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INNOVATION IN LOGISTICS SERVICES – HALAL LOGISTICS

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ABSTRACT

Purpose: The expansion of liberalization of trade and services has forced companies to consider the global market demand in their competitive strategic planning. Hence, business organisations need to be continuously as innovation could promise potential growth and development so as to gain competitive advantage in being ahead in the market. Specifically, supply chain has always been viewed as the most important areas to be innovated as it would be an effective means to gain efficiencies and eliminate accumulating competitive pressures and thus increasing innovations. Thus, the purpose of this study is to present a case study that demonstrates an innovation created in the logistics services, i.e. *halal* logistics services, as to fulfil the increasing demand of the customers throughout the world particularly the rising number of Muslim population.

Research approach: This study uses case study approach to elaborate the implementation of *halal* logistics practice. In achieving the objective, related literature concerning the *halal* concept is reviewed and explained to provide better understandings of the concept and how it is applied to logistics services. The emphasis on the innovativeness of this concept is also included. The data for the case study is gained from in-depth interviews with the corporate and operation managers of two leading logistics service providers in Malaysia, who are the subjects of the case.

Findings and Originality: This study found new logistics services that are able to fulfil the growing demand of the customers especially the increasing number of Muslims. This is important as these services have taken into consideration several factors such as comprehensive hygiene practices and thus, is also crucial to other customers. However, understanding the basic concept of *halal* practice and the rationale of its implementation is very crucial before one can commit to its practice. This study contributes to the advancement of knowledge through the elaboration of a case study, which demonstrates the application of *halal* concept into logistics service practices.

Research impact: This study introduces a new concept of *halal* logistics, which applies the concept of *halal* into logistics. The needs to initiate more logistics services that are based on *halal* concept are crucial in meeting the needs of the increasing demand by the customers.

Practical impact: The findings provide insights to the practitioners of the importance in implementing *halal* logistics services. It also indicates the needs for logistics companies to be innovative in creating more *halal* logistics services to fulfill these demands.

Keywords: *Halal* logistics, innovation, case study

INTRODUCTION

The expansion of liberalisation in trade and services has forced companies to consider the global market demand in their competitive strategic planning. Hence, firms need to be continuously responsive to the market demand in order to stay competitive. Various research have shown that innovation can be the source of additional revenues to companies, help to save costs (Calantone, 2002; Dilk et al, 2008; Grawe et al, 2009; Kandampully, 2002) or improve the quality of existing process (Khazanchi et al, 2007) as well as driving potential for competitive advantage (McGrath and Ming Hone, 1996). In fact, the benefits of innovation have been discussed as early as 1911 by Schumpeter. Flint et al (2005) highlight that innovation is particularly vital to logistics service providers as it helps to gain competitive advantage. However, the concept of innovation has been largely ignored in logistics research. They stress that many research on innovation focuses on general product innovation and more specifically on highly technological innovation. With exception to a few studies (e.g. Fuglsang, 2002; Gustafsson et al, 2002; Mattson, 2002; Zacharia, 2001), several authors have also demonstrated the lack of studies on service innovation (Flint et al, 2005). A review analysis study conducted by Busse and Wallenburg (2011) demonstrate the non-existence of a well-established research stream on LSPs' innovation management. Previous studies have been concentrating on the demand of industry specific solutions (Langley et al, 2005), which emphasise on the individual customers' importance. It provides opportunities for LSPs to address individual customer wishes within innovation projects, as well as to generate innovations in close coordination with their customers (Flint et al, 2005; 2008).

Recently, the concept of *halal* has obtained increasing attention as a result of the rising number of Muslim population globally. The consumption and promotion of the *halal* food is becoming significant as it associates with quality, cleanliness and safety as underlines by the *syariah* principles. *Syariah* is the divine law of Islam, derived from the Qur'an and other holy text, which serves as a moral guide to Muslims. The *syariah* sets guidelines for what is right and wrong in everyday life, including standards for food, family life, and business transaction. The fact that the non-Muslims can consume *halal* food enhance the importance of producing more *halal* products as the consumer market is widened when the product could be consumed by all consumers. However, previous studies on *halal* have largely been conducted in the area of food science and agriculture, in which the concentration was given on *halal* food manufacturing. Other research on *halal* supply chain is focusing on traceability, which applies the technological tools for traceability. However, to date, studies that are focusing on *halal* from the perspective of logistics management have been largely neglected. Accordingly, this study highlights the logistics service innovation that have been introduced and implemented by two leading logistics companies in Malaysia. It also demonstrates its

implementation and the impetus of its implementation. It portrays the requirements and procedures involved to produce the *halal* logistics service.

