

Capturing the Halal Food Market: Limitations of Halal Integrity within the Supply Chain, the Malaysian Experience

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Abstract Halal certification as a rebranding strategy manifesting Shariah (Islamic) law compliance and *toyyiban* (wholesome) has evolved to reshape the Muslim socio-economic fabric constituting 1.6 billion people or 20% of the world's population. The Malaysian standards for Halal certification which include requirements for quality assurance, has resulted in the enhancement of confidence among consumers with respect to wholesomeness of Halal food. These positive responses reinforcing the demands for higher standards of quality have thus created new business and market opportunities for both Muslims and non-Muslims. However, business today are dealing with supply chain issues. As trade extends beyond traditional boundaries, products transcend across many entities via logistics, as they metaphorically travel from farm to fork. While concerns of Halal status have only taken into account the Halal integrity of manufacturers, the Halal supply chain integrity must now be given its due imperative. Hence, to ensure a total Halal integrity assurance across the supply chain where risk of contamination and adulteration is avoided, the perspectives pertaining to Halal applications within the industry must be revised. Research on both consumer and supply chain participants' perceptions and practices on Halal integrity could create the initial food for thought. What is needed currently and into the future is a consumer's rationale and manufacturers commitment on the significance of certification, as a seal of guarantee that the product is Halal not only at production level, but integrated with operations involving transportation, warehousing and retailing.

Keywords Halal food, Halal certification, Halal integrity, Halal logistics

1. Introduction

A religious obligation which Muslims must endeavour is to ensure that the food they consume is Halal, in accordance to the Shariah (Islamic) principles, and shall be *toyyib*, manifesting goodness and wholesomeness (World Halal Forum, 2009). Besides the compulsion to consume based on Halal principles, Islam disavows the consumption of haram foods and stresses the avoidance of doubtful things (Al-Qaradawi, 2007). Thus the Muslim's consumer view of Halal products is not only confined to religious viewpoints, but the confidence that comes with the Halal branding.

Halal advocates a farm to table food safety principle and explains the growing trend of consuming Halal food in most Western countries. Awareness among non-Muslims increases towards consuming Halal food because the Halal certification is regarded as a credible benchmark for food

safety in many parts of the world. Thus, public perception towards Halal food is improving and no longer seen as food preparation or production exclusively for Muslims.

With a global Muslim population of approximately 1.6 billion and growing annually at 1.8% per annum, and trade statistics indicating global Halal industry to be worth USD 2.3 trillion, the world is waking up to the Halal economy with international players wanting a piece of the action (Matrade, 2017). Increasingly, products upstream such as pharmaceuticals, cosmetics and leather products and downstream services such as logistics are being recognised as new introductions into the global Halal economy. As trade takes on complex configurations along the supply chain, issues of Halal integrity becomes even more crucial. The imperative is more pronounced when considering that a lucrative market with huge opportunities is being offered by the global Halal food trade which amounted to about USD 661 billion in 2012. Thus, the vulnerability of the Halal food supply chain (Bonne & Verbeke, 2008; Zailani *et al.*, 2010), the extent of the farm to table realities and growth of the Halal market (Alam & Sayuti, 2011; Solsis, 2010; Bonne *et al.*, 2007) and tighter regulatory requirements (Department of Standards Malaysia, 2010a, 2010b and 2010c), will inevitably provide the impetus for the Halal trade

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stakeholders to re-evaluate issues of supply chain for more stringent compliance to enhance Halal integrity.

2. Literature Review

Supply Chain

The depiction from Figure 1 demonstrates the logistics industry which includes ports, shipping and freight forwarding, warehousing and handling facilities. The application of Halal logistics principles requires cleanliness of the highest order, best practices in the industry worldwide and quality of the food.

Certification of logistics operations according to Halal standards is currently ongoing (Othman *et al.*, 2009). As the global Halal economy evolves, there will be stringent Halal integrity control in the supply chain and the logistics Halal products will become a new field in supply chain management. This has resulted in more opportunity for the academics to perform their research. Invoking the assertion by Zakaria (2008) and Al-Salem (2009), innovation in Halal

such as the introduction of Halal logistics is possible, as long it does not contradict with Shariah (Islamic) law.

The Halal Logistic Standards

The Halal logistic standards was developed under the patronage of SIRIM (Standards International Research Institute Malaysia), a government authorized standards development agency. Synonymous with the flow of goods and services along the supply chain, the designated title accorded to the standard, *Halalan-Toyyiban* Assurance pipeline, proved appropriate and mirrored the linkages between producers of products, goods and/or cargo and consumers.

