FOODS INGREDIENTS MANAGEMENT: INBOUND AND OUTBOUND HALAL MANAGEMENT BEST PRACTICE

Adam Mohd Saifudin[1]
Matthew Lim Kai Teng[2]
Tan Then Huei[3]
Muhammad Adnin Naim Mohammad Yusof [4]
Che Noraini Che Hussin [5]
Siti Zulaiha Abdul Kadir [6]
[1,2,3,4,5,6] *School of Technology Management and Logistics*
Universiti Utara Malaysia
msadam@uum.edu.my

ABSTRACT

Foods and ingredients management in the inbound and outbound of warehouse has become significant priority to ensure the quality of halal products. This study will benefit the society among the Muslims and Non-Muslims communities. Manufacturers can interconnect the information to improve and identify factors affecting the consumers who are doubtful of choosing halal products. The objective of the study focus to examine the inbound and outbound efficiency of food ingredients management for halal management best practice in the warehouse. The researchers chose Saudi Cold Storage Sdn. Bhd as the model and respondents of the study. Questionnaires consisted of 26 questions are applied and distributed to the company's employees. Inbound and outbound efficiency of food ingredients management are the independent variables for halal management best practice who acted as dependent variable. Theoretically, this research contributed the study on the inbound and outbound efficiencies of food ingredients management affected the halal management best practice. Practically, the study is applicable for managers in the halal food industries in their operational decisions making. The outcome of this research is positively reacted and explored for future studies related to halal warehousing and its operations.

Key words: *Food Ingredient Management, Halal Logistics, Halal Inbound and Outbound*

INTRODUCTION

Demands in foods that are containing halal ingredients have seen growth over the past few years by Muslim and non-Muslim population. Besides, the halal industry has also grown and expanded rapidly around the world. Halal means an overall concept that encourages Muslims to seek and use products and services that promote cleanliness in every aspect of that person's life (Yusuf, Shukor & Bustamam, 2016). Besides, for the meaning of practice, it is a method, procedure, process, or rule used in a particular field or profession. Even though the standards, definition and requirements have been

established, there are still issues arisen regarding to halal. In the food industry, halalness of the food ingredients play a very important role to ensure the integrity of the halal food. It is not only about the raw material but the cultivation, preparation, handling and storage are also playing an important role to ensure the halal status. Furthermore, inbound process is a process the company will handle the ingredients from receiving until the storage. Moreover, outbound is process at the warehouse which pick and handling, packaging, staging and issuing the ingredients to the production line. There are also standards that become guidelines for all the halal food producers and providers to manage their workplace complying with the requirement. Therefore, inbound and outbound efficiencies of food ingredients management play crucial role for halal management best practice.

PROBLEM STATEMENT

Major concerns of business sector nowadays are how to assure and maintain the halal verification throughout the entire process along the supply chain due to the globalization. Issues which occurred along the supply chain may cause halal validity unreliable (Mohamed et al., 2016). In fact, as the complexity of complying and maintaining the *halal* status exists, the occurrence of poor management in an organization towards halal compliance may even affect the quality of the halal foods and ingredients. Furthermore, poor inspection in ensuring the halal status of ingredients and foods in the warehouse may cause the quality problem. Muslim Council of Britain had issued a statement warning the Muslim community about chicken supplied by Holland which contains pork as screened by BBC program (Qureshi, 2017). Besides, equipment and machinery that used for handling and picking halal products or ingredients should not be associated with *haram* (non-permissible) or *najis* (ritually unclean) materials as it could cause halal from becoming *haram* (Baharuddin, Kassim, Nordin & Buyong, 2015). Thus, this study will focus on the inbound and outbound activities which involved in warehousing activities.

