Department of Standards Malaysian. Shariah-based Quality Management Systems - Requirements with guidance (1st. Revision) Copyright 2014". file:///D:/Downloads/MS_1900_2014_PREVPDF.pdf 2017. Last accessed. (15-05-2017).
- [46] Mohamed, Y.H., Rahim, A.R.A., Ma'ram, A., and Hamza, M.G. "Halal Traceability in Enhancing Halal Integrity for Food Industry in Malaysia – A Review". *International Research Journal of Engineering and Technology*. Vol .03, No. 03, pp. 68-74, 2016.
- [47] Md. Nor, N.G., Bhuiyan, A.B., Said, J., and Alam, S.S. "Innovation Barriers and Risks for Food Processing SMEs in Malaysia: A Logistic Regression Analysis". *Malaysian Journal of Science and Space*. Vol 12, No. 2, pp. 167-178, 2016.
- [48] Tahir, P.R., Hanaysha, J., and Sultana, M. "The level of Success of Halal Small and Medium Entrepreneurs in Malaysia". *Asian Journal of Scientific Research*. Vol. 9, pp. 214-218, 2016.
- [49] Mansor, I.M., Islam, M.S., and Wan Bakar, W.M.M. "Export Barriers to Halal Food Processing Small and Medium Enterprises (SMEs) in Malaysia". *Pertanika – Journal of Social Sciences & Humanities*, Vol. 21(Spec. Aug), pp. 31-46, 2013.
- [50] Alam, S.S., Jani, M.F.M., Senik, Z.C., and Domil, A.K.M. "Assessing Barriers to Growth of Food Processing SMIs in Malaysia: A Factor Analysis". *International Business Research*, Vol. 4, No. 1, pp. 252-258, 2011.