The diagrammatic representation from Figure 2 provides the overview application of the standards along the supply chain, focusing on the assurance that products, goods and/or cargo delivered from one custodian to another is in accordance with *Halalan-Toyyiban* requirements, thus preserving the *Halalan-Toyyiban* integrity of the products, goods and/or cargo.

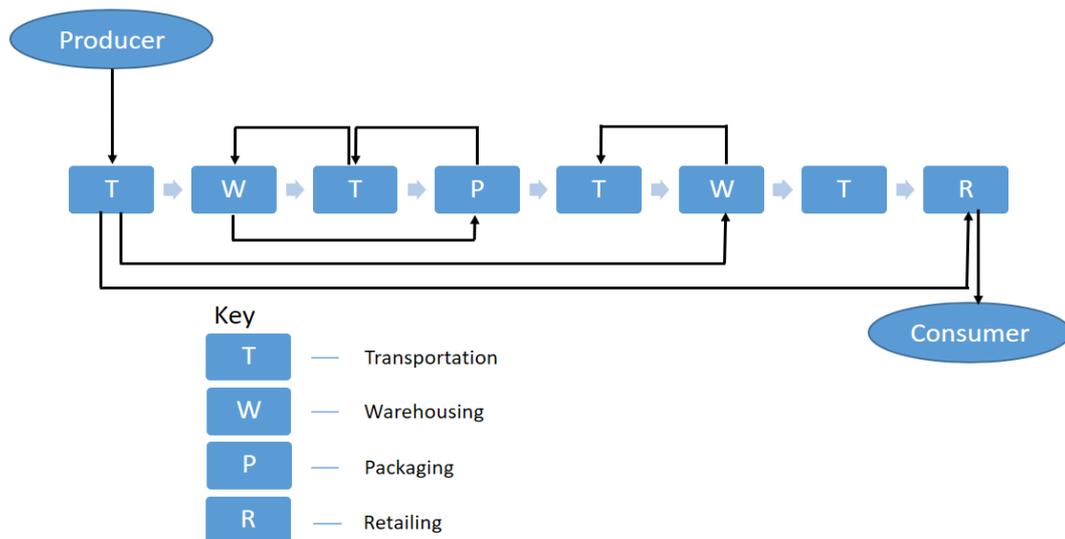


Figure 1. The Logistics Entities within a Global Supply Chain

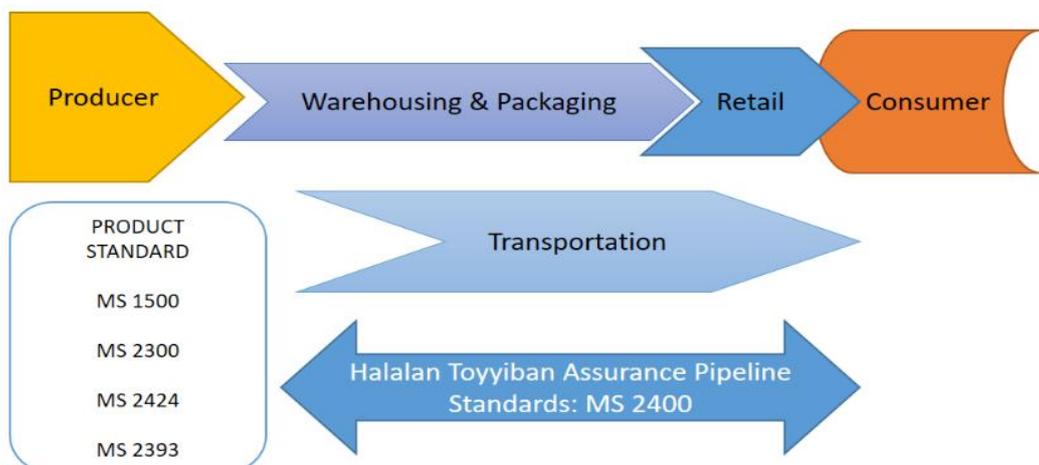


Figure 2. Application of Halal Logistic Standard for the Halal Supply Chain



Figure 3. Commercial Application of Halal Logistics Framework (Courtesy of KNB)

The *Halalan-Toyyiban* Assurance Pipeline manifests a set of three Management System Requirements Standards covering transportation of goods and/or cargo chain activities, warehousing and related activities and retailing respectively. The application of the standards consists of requirements which are industry specific and is intended to be applicable to such organisations, regardless of type, size and goods and/or cargo being transported. It prescribes the framework for an organisation to establish a management system based on *Halalan-Toyyiban* requirements in meeting customer and applicable regulatory requirements. In further describing the applications, the standard is also intended for use by manufacturers, collection and distribution centers, warehouse and storage providers and retailers handling and managing *Halalan-Toyyiban* products, goods and/or cargo, whenever there exist interfacing activities at the receiving, loading and delivery levels. The overview of Figure 3 delineates the supply chain chronology and commercial applications of the standards.

