



**A STUDY OF SAFETY AND HYGIENE TOWARDS  
PROCESSING ON IMPLEMENTATION OF HALAL  
CONTAINERS IN SOUTH KOREA**

**BY**

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## ABSTRACT

The recent stream of halal industry focuses on the protection of domestic halal market by fortifying halal compliance to cut off discriminately the advance of foreign product. In that regard, the significance of halal logistics has been underestimated so far than others. Even though it is insisted that halal logistics acts as a crucial role in the halal industry, the majority of focus sights are realistically on the commodities prevalingly consumed by the Muslim customers whether it has a qualification with halal certification. But the halal logistics also account for a critical position in the halal industry. Since halal logistics is the initial factor firstly encountering with halal product apart from manufacture flow under halal compliance. In abbreviation, logistics industry is apparently a fundamental resource connecting market and consumer through a conveyance. Particularly, the use of the container for the halal cargoes is the most important component in halal conveyance during the overall process of halal trading. Because anything is not able to be delivered to overseas without proper storage to protect cargo in the period of navigation. Thus, the specific research related to the ocean-container supposed to use for halal cargo is needed for the establishment of an adamant definition for the maintaining halal container. The countries have less infrastructure, notion, and knowledge of the halal industry such as nations which have not settled Islam up as the national religion. Especially, the ultimate purpose of this study is to verify whether current logistic of Korea has possibility able to adjust halal logistics based on MS 2400:1-2010 to present status of Korean logistics with a probability of the acceptance of adopting exclusive container for halal freight. In addition, this research digs the conventional manual having pervaded in current logistics of Korea against halal compliance out through analysis estimating hygiene and safety of container influenced by external elements which are potential contaminant originated from the humidity and propagation of the bacteria, invasion of the insect into a container and evaluating processing and handling cargo related to mixed consolidation without specific classification between halal and Non-halal cargoes, unidentified document having not marked with halal certification such as B/L and C/O, D/O. The total issued factors are supposed to analyze by basing on MS 2400:1-2010.

## ملخص البحث

الحلال الامتثال تقوية طريق عن المحلية الحلال سوق حماية على الحلال صناعة من الحديث التيار ويركز شهادة إجراء يتطلب الذي لإندونيسيا القسري الإلزام إن . تميزي بشكل الأجنبية المنتجات إنتاج لخفض التجارة تنفذ أن المفترض من . الرئيسية القضية هو 2019 لعام القادم العام في الفور على الحلال والأدوية للأغذية حلال شهادة على الحصول خلال من الأخرى والدول إندونيسيا بين الشرعية الخدمات أهمية تقدير تم ، الصدد هذا في . إندونيسيا إلى للتصدير الجاهزة التجميل ومستحضرات تعمل الحلال اللوجستيات أن على إصرارها من الرغم على . غيرها من أكثر الآن حتى الحلال اللوجستية التي السلع على واقعي بشكل تركز التركيز مشاهد معظم أن إلا ، الحلال صناعة في حاسم كدور ، بالطبع . الحلال شهادة على للحصول مؤهلة كانت سواء عام بشكل المسلمون العملاء يستهلكها المنتجات تصنيع وعملية الحلال شهادة من القسم في للنقاش القابلة العوامل من يحصى لا عدد هناك اللوجستيات أن بما . الحلال صناعة في حرجاً موضعاً أيضاً تمثل الحلال اللوجستية الخدمات لكن . الحلال الامتثال تحت التصنيع تدفق عن النظر بصرف ، الحلال المنتج أولاً يواجه الذي الأول العامل هي الحلال من والمستهلك السوق يربط أساسي مورد هي اللوجستية الخدمات صناعة أن يبدو ، باختصار . الحلال الحلال نقل في مكون أهم الحلال للشحنات الحاوية استخدام يعد ، الخصوص وجه وعلى . النقل خلال ، مناسب تخزين بدون الخارج إلى شيء أي تسليم يمكن لا لأنه . الحلال للتداول الشاملة العملية خلال كانت إذا مما التحقق هو الدراسة هذه من النهائي . الحلال الحاوية على للإبقاء دقيق تعريف وضع أجل MS 2400: 1-2010 أساس على الحلال اللوجستيات ضبط على قدرة كوريا في الحالية اللوجيستية . الحلال للشحن حصرية حاوية اعتماد قبول احتمال مع الكورية اللوجيستية الخدمات حالة لتعرض في الحالية اللوجيستيات في ينتشر الذي التقليدي الدليل يحفر البحث هذا فإن ، ذلك إلى بالإضافة التي الخارجية بالعناصر المتأثرة الحاوية وسلامة النظافة تقدير تحليل خلال من الحلال الامتثال ضد كوريا البضائع معالجة وتقييم حاوية في الحشرة وغزو ، البكتيريا وانتشار رطوبة من نشأت محتملة ملوثات هي مستند ، الحلال وغير الحلال البضائع بين محدد تصنيف دون المختلط الدمج أجل من معها والتعامل يتم أن المفترض من . D / O و C / O و B / L مثل الحلال بشهادات عليه علامة وضع يتم لم الهوية مجهول MS 2400: 1-2010 إلى الصادرة بالاستناد العوامل إجمالي تحليل

## APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a thesis for the degree of Master of Art in Halal Industry Management.

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## DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 BACKGROUND OF THE STUDY**

The Halal logistics industry means including industrial Islamic value by adjusting a new requirement originated from Halal guideline to conventional logistics and modifying the current rule of global logistics for adopting Halal logistics (Nghah, Zainuddin & Thursamy, 2014). Actually, the majority of conditions abiding by Halal logistics are based on a conventional operation which has been prevailing used in the world so far. Because it has completely pervaded into the current industry of logistics with an international manual for carriage. It is the protocol widely having settled up as unalterable criterion due to its historical rationale and convertible ability among nations for trading (Jaafar, Endut, Faisol & Omar, 2011).

Thus, this research focuses on a capability of ocean-container whether it can be used for Halal logistics or not through a partial modification of conditions of Halal logistics. The reason why this study is on the sight of aiming at a container is that core factor and primary step on the process of Halal logistics and majority of current trading begin with shipping freight into a container and conveyance in the world. (Omar & Jaafar, 2011) This newly emerged industry of logistics has not prominently regulated as the compulsory so far. Considering gradually increasing the Muslim population and purchasing power of the consumer in the Halal market, the Halal logistics has the potentiality to set forcedly the mandatory in near future (Hanzaee & Ramezani, 2011). Although, it is not certain when it is going to be settled up. In contrast, the tendency of

the Islamic nations to fortify the Halal standard as compliance supports the reasonability of adopting Halal logistics on the side of ocean-container.

Therefore, deeply digging veiled debatable factors out is needed for the nations which have no specific detail of the Halal industry to cope with the unpredictable situation. In the same way, Korea is anticipated to be stuck in a similar problem, unless backing up this unanticipated occasion which may randomly occur in near future is conducted in advance. Korean logistics industry is objectively on the basic step in this section (Zulfakar, Anuar, & Talib, 2014). The main objective of this research is to be a part of contribution for government and organization, corporation and to notice specific information about Halal logistics and effective alternative partially modified by keeping the formation of the condition of it without in domestic area of Korea.

Thus, several collected subjects are supposed to be in analysis and discussion with rationale supporting reasonability of adopting Halal logistics (Nghah, Zainuddin & Thurasamy, 2014). In abbreviation, listed factors are like that the primarily considerable factor is a container in the logistics industry due to accounting for high proportion and basic essentiality of performance in this industry. This research indicates why a container act as a crucial role in this section and which conditions related to Halal logistics are available for adoption of a Halal regulation by referring MS 2400:2010 on the current status of Korean logistics (MS 2400:1-2010).

So as to analyze specific information, this research also focuses on container hygiene and safety, handling Halal cargo, processing related to the guide of Halal freight. Besides the most of important factor which has a critical occupation to be a criterion in the case of measurement and estimation of Halal logistics is MS 2400: 2010 regulating whole sections of logistics operations by adjusting compliance Halal logistics. Thus, reaching on the result is in the comparison between MS 2400: 2010 and present

industrial situation and operation of Korea through accurate analysis (Hashim & Shariff, 2015).