LITERATURE REVIEW

Halal Management Best Practice

Halal refers to anything that is permissible according to the Islamic law (Alam & Sayuti, 2011). The halal word written in the Al-Quran means "lawful, permitted, allowed or legal" and the opposite of halal is haram means unlawful or illegal (Saifudin, Othman & Elias, 2016). In general, the fact that something is used by the food industry as a processing aid instead of as an ingredient does not in most cases change the impact of the ingredient on the kosher or halal status of the final product (Hani & Al-Mazeedi, 2013). The concept of the halal plays the most important role in the halal food industry. Besides, to ensure the halal management in best practice, it is generally related to the halal integrity and halal certification. Halal certification is the crucial proof for an organization which proving the halalness of the halal product. Halal certification is to deliberate for any rights for entrepreneurs to produce products (Noordin, Noor & Samicho, 2014) or services that have been audited to be recognized as halal (Saifudin, Othman & Elias, 2016).

Halal certified companies are important to look beyond their products and ingredients (Tieman, 2011). They should extend the control to the entire supply chain networks to ensure that all the processes involved in the operations are in compliance with Shariah law. Halal integrity illustrates that the product is still in Halal status from upstream to downstream supply chain, free from any activity that may violate Halal status, intentionally or unintentionally (Yusaini & Mohamed, 2016). They not only concerns about food ingredients whether it is halal or not but also want to know about all the activities involved in the supply chain whether the products they buy are really halal all the way (Jaafar, Endut, Faisol & Omar, 2011). Food safety and its quality assurance are among the important things to many people around the world. Several decades have shown that people have put such issues above everything else primarily because of changes in their eating habits, values, and beliefs (Zailani et al., 2010). As more food available on the market, the authenticity of halal food has raised concerns among Muslim consumers worldwide (Fadzlillah et al., 2011).

Inbound

In this study, the concept of inbound has four types that are interconnected with each other that are used in the implementation of halal food best practice. Inbound that include the process is documentation, physical unloading, inspection and storage in the company was implemented. The beginning of the implementation of the inbound process is the documentation. Among the necessary documentation such as halal certification recognized responsible committees for ensuring that the item is in compliance with the set-up and convincing halal standards. Halal certification is to deliberate for any rights for entrepreneurs to produce products or services that have been audited to be recognized as halal (Saifudin, Othman & Elias, 2016).

Next in the inbound process, unloading and receiving items from the truck should take into account how much of the item is levied and received. Maintaining the halal performance in the supply chain, especially during the transportation process is a major challenge (Tieman, Vorst & Ghazali, 2012). In the inspection stage, the understanding concept of implementation ingredient in the halal food should be free from any *syubahah*. Most of the entrepreneurs have a good understanding and knowledge of halal food and food hygiene, including the ways it is prepared, processed and marketed in Malaysia (Hassan, Musa & Rahman, 2014). The other important aspect in inbound activity is storage where they keep all the ingredients. Storage is very important to ensure the goods in the warehouse are safe and clean in stored. The halal ingredients must not be combined, or come into contact with haram materials such as pig, swine, dog either during storage, transport, and serving (Nawai et al., 2007). Segregation of halal and non-Halal food products must be highly practised to avoid contamination (Riaz & Chaudry, 2004).

Outbound

Outbound process plays a crucial role in order to attain the success of the halal production. Proper segregation should be determined during handling, packaging, transporting and storing of the products (Mohamed et al., 2016). The first crucial part is handling and picking, the equipment which used to picking and handling the halal ingredient must only be used for halal ingredients or products. Halal food may apparently be the same as other food, but its nature, technique of its processing

involving the ingredients, handling, use of various methods from the beginning to the end, is always the one approved and recommended by Islamic Law (Krishnan et al., 2017). Next, the packaging should be sealed properly and a prevention of cross-contamination is warranted. In the term of packaging, a clear guideline of procedure in packaging is required to ensure the maintained halal quality (Mohamed et al., 2016). Furthermore, the packaging for halal food products should take into account particularly in materials, designs and size to suit the halal specification to ensure the protection of halal product from cross-contamination and non-halal material (Yusaini & Mohamed, 2016).