At the operational level these standards contain mandatory requirements which could be interpreted into procedures to manage the occurrence of risk as a sources of contamination and adulteration. The analogy of the risk management aspect is not unlike that of the risk management activities carried out under HACCP (Hazard analysis and critical control points). Critical control points in the *Halalan-Toyyiban* standards are designated as *Halalan-Toyyiban* control points.

A brief description of the standards' application will include an initial process mapping of the particular logistic function to identify the *Halalan-Toyyiban* control points as well as the potential contaminant. In relation to this, control measures and monitoring methods are determined. Where

deviations occur from the norm, corrective actions become imperative. Other areas of significance are the maintenance of documented records and procedures, management responsibilities in supporting and facilitating the system and maintenance of the *Halalan-Toyyiban* system via audits and management review. The requirement for enablers to identify products and/or goods as well inbound materials from the immediate suppliers and the distribution routes and destination of the end products is included under the traceability section. A section on the general requirements for premises, facilities and personnel is elaborated, prescribing conformance criteria adhering to the principles of good hygiene practice.

3. Methodology

Risk Occurrence

Contamination and adulteration of goods and products could occur during transporting, warehousing and retailing unless monitored systematically based on established procedures designed to minimize or eliminate the exposure to risk factors. Consider these few instances of probable risk occurrence:

- 1) Transportation of Halal meat in refrigerated containers. Is the transporting facility designated only for specified Halal meat cargo? If third party transporters are engaged, what was the previous cargo delivered on this transporting facility and did the container undergo *dhibagh* (ritual cleansing) prior to being loaded with Halal meat? During transfer from the container to the cold rooms along the cold chain, were product temperatures compromised during the handling process and are records available to demonstrate

temperature data for incoming goods into the warehouse cold rooms?

2) Tankers transporting different sources of edible oil and fats should maintain records of their goods transported. No doubt most oils originating from seeds are Halal, but the processing aids used during manufacture are of suspect quality and by the principles of Halal, these oils shall be nurtured to becoming non-Halal. Logistic companies might exercise the process of ritual cleansing for the transporting containers to eliminate this risk, but is this option an optimal solution that will be accepted by Muslim consumers who in principle will shun any form of suspected products and services under the premise of *shubhah* (doubtful).

3) The transportation of dry goods comprising Halal and non-Halal products such as beverages in shared containers for cost effectiveness is not uncommon. Despite the perceived segregation being adequate, should other measures be instituted to reduce the probability of risk occurrences? If these conditions are permissible, are procedures documented for control and related records maintained for review?

4) Circumstances of fish handling and transporting becomes an oversight because to a certain extent the element of need due to scarcity supersede the element of quality and coupled to the notion that heat processing will preserve the eating quality. Food quality deterioration resulting from bacterial degradation shall be non-Halal as it adversely affects consumer's health. Polyurethane insulated boxes for transporting fish are left in a state of neglect when not being used. This can be observed at fish landing sites where they are stained from bird droppings, rodent infestation and at times become a refuge for domesticated animals. Another case in point is the retailing activity of imported frozen fish which are unloaded from refrigerated containers and exposed to ambient conditions for hours as trade stock. They are subsequently reloaded into the containers if not sold. This frequent freeze thaw cycles are highly undesirable.

5) High traffic retail outlets such as supermarkets and hypermarkets handle varieties of multiple products. Segregation of retail sections between Halal and non-Halal products is perceived as adequate, but the close proximity of the retail activities and product handling raises some issues of concern. Are the paths and aisles from warehouse to retail sections taken by non-Halal products and Halal products demarcated or are they common? Are cold rooms shared by both non-Halal and Halal products and are they inventoried as products or cargo which are sufficiently wrapped and protected from cross contamination? How do the retail establishment handle the Halal products which uninformed consumers leave at the non-Halal sections if they decide not to purchase and vice-versa?

Despite products demonstrating the Halal logo as proof of Shariah (Islamic) compliance and wholesomeness, manufacturers and customers alike should be wary of the conditions of transportation and handling accorded to products which mostly is never visible to the entity of origin. In view of the inherent presence of potential hazards with varying probability for compromising the Halal status of

products and cargo, the need for Halal logistics become imperative. The key point of the Halal logistics is that the processes within logistics should be a risk management activity whereby an anticipatory and preventive approach is systematically applied to avoid or mitigate the occurrence of contamination and adulteration of products and goods. It should never be regarded as an impediment or an obstacle.