## **1.2 DEFINITION OF HALAL LOGISTICS**

The definition of Halal logistics is converting conventional logistics industry by adding extra-compliance under Shariah ritual and Islamic notion (MS 2400:1-2010). The fundamental structure of Hhalal logistics abides by the pre-existing system but the part concerned due to contamination against Halal notion is supposed to debate under the manual of Halal logistics. It is defined as the potential contaminant in accordance with the general notion of the Halal industry.

Thus, the definition of Halal logistics is able to account for collaboration between current global logistics and Islamic logistics (Nghah, Zainuddin & Thurasamy, 2014). Particularly, the MS 2400:1-2010 is evaluated as a prominent manual in the global Halal industry. Malaysia is one of the nations has a well-organized structure in the part of global Halal-logistics. In abbreviation, the definition of Halal logistics (MS 2400:1-2010) is able to analyze the systemic management basing on MS regulation of container and cargo during the process of logistics.

## **1.3 PROBLEM STATEMENT**

The debatable titles of Halal logistics industry are able to be verified as two types. An initial one is material and creature which seems potentially to be a threat to the container and cargo under Halal logistics (Zhang & Zhao, 2012) on the side of hygiene and safety of container with collective action including treatment and the subsequent discussable title is the operation of consolidating works and documentation's series related to



processing and handling cargo on the side of conveyance (Naga & Zainuddin, Thurasamy, 2013).

### **1.3.1 Hygiene and Safety of Container**

Primarily, hygiene of container is frequently on the issue whether it is adjustable for Halal cargo or not. The clear definition of hygiene of container is how it is able to be maintained by conserving the original shape and feature of stuff without damage. It does not accurately mean direct physical effect such as loss and damage due to rough navigation or calamity able to damage to ship (Svedberg, & Johanson, 2013). The definite meaning of hygiene is nearly closer to contamination concerned against Halal regulation such as rotten and spoiled packages (Ratanamaneichat, Rakkarn 2012).

However, those kinds of incidents are not regarded as serious contamination on the side of the current manual adopted in logistics part which is not under compliance of Halal logistics. Because they frequently occur at the part of extant logistics and it is available to re-use or recycle contaminated freights by sterilizing without permanent disposal. Thus, it is not the main debatable elements to the present process of logistics which is prevailingly operated among Non-Islamic nations.

In contrary, invisible elements to be a threat to the hygiene of a container are considerable things on the aspect of Halal logistics. Those sources indicate a plenty of debatable problems from factors able to influence seriously negative effect on the environment of container hygiene and Halal cargoes. The majority of hazardous elements mentioned in this sentences are originated from scientific phenomenon and environment derived from unpredictable and invisible factors described in statements below (Ahmad & Shariff, 2016).

### **1.3.2 Humidity and Micro-Bacteria in a Container**

Definitely, Humidity and micro-bacteria do not influence directly to the hygiene of container. However, the thing concerned is the threaten of the environment being able to thrive a mow and fungus having unpredictable threaten to cargo loaded in a container (Bandara, Garaniya, Chin, & Leong, 2015). The cause of humidity sets off by the temperature of the container. A standard container is made up of metal, which is a good heat conductor and heat can easily exchange through the container walls creating temperature variations within the container (Zhang & Zhao 2012). A container, particularly the roof, is often exposed to solar radiation for long periods of time (during a voyage or storage at the port), and therefore considerable temperature variation can occur inside a container. Warm air holds more moisture than cold air, therefore if the warm air inside a container comes into contact with colder air outside the container (or the container walls and roof are cooled due to the external climate) moisture will precipitate onto the roof and walls of the inside of the container. The humidity of the air inside a container is also another factor that causes moisture in the containers (Zoz *et al.*, 2016).