BACKGROUND OF THE STUDY

Innovations and Logistics

Innovation is defined by Schumpeter as the implementation of new combinations of product, process and organisational innovations that would provide new access to markets of suppliers or consumers (Schumpeter, 1994). It also involves deliberate application of information, imagination and initiative in exploiting greater or different value from resources, and encompasses all processes by which new ideas are generated and converted into useful products. To be called an innovation, an idea must be replicable at an economical cost and satisfy a specific need. In line with Schumpeter (1934), Flint et al (2005) emphasise that innovation is not limited to only technological breakthroughs or products alone, but the concept of innovation could occur within services, processes, or any social system. The impact of innovativeness on firm performance and economic growth has been of interest to economists for decades (e.g. Mansfield et al, 1971). Innovativeness has been consistently and significantly become significant determinant to higher firm performance (Deshpande and Farley, 2004; Calantone et al, 2002; Li and Calantone, 1998; Mone et al 1998;) as it enables firms to offer greater variety of valuable, rare, inimitable and differentiated products (Barney, 1991).

Flint et al (2005) define logistics innovation as any logistics-related service that is seen as new and helpful to a particular customer. The innovation may include internal and external operation that could improve operational efficiency and innovations that could serve a customer demand. In supply chain management, firm innovativeness is promoted and measured in terms of frequency of introducing new internal logistics-related processes and the ability to seek out new creative ideas in methods of operation. Panayides and Lun (2009) highlight that even orienting a firm's culture towards innovation is likely to enhance supply chain performance. Supply chain innovations could also be in the form of combined developments of information and related technologies with new logistics and marketing procedures to improve operational efficiency and enhance service effectiveness (Bell et al, 2004). Bowersox et al (2002) underline managers often focus on major cost savings and service improvements that accrue to domestic trading partners adopting supply chain innovation. Accordingly, supply chain has always been viewed as the most important areas to be innovated as it offers an effective means to gain efficiencies and eliminate accumulating competitive pressures. However, extant studies have focused only on a particular aspect of innovation, such as technological innovation (Busse and Wallenburg, 2011; Shen et al, 2009; Lin, 2008) reflecting the lack of studies in service innovations.

Understanding *Halal*

Halal is an Arabic word which means lawful or permissible. The term *halal* is used by the religion of Islam to guide Muslims in everyday life. Muslims believe that Allah (The God) is the Creator and Muhammad (The Prophet) is the final Messenger of Allah. *Halal* refers to all that is permitted and *Haram* refers to all that is prohibited according to the guidelines given by Allah in the Qur'an and explained (Sunnah) by the Messenger of Allah (PBUH). The Islamic dietary laws are derived primarily from the Qur'an and the Sunnah of the Messenger of Allah (PBUH). The basic principle is that all foods are *halal* except those prohibited in the Qur'an and the Sunnah. This reflects that no one has an authority to declare *halal* and *haram* except Allah. The foods that are not permissible are namely swine or pork and its by-products, carrion or improperly slaughtered halal animals, animals killed in the name of anyone other than Allah, carnivorous animals with fangs such as lions, dogs, wolves and tigers, birds of prey such as falcons, eagles or owls, snakes, domesticated donkeys, mules and elephants, pests such as rats and scorpions, insects excluding locusts, blood and blood by-products, alcohol and intoxicants of all kinds, all poisonous plants and poisonous aquatic (unless the poison is removed before consumption), and food which is contaminated with any of the products mentioned above (Lodhi, 2010). In Islam, each of these foods has its own argument of why it is forbidden to the Muslims as Islamic dietary laws strictly adhere to quality, cleanliness and safety of the food that they consume. Generally, the specific reasons of *Haram* in Islam are to (1) preserve the purity of the religion (2) safeguard the Islamic mentality (3) preserve life (4) safeguard property (5) safeguard future generations (6) maintain self-respect and integrity (Ahmad, 2008).