For staging, terminal is a location of the special facility for the handling and/or temporary storage of cargo as it is loaded/unloaded or transferred between companies (Mahidin, Othman & Saifudin, 2017). 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 (Mahidin, Othman & Saifudin, 2017). The separation of the staging area should be done in order to avoid the null or void of the halal status. Before issuing the halal ingredients to the production line, inspection on the staging area should be done. Cleaning procedures should be done as stated in the Islamic Laws if the mixing of the halal and non-halal ingredients occurred. If contamination happens, the containers need to be clean thoroughly before it can be used to transporting halal products (Mohamed et al., 2016).
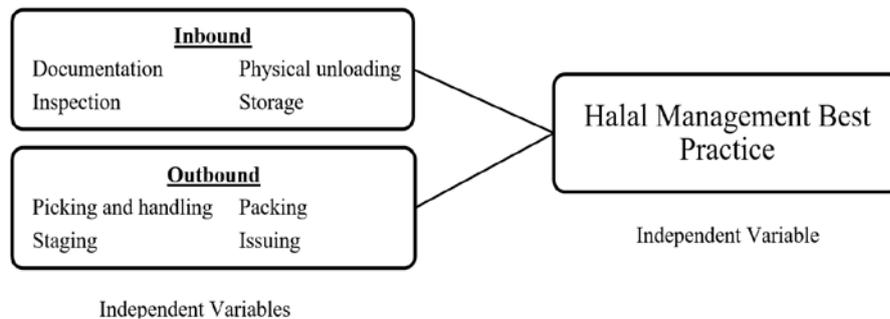
Framework

Figure 1
Research Framework

Hypotheses

The hypotheses for this study are:
H[1]:   There is inbound efficiency of Food ingredients management for Halal Management Best Practice.
H[2]:   There is outbound efficiency of Food ingredients management for Halal Management Best Practice.

RESEARCH METHODOLOGY

Research Design

For this study, the research approach that been implemented for obtaining information is mixed method which is quantitative research and qualitative research. The design formed aims to confirm that information obtained is applicable to solve the research problem. A combination of the quantitative and qualitative research method to provide accurate data to the researcher and generally a more accurate evaluation (Tariq & Woodman, 2013). The main resources that were used for this study will be the information gained from quantitative method while supported or enhanced by the information gained from the interview section. It will be complement by qualitative data from the open-ended interview with the industries expert. Primary research design consists of quantitative and qualitative research. Quantitative research is conducted by distributing questionnaires to 30 employees in Saudi Cold Storage Sdn. Bhd. The questionnaire consists of 4 sections which are demographic, inbound, outbound and halal management best practice. Qualitatively, an interview sessions were conducted with the senior management of Saudi Cold Storage Sdn.Bhd. The interview sessions conducted with the structured and unstructured questions based on the question on how to improve the food ingredients management in inbound and outbound activities leading to halal management best practice. Secondary research design is done through journal, internet and books which could allow researchers to have better understanding on the halal management best practice.

Data Collection

The data will be gathered using print-out questionnaire, and analysed using SPSS version 23.0. SPSS is the acronym for Statistical Package for the Social Science. The software has a very flexible data handling capability and data manipulation utilities, which will be useful while analysing data.

FINDINGS

Quantitative Analysis

Correlation analysis is conducted to examine the relationship between the independents variables and the dependent variable. The researcher used the Pearson's Coefficient as the tool to conduct the correlation analysis. Correlation analysis between inbound efficiency in food ingredients management (IV1) and Halal Management Best Practice.

Table 1
Correlations

		IV1	DV
IV1	Pearson Correlation	1	.696[**]
	Sig. (2-tailed)		.000
DV	Pearson Correlation	.696[**]	1
	Sig. (2-tailed)	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

Based on the results of Correlation analysis on the table above, the Inbound (IV1) is positive and has a significant relationship with the Halal Management Best Practice (DV). The correlation coefficient was 0.696** and their positive relationship is strong, because the value of coefficient is more than 0.5. Correlations analysis between outbound efficiency in food ingredients management and Halal Management Best Practice.