### **1.3.3 Concerning Influx of Insects into a Container**

The concerning the influx of insects into a container is connected to safety. Such incursion is not definitely inferred by inspection of footprint but partially, on the view of tracing insects, there are three suspicious ways of invasion. At first, the possibility of an invasion in the process of manufacturing a product at a factory, in particular, the section of the package. Subsequently, another possibility of invasion is implication about the existence of inhabiting of the insect at the internal place. Thirdly, a possibility

of the influx on the process of quarantine and customer service is able to be detected by inspection implemented in a port (Lee, Lee & Lyu, 2008).

#### **1.3.4 Processing and Handling Halal Cargo in a Container**

In abbreviation, processing and handling cargoes are able to be viewed of the procedure and flowchart totally covering the general circumstance of operations consisting of the logistics industry. Those sources are mainstream in supply chains to maintain current works occurred in a port. Before shipping on the board, most of the actions are undertaken by systemic steps based on global supply-chain of procedure which is prevalingly used in the world throughput industry (Bae & Lee, 2016). In the same way, the process related to Halal cargo abides by traditional rule with adding exceptional Halal manual. Thus, this research concentrates to dig disturbed elements which are against Halal compliance (Ahmad & Shariff, 2016) out through analysis and comparison with conventional logistics system.

#### **1.3.5 Halal Cargo Processing**

The container having shipment consisting of Halal cargos is randomly loaded in a port area without an exceptional area for the Halal freight. The container yard of a port is separated complicatedly. The container which is supposed to be soon on the board is located in the area near to the crane (Yeo, Thai & Roh, 2015). It is an inevitable process in logistics and realistically impossible to allocate an area adhering exclusive usage for loading Halal cargoes, but considering compliance, the Halal container must be amassed on the distinguished area to be apart from a Non-Halal substance (MS 2400:1-2010). Besides environment of the port has the possibility to be exposed to other variables such as climate and temperature due to the location of the port near to the sea. The absence

of continual monitoring of Halal freight acts on negative factor to the management of Halal cargo.

### **1.3.6 Handling Halal Cargo**

The absence of Halal cargo manual is on the issue of the view of Halal logistics of managing and handling container including Halal cargo. In particular, it occurs on the part of the LCL container. Because the loaded stuff in LCL container consists of the different kinds of cargoes owned by each consignor (Bae & Lee, 2016). That is definitely less perception of consolidating operation of cargo. The specific verification of LCL freight whether hazardous cargoes are loaded in a container has not been settled up so far. The section on handling Halal cargo is about the freight forwarder who is sensitively responsible for Halal cargo instead of the consignor. In order to adopt Halal logistics, regulating Halal manual of cargo must be conducted in advance (MS 2400:1-2010).

## **1.4 RESEARCH OBJECTIVES**

1. To fortify hygiene of container against extant less maintenance of container for Halal product and to correspond to Halal logistics regulation in Korea
2. To suggest pertinent precaution in order to avoid cross-contamination by the invasion of insects into a container
3. To propose establishing an exceptional department of supervising Halal container to government and corporation belonged in the logistics industry
4. To contribute to adjusting Halal logistics manual of classifying LCL/FCL Halal cargo to current industry for a freight forwarder

## **1.5 RESEARCH QUESTIONS**

1. How is the safety and hygiene of container in Korea in order to adjust Halal logistics regulation?
2. What are the problems to implement container regulation of Halal logistics in Korea on the aspect of the invasion of hazardous factors?
3. Which department will take part in the supervision of Halal logistics processing and setting specific guideline?
4. How is the classification of handling cargo of freight forwarder in Korean logistics?

## **1.6 SIGNIFICANCE OF THE RESEARCH**

In the position of logistics industry of Korea, it is expected that countless corporations involved in the industry of supply chain may confront of huge demand in near future. In order to cope with such an unpredictable situation such as compulsory of Halal logistics anticipated to be derived from the upcoming mandatory of Indonesia that is supposed to be implemented in 2019. If the Korea government and companies face several issues commented above, they are going to ache for undertaking specific research related to the container after confronting of serious obstacle originated from less preparation to Halal logistics. The rationale of why this research focuses on a container in the Halal logistics industry is because of that a container is the primary source in the logistics industry and it has debatable elements on the aspect of Halal logistics compared with other parts of the logistics industry.