Factors Driving the Significance of the *Halal* Industry

The rising number of Muslim population around the globe has indirectly driven an impact to a tremendous demand for *halal* products recently. The world's Muslim population is expected to increase by about 35 percent in the next 20 years, rising from 1.6 billion in 2010 to 2.2 billion by 2030. Globally, the Muslim population is forecast to grow at a rate of 1.5 percent annually. If the current trend continues, Muslims will make up 26.4 percent of the world's total projected population (The Pew Forum, 2011). Lodhi (2010) claims that the increasing purchasing power among the Muslims around the world also contributes to the increase demand for *halal* products. Customers are willing to pay at higher price as it associates with the belief in Islam that the Muslim should consume clean, safe and quality products. Several researchers emphasise that presently, customers are more educated and thus, becoming more demanding as they are meticulous of the status of the food they consume (Mohammed et al, 2007; Yaakob et al, 2007).

On the basis of costs savings, the implementation of market liberalisation recently has led to the globalisation of food trade that has called more international business operations. However, to run a successful international business operation requires sufficient market demand (Lodhi, 2010). Accordingly, the production of *halal* food may be sufficient to fulfil the market demand as the food market is wider when non-Muslims could also consume *halal* food, thus enhances the need to produce more *halal* products.

As a result, the increasing demand for *halal* products has led to many studies focusing on its manufacturing processes. However, as the *halal* food trade is more globalised, its supply chain is getting more complex. Thus, consumers are now concern not only the manufacturing process, but also all activities along the supply chain of the *halal* food products. This is because the *halal* compliance applies to the entire supply chain ranging from the sourcing of raw materials to the manufacturing, transportation, warehousing, freights handling. Accordingly, the *halal* status of a product could be affected when they are in direct contact with the non-*halal* products; unless it is completely segregated. As such, to maintain the *halal* status of the products requires a different procedure of handling, storage and managing the product. Thus, the purpose of this study is to present two case studies that demonstrate innovations created in the logistics service, i.e. *halal* logistics services, as to fulfil the increasing demand of the customers throughout the world particularly the rising number of Muslim population.

RESEARCH METHODOLOGY

This study uses case study approach to elaborate the implementation of *halal* logistics practice. Busse and Wallenburg (2011) underline that exploratory approach may be particularly appropriate for LSP's innovation management research since it is at a very early stage and that the future research should place more emphasis on how innovation emerges. In achieving the objective, the literature on innovation, logistics innovation, *halal* concept and halal industry were reviewed. The importance of both concepts of innovation and *halal* were elaborated to provide better understandings on the concepts. The rationale on how *halal* logistics services could be considered as innovation and how the concept could be applied to logistics services would also be highlighted. Two leading logistics service providers in Malaysia have been chosen to be the cases. Each of them was labelled as Company ABC and Company XYZ in this paper. The data is gained from seven interviews conducted separately at both premises comprising of corporate and operation managers from both Company ABC and Company XYZ (refer to Table 1).

<i>Position</i>	<i>Company</i>	<i>Length of Experience in the industry</i>
General Manager	Company XYZ	15 years
Manager (Halal Focal Person)	Company XYZ	10 years
Head of Halal Business Unit	Company ABC	11 years
Head of Logistics Infrastructure	Company ABC	12 years
Head of Warehouse	Company ABC	6 years
Branch Manager	Company ABC	9 years
Head of Corporate Communications	Company ABC	9 years

Table 1: The Background of Informants

The length of experience indicates the reliability of the information obtained. The detail elaboration of both case studies is as follows:

CASE 1: COMPANY ABC

Background of Company

Company ABC started its first haulage operations in December 1971 and is recognised as the pioneer haulage company in Malaysia. It started its operations with only single prime mover and three trailers. Over the years, ABC has expanded and ventured into port operations, international freight forwarding, warehousing, shipping, contract logistics and supply chain solutions. Currently, ABC has earned its reputation as the leading one stop logistics company providing comprehensive logistics solutions with multiple ranges of services. Operating at all key entry points into the country, ABC has expanded its operations worldwide with representation in 34 countries, creating a truly global relationship. Having been in the market for 40 , ABC has a wide range of clients. ABC always focus in delivering the best services to their clients by delivering their logistics expertise, with state of the art technology, outstanding people and established processes certified by the International Organisation for Standardisation (ISO).