4. Research Findings

Direction of the Halal Supply Chain Initiatives

Riding on the back of the wave of activities spurring the ambition of transforming Malaysia into the global Halal Hub, an increasing number of structural elements and initiatives have shaped the Halal supply chain landscape:

1) In bracing this endeavour, few industry product standards designed to facilitate Halal compliance have been devised for implementation. These standards possess a foundational design focused on the Halal authenticity of the starting materials and manufacturing practices so as to avoid product contamination and adulteration. Despite the realization that the world economy for manufactured consumer products traces a complex path across the supply chain, issues of Halal integrity on logistic aspects is only treated tangentially within the various Halal product standards. In testament Vorst (2006), asserted that the integrity of a Halal product for the consumer (and therefore the Halal supply chains) is a function of the integrity of the various links in a supply chain. In responding to the constant clamouring for Halal supply chain transparency and integrity compliance from peer groups and non-governmental agencies with interest in the promotion of the Halal agenda, it is assumed that establishing and applying a separate standard based on *Halalan-Toyyiban* principles for the logistic industry would suffice.

2) Halal certification as a rebranding strategy requires that product manufacturers upgrade and refurbish their facilities and improve manufacturing operational capabilities to comply with the conformance criteria prescribed in the Halal product standards. However, the issue of Halal supply chain integrity is beyond the limits of the operating boundaries of the prescribed standards as well as the visible range of the manufacturer. With the presence of multi-tier players such as third party and fourth party logistic service providers serving the logistic needs of the industry, the complexity of the issue is further aggravated when manufacturers are not compelled by mandatory requirements in the standards to engage Halal logistic service providers.

3) Logistic players drawn to the enticing statistics and potential trappings of the global Halal economy and intending to service the Halal product manufacturers, undoubtedly, have to allocate investments for infrastructure and operational improvements. Nevertheless, these investments meant for Halal logistic standards compliance are made not based on observed market trends, but rather a loosely conceived idea overly greased by the momentum and

excitement created by the Halal frenzy, propagated by the most ardent promoters on Halal supply chain integrity. It remains to be seen if these investments will bear fruit.

4) The flurry of activities performed to the proactive action by expedite the Halal initiatives is further exacerbated by the 'Halal theme event' promoters, dotcoms associated with Halal, Muslim consumer associations and government trade and industry developmental agencies.

5) Muslim consumer pressure groups continue bellowing for transparency and information dissemination with respect to Halal integrity implementation. However, this potent force usually insists for improvement in auditing methods to determine more accurately the authenticity of products and services so as to enhance the level of consumer confidence.

Factors creating weaknesses in Halal Logistics

Key factors as barriers to the development of Halal Logistics include:

1) Consumer awareness and interest with Halal is only as far as the symbolic representation for Halal integrity of the product is concerned. Most only question the Halal status of the starting materials and the operations involved in churning out the final product as well as the hygiene practices of food service establishments. Issues pertaining to logistics are out of scope of the public radar. Matters of supply chain are a rare discourse due to shallow comprehension and seldom perceived. As aggregates, consumers are powerful movers of market dynamics. However, if prominent supply chain issues are not within reach of their knowledge domain, they will not be in contention to pressure for change on the industry.

2) A cohort of logistics service providers have invested for capacity building and Halal compliance, speculating that the implementation of the Halal logistics will drive hoards of manufacturers to engage the logistic services being offered. Without a Halal supply chain certification and coupled with the absence of a mandatory requirement for Halal products to embark on Halal logistics, manufacturers are not enforced to use Halal certified logistic players.

3) The meticulous nature of the Halal logistics requirement calls for substantial initial capital for infrastructure development and high operations cost for maintenance of the Halal quality system. In as far as certification matters, compliance can only be afforded by logistic players with deep pockets and wide international networks that could absorb the developmental cost, especially for refurbishment of warehouse and transportation facilities. Small and medium players will not be in conflict due to the investment required. In this respect, engaging top tier logistic players for their services might be cost competitive, but the volume of cargo/goods handled must be substantial. This assertion is vindicated as those companies certified as Halal logistics in Malaysia are tier one players such as Century Logistics Berhad, Cold Chain Network Sdn. Bhd., MISC Logistics as well as ports like Northport, Klang the country's first port to be certified Halal-compliant. Overseas, the Fort of Rotterdam has a Halal dedicated storage facility in its attempt to be recognized as the key

Halal entry point for the European market. This is the result of a Halal supply chain with Port Klang of Malaysia. In France, the Port of Marseilles is developing a Halal regional distribution center in collaboration with Malaysia.