Besides the Korea industry has visibly formed a particular structure relying on export and import due to the scarcity of natural resource and the geographically isolated

location of territory. Therefore, digging in the only research of container supposed to be used as a conveyance of Halal cargo with measurement based on MS regulation for Halal logistics must be conducted by this study. In addition, this investigation is designed to contribute to setting knowledge of Halal logistics related to container part of Korea and verify the possibility of adopting Halal logistics on the status of Korean logistics. In order to rapidly correspond to an unpredictable stream of the Halal industry, the profound searching for Halal logistics industry and container for Halal cargo must be undertaken in advance.

### **1.7 SCOPE OF THE RESEARCH**

The scope of this research is limited to several sections classified to hygiene and safety of container for Halal cargo, handling and processing Halal freight. Majority of containers loaded in a port are supposed to be on the analysis with criteria based on MS 2400:1-2010 Halal transport. This research deeply focuses on the container on the side of Halal logistics in the comparison between the existing status of the logistics industry of the Korea and pre-existence of Halal logistics in Malaysia. The last chapter which consists of conclusions reveals alternative so as to adopt the use of Halal container by revising the extant rule of logistics in the legitimate boundary.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

This literature view is to focus on digging veiled hazardous factors out through investigation in a comparison between the current status of Korea and Malaysia in the logistics industry. Therefore it analyses that hygiene and safety of a container (Syazwan *et al.*, 2014) and overall operations including processing of logistics and handling cargo with a view of Halal logistics. The hygiene and safety of a container have been continually on the matter in the logistics industry due to the extension of contamination influencing cargoes. Majority of products having imported and exported have been conveyed by a container shipped on the board (Kamaruddin, Iberahim & Shabudin, 2012). Because of that, the sanitation of container is significant than other resources partially consisting of total logistics.

In addition, the overall operations which are processing and handling cargo in a port are reviewable factors in order to contribute to acceptance of Halal logistics. Since general documenting and consolidating freights which have been prevalingly adopted for the accomplishment of conventional logistics are esteemed for being improper on the view of Halal logistics (Sayareh, Iranshahi & Golfakhrabadi, 2016). Thus, the extant status of logistics industry in Korea is objectively inferior to the immediate adoption of Halal logistics.

Due to such industrial environment and less acquisition of technique engaged in Halal logistics, the specific research of environment surrounding the container and disturbed obstacle against the adoption of exclusive ocean-container for Halal cargo

must be undertaken by referring this study (Ngah, Zainuddin & Thurasamy, 2014). The criterion for the accurate survey is based on Malaysia Standard 2400-1:2010 which denotes the importance of clearness and avoiding cross-contamination against hazardous factors which have haram elements (MS 2400-1:2010).

## **2.2 HYGIENE AND SAFETY OF A CONTAINER**

The main arguable matter on the status of logistics industry of Korea is safety and hygiene of a container. Particularly, the one notable issue is related to the hygiene of a container involved in the propagation of the creature which can be a serious risk to cargoes in a container. That is against MS clauses of 6.6 and 6.10 about cleansing and sanitation, contamination control (Ms 2400:1-2010). The internal place of the container is frequently exposed to humidity and bacterial factors which are able to influence to loaded freight with the chemical and physical contaminant (Syazwan *et al.*, 2014). A deterioration of quality and serious damage of products shipped in a container by chemically and biologically corrupted elements above are concerned considering being infectious to other cargoes. Those invisible factors sustainably impact on the freight by being pervaded naturally with contaminants and fatal infection able to propagate to others. Due to such hazardous unidentified factors, products which are inferior to moisturized elements and humidity are repeatedly exposed to damage (Heungsik & Dongpyeo, 2008).

Continually, the subsequent issue is the safety of the container that is about the influx of insect which is able to invade the stuff loaded into a container (Syazwan *et al.*, 2014). The main point of this subject is the propagation of tropical fire ant widespread in a port area. These very tiny ants frequently rush into a container and settle up at the