ABC's Halal Logistics Service Innovation

As the *halal* industry is becoming significant, ABC feels obliged to response to the need of implementing a *syariah* compliance supply chain of *halal* goods. This becomes strong impetus to be innovative in terms of being the market leader and pioneer in the *halal* market. As a result, ABC

began working for *halal* certification application. Having several ISO certifications for their warehouses, the application to be a *halal* logistics service provider became easier. These certifications have recognised their service operations as hygiene and clean. The best strategic move taken by ABC during the application process was to work closely with the Department of the Islamic Development of Malaysia (JAKIM) in acquiring consultation and sharing views on the related processes based on *halal* requirement. The process involves remarkable discussion time, countless of visits, corrective actions as well as views exchange. After six months of hard effort in preparing the warehouses and fleets fully recognised, finally ABC became a *halal* compliant premise under the *halal* certification of JAKIM for *halal* logistics provider. Presently, ABC provides full end-to-end of *halal* logistics services including (1) consultation of *halal* applications to relevant authorities for consumer food and product manufacturers (2) *halal* freight consolidation (3) cross-border and multi-mode international *halal* freight forwarding, (4) destination *Halal* hub/port and customs (5) *halal* warehousing (6) *halal* distribution, returns and recalls.

As the demand for a *syariah* compliance handling and storage of *halal* food is increasing, ABC needs to be innovative in offering an exceptional value of logistics service to the customers, in which they introduce *samak* service on containers. *Samak* is an Islamic term referring to ritual cleansing. Purification or *toharah* plays a very important role in Islam. A Muslim's *ibadah* (worship) prayer may be rejected if *toharah* is being neglected. Therefore all Muslims have to follow the correct procedures in cleaning and cleansing all kinds of dirt according to *syara'* especially when dealing with *mughallazah* filth (heavy impurities) obtained from dogs and pigs. As stated earlier in this paper swine or pork and its by-products as well as dogs are considered as *mughallazah* filth. In Islam, the only way to clean *mughallazah* filth is by washing the affected area seven times. The first washing should be conducted with water mixed with earth (soil or sand), and the other six with clean running water to ensure *toharah* or purification is taken place. If an object was once contacted with *haram*, *samak* will have to be performed on the object.

Samak Service in ABC

Samak service is performed on containers based on customer request. Customers would normally request for this service when they feel that the *halal* status of the product would be affected due to possible contamination that may occur when the product is carried by the container. The service begins with the request for *samak* from the customer. The container will be graded as "A" indicating it as container for food product, which should be cleaned as according to Grade "A" cleanliness standard. Then, the container will be parked at the *samak* centre. For the first five minutes, the personnel in charge will perform a second inspection to ensure all visible dirt is removed from the container. Then, the personnel starts the *samak* service by firstly washing the container with earth (soil

or sand) mixed water. The other six times of washing is conducted with clean running water. By using a water jet, the water is sprayed in a circular movement from one end to the other end of the container to ensure that all parts of the container are clean. The container is then dried out and sealed with the *samak* sticker. The whole process takes approximately 15-20 minutes. One of the requirements in performing the service is to ensure that the compound is clean and free from any possible contamination with the non-*halal* items including the food consumed by the personnel, who is on duty. This stringent process is to ensure a complete cleanliness, quality and safety of the handling and storage of food products. Having conducted a comprehensive cleaning process, the customers only required to pay only a minimal handling fee. Hence, the value that is offered to the customers is ensuring the *halal* status of the product they carry.