4) Trained and experienced auditors are resources which are lacking within the authorized and competent certification body. As certification services are dispensed from one single entity and with new Halal standards being introduced for implementation, these conditions could impose serious problems affecting the functional capacity of the certification body.

5) Manufacturers swayed by the cliché that Halal products should fetch premiums are at times left wandering about high inventory due to low turnover. Food products are increasingly commoditized, whereby substitutes are available in droves. If total product appeal is not attractive and prices are not competitive, these manufacturers could be driven out of business. This phenomenon is not healthy for the supply chain as it adversely affects logistics.

5. Recommendations

As a matter for recourse, the measures listed below could potentially mitigate or ameliorate the weakness of the Halal supply chain.

1) Integration of the certification for Halal products and logistics services to truly reflect a supply chain underpinned by Halal integrity. This would compel manufacturers to seek the services of Halal certified logistics which would also enhance supply chain collaboration. As such investments borne by logistics could be recovered from a shorter payback period.

2) Information dissemination on the mishaps of the Halal supply chain and how it affects the status of Halal products. Consumer education on supply chain issues could progress into more informed choices and also provide consumers with a capacity to pressure the industry for improved Halal integrity operations.

3) The categorization of logistic players based on a tier scale which depend on their ability to comply with varying degrees of the primary requirements of the Halal logistic standards. This would provide an interim recognition for small and medium logistic players to enable them to participate in the Halal economic platform as well as position them on a right footing before they could advance further. In doing so, this would also assist in the creation of the critical mass of logistic players, thus offering a wider span of business coverage and a readily available host of alternative logistics players to choose from.

4) Manufacturers should seek new markets to achieve lower average cost per unit and also improve its learning curve. This would enhance their competitiveness as a cost effective producer. Securing new markets would truly reflect the desired results attained from the rebranding strategy of Halal.

5) A Certification body whose system capacity is limited

due to shortage of skilled human resource and cannot meet the demands of industry should seek collaboration and integration with other private certification bodies. An overprotective monopolistic position could deprive the industry of prompt certification services from the current standpoint of the certification body, which is a malaise to the economy.

6. Challenges of the Future

Over the long haul, conditions evolve with a high degree of uncertainty. However, certain factors should be considered as significant inputs to expedite the future growth of the Halal global trade.

1) Consumer associations are powerful entities influencing commerce. Nations intending to embark and promote the global Halal trade must be sensitive to the information needs of the consumers. The quality of information can influence the development of a strong-minded consumer movement, and thus informed choices and rational responses can be inculcated into society. As a result, consumers can avoid from being gullible to matters arising from notion.

2) One significant barrier in the Muslim economic segment to enhance the global Halal trade is the lack of material resource availability as inputs into the manufacturing concern. Without Halal compliant substitutes for the doubtful (*shubhah*) status materials, the variety of offerings in the market becomes limited, and thus with narrow consumer choices, trade is subdued. Applied research and development in consumer material science should be the key to this issue.

3) Increasingly, long periods of political turmoil are shrinking the Muslim market due to chaos, creating hardships and resulting in low propensity to consume. Further, about 80% of the Muslims across the globe are in underdeveloped and impoverished nations. The search for non-Muslim international markets becomes compulsory. Total product appeal and cost competitiveness are major issues for implementation.

4) Generation of a global pool of Halal competent personnel or experts in the human resource pipeline is needed to execute, monitor and improve the various programs and initiatives related to the global Halal trade.

5) The biggest obstacle to the realization of Halal integrity in the supply chain has always been the harmonization of applied Halal standards across participating nations. Consensus should be progressively achieved for Halal integrity supply chain to be operational on a common platform. Coordination from a seamless integration of Halal trade practices should facilitate a smoother and unencumbered commercial sphere.

7. Conclusions

The Halal supply chain facilitates the global Halal trade

which is a significant pipeline for the global economy. In aspiring to be the global Halal hub, Malaysia has been in the forefront of the global Halal trade agenda, spearheading various initiatives to promote the Halal commercial sphere not only for the benefit of the Muslims but also the global trade fraternity. The framework for implementation of this world economic order has been set. Elements for driving this engine of economic growth have been engineered and tested. However, at times the system might deviate slightly from the destined route due to poor visibility and mistaken bearings. These minor setbacks can be overcome by small adjustments to the system components and thus enable the system to return it to its original path. Likewise, nations wishing to embark on the global Halal economy must envision a well-coordinated system comprising of all stakeholders with vested interest in the global Halal supply chain. Progress is dependent on the advancement of all participants. The whole is greater than the sum of its parts. Thus, what remains is the wilful strength of determination.

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