CASE 2: COMPANY XYZ

Background of Company

XYZ is among the pioneer companies to provide *halal* logistics services. Formed in 2001, XYZ is a well-recognised one-stop logistics service provider, which integrates almost all forms of logistics services available that includes ocean freighting, distribution, freight forwarding, warehousing and as such providing customers personalised solutions in order to meet local, regional and global requirements. XYZ operates a strategic network of warehouses and distribution centres in major locations within the region. The organisation's supply chain solutions are supported by its sophisticated information technology (IT) systems to efficiently control and manage its entire supply chain. The complete range of IT solutions covers warehouse management system, haulage, freight, fleet, container, global positioning system (GPS) and sea liners, leveraging on parent company's global network, architecture and security framework. In 2007, XYZ launched its XYZ Logistics Hub (MLH), a new generation 90,000 square meter multi-modular storage facility offering inventory management, warehousing, haulage and distribution services, freight and customs management, container yard and cold storage facilities, supported by an integrated IT platform with global connection and outreach. MLH has been awarded free commercial zone status, leading to cost savings to its customers.

An Innovative Solution to Halal Logistics

Taking into consideration all factors of growth in the *halal* industry, XYZ realises that it has a strong potential to be at a frontrunner. With that, XYZ introduced its innovative *halal* logistics solution. *Halal* logistics applies to the application of *halal* practices in the entire supply chain from raw materials, to manufacturing, transportation, warehousing, ports, freight handling and right up to consumer consumption. *Halal* integrity, which involves religious beliefs, cannot be compromised at

any stage and consumers are highly demanding in terms of quality and assurance when it comes to *halal* products. As such, the main challenge for XYZ is the assurance of the highest level of *halal* integrity throughout the supply chain. XYZ addresses this challenge through its innovation in *halal* logistics, where XYZ has created an integrated *halal* supply chain, which manages the material flow throughout the supply chain in compliance to *halal* standards. The key principle that they practice is the segregation of *halal* and non-*halal* products in every process that the product goes through, i.e. transportation, storage or warehousing and handling. In **transportation**, XYZ's inbound and outbound transportation to/from the warehouse are secured as there is a mutual understanding between XYZ and its customers on preserving the *halal* integrity of the transportation process. Transportation is handled by a panel or transporters appointed by customers who are the major food brands in Malaysia and highly concerned with *halal* assurance.

To ensure *halal* compliance in **storage and warehousing**, XYZ dedicates MLH to the handling of only *halal* products and ensures that it receives each product's *halal* certificates prior to the arrival of physical products at MLH's cold warehouse. Once the *halal* product is received at the required temperature, XYZ staff performs the routine check on the product to ensure MLH *halal* integrity is preserved: (1) the *halal* logo at the packaging is recognised by JAKIM, (2) the presence of non-*halal* products/substances, (3) condition of packaging and container seal, (4) presence of foreign objects, and (5) similarity in shipment quantity between delivery order and actual received. The *halal* products will then be palletised, labelled and put away into relevant storage areas within a specified time period to ensure that the freshness is not compromised. For value added services, i.e. repackaging and labelling, XYZ manages them at designated area in the warehouse. For outbound distribution, the required cargo will be picked based on order, staged and loaded into the container or truck of the panel transporters to the destination. By dedicating a hub exclusively for *halal* goods, XYZ is able to ensure customers of the *halal* integrity of its supply chain.

To further improve the operations of *halal* supply chain, XYZ *halal* logistics is managed effectively by a dedicated team of management and operations personnel through the establishment of its **Internal Halal Committee** to monitor, identify, record and report any problems with regard to *halal* processes and ultimately ensure effectiveness in implementation of internal *halal* controls. XYZ's *halal* logistics operations are not only subject to audits by the by the internal team at specific intervals but also by relevant external authorities. The timely audits ensure that *halal* logistics is performed according to the requirements. To continuously ensure *halal* integrity in its service, XYZ has increased efforts and resources in facility maintenance and **training** for its employees. This initiative is to create awareness and knowledge amongst its employees in managing *halal* products as well as ensure its effectiveness in terms of application. As for the critical areas in *halal* logistics i.e. people-compliance, entry point

tracking practices and damaged goods, need to be properly controlled. XYZ also invest in technology, which plays an important role in providing product traceability through the storage of data such as product designated code, batch manufacturing number, expiry date, etc.

DISCUSSION

Several aspects could be highlighted from the elaboration of the two case studies. As has been stated earlier, *halal* logistics services require a special procedure of managing the supply chain. **First**, a company/LSP should have a comprehensive understanding of the *halal* concept and its rationales before implementing it. It is because *halal* status is only gained when the concept is fully implemented, referring to the entire activities along the supply chain, namely sourcing, manufacturing, transportation, storage/warehousing and handling. The *halal* products need to be completely segregated from the non-*halal* products/substances and maintain the quality of the product throughout the whole process of along the chain in order to achieve the *halal* status of the product. Once the *halal* product is in direct contact with the non-*halal* products/substances, the *halal* product would become non-*halal*. But if the non-*halal* product is in direct contact to the storage, equipment and handling facilities, a *samak* (ritual cleansing) could be performed. This provides ground for ABC to offer *samak* service. As the Head of *Halal* Business Unit of Company ABC stated that “*we or the customers wouldn’t know what types of products that the container has carried because the container travels around the world. It could be anything that is non-halal. So this service provides assurance on the halal integrity of the product*”. The **segregation** could be in the form of segregation by compartment, racking system or proper packaging, in which there is no possibility for the products to get contaminated from the non-*halal* products/substances. The segregation does not only apply to the possibilities of *halal* and non-*halal* products are mixing together, but the principle of segregation also applies to the employees handling the products as well as the equipment, machinery or any devices used to handle the products. Consequently, one should have a good understanding on the best way to perform the supply chain activities of the *halal* product so that the *halal* status could be achieved.

An alternative solution that could be easier is by practicing a fully **dedicated** logistics services for *halal* products. This has been demonstrated in Case study 2. The advantage emerges when the logistics providers do not have to comprehensively particular in the segregation process among the *halal* and non-*halal* products. Being a Muslim country, Malaysia has the credibility to offer these services as the majority Muslims bring along the demands for the *halal* products. As indicated by the General Manager of Company XYZ, “*we don’t have that much problems handling and storage of the halal products as our warehouse is dedicated for halal products. And with the transportation, we only deal with our panel of transport providers and clients who are really committed in producing and delivering the halal products*”.

Third, having understanding the role of the two principles of handling the *halal* products namely segregation and dedication; to implement a complete *halal* supply chain across sourcing, handling, storage and delivering is very challenging. This phenomenon could obviously occur especially in those countries that have high consumption of the non-*halal* products particularly food because the ‘dedicated’ practices could lead to higher cost of operation. **Fourth**, based on the case studies presented in this paper, it can be concluded that to achieve a *halal* supply chain compliance product is almost unattainable. This is because the *halal* supply chain service offered by the LSP is guaranteed only when the products are in their custody. But, once the products are transferred to the custody of the other party, the chances of breakage in chain is higher when the other party is not practicing *halal* supply chain. This situation is more critical at the retail level especially the small retailers due to the lack of control and monitoring by the responsible institution at their level. However, the operation practiced by company XYZ in Case Study 2, in which they only work with a panel of suppliers and customers, who are committed to *halal* supply chain practices would potentially resolve this issue. It could also be possible if a food company controls its complete supply chain, thus allowing the practice of *halal* supply chain. It is also important to note that the *samak* service offered by ABC is only a value-added service, which is available when the customers need it.

CONCLUSION

This study found logistics service innovations in the area of *halal* logistics, which have taken into consideration several factors such as comprehensive hygiene practices, quality and safety and thus, crucial to the non-Muslim customers. This study contributes to the advancement of knowledge through the application of *halal* concept into logistics service practices. The needs to be innovative in initiating more logistics services that are based on *halal* concept are crucial in meeting the needs of the increasing demand by the customers especially the Muslims. The findings provide insights to the practitioners of the importance to be innovative in creating more *halal* logistics services to fulfil the growing demand of the *halal* products.

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