Table 2
Correlations

		IV2	DV
IV2	Pearson Correlation	1	.803**
	Sig. (2-tailed)		.000
	N	30	30
DV	Pearson Correlation	.803**	1
	Sig. (2-tailed)	.000	
	N	30	30

**. Correlation is significant at the 0.01 level (2-tailed).

Based on the results of Correlation analysis on the table above, the Outbound (IV2) is positive and have a significant relationship with the Halal Management Best Practice (DV). The correlation coefficient was 0.803** and their positive relationship is strong, because the value of coefficient is more than 0.5. The researchers have conducted ANOVA analysis to prove that the hypotheses of this study is significant and supported. ANOVA analysis of Halal Management best practice with inbound efficiency in food ingredients management.

Table 3
ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.137	1	25.137	26.347	.000[b]
	Residual	26.715	28	.954		
	Total	51.852	29			

a. Dependent Variable: DV
b. Predictors: (Constant), IV1

From the table above, the probability value for the statistic was less than 0.05 ($p < 0.001$), we can conclude that the hypothesis about the inbound efficiency in food ingredients management (IV1) were supported.

Table 4

Hypotheses	Result
$H1_0$: There is no inbound efficiency of Food ingredients	REJECTED

Hypotheses	Result
management for Halal Management Best Practice.	
H1₁: There is inbound efficiency of Food ingredients management for Halal Management Best Practice.	SUPPORTED

ANOVA analysis of Halal Management Best Practice with outbound efficiency in food ingredients management.

Table 5
ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.420	1	33.420	50.770	.000[b]
	Residual	18.432	28	.658		
	Total	51.852	29			

a. Dependent Variable: DV
b. Predictors: (Constant), IV2

From the table above, the probability value for the statistic was less than 0.05 ($p < 0.001$), we can conclude that the hypotheses about the Outbound efficiency (IV2) were supported.

Table 6

Hypotheses	Result
H2₀: There is no outbound efficiency of Food ingredients management for Halal Management Best Practice	REJECTED
H2₁: There is outbound efficiency of Food ingredients management for Halal Management Best Practice	SUPPORTED

The researchers conducted a Coefficient analysis is to show the significance relationship and determine the relationship between the dependent variable and independent variables. Coefficient analysis of Halal Management Best Practice with inbound efficiency in food ingredients management.

Table 7
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.247	.576		.429	.671
	IV1	1.062	.207	.696	5.133	.000

a. Dependent Variable: DV

The regression results about the inbound efficiency in food ingredients management (IV1) and with the Halal Management Best Practice (DV) shows that there are significance relationships between the Halal Management Best Practice (DV) and inbound efficiency in food ingredients management (IV1). As a result, the estimated regression equation for the Inbound (IV1) can be written as:-

Halal Management Best Practice = 1.062 (IV1) + 0.247

Coefficient analysis of Halal Management Best Practice with outbound efficiency in food ingredients management

Table 8
Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	.535	.384		1.394	.174
IV2	.965	.135	.803	7.125	.000

    a. Dependent Variable: DV

The regression results about the outbound efficiency in food ingredients management (IV2) and with the Halal Management Best Practice (DV) shows that there are significance relationships between the Halal Management Best Practice (DV) and outbound efficiency in food ingredients management (IV2). As a result, the estimated regression equation for the outbound efficiency in food ingredients management (IV2) can be written as:

Halal Management Best Practice = 0.965 (IV1) + 0.535

Qualitative Analysis

Researchers conducted an interview in Saudi Cold Storage Sdn. Bhd and had found that there are inbound and outbound efficiency of food ingredients management for halal management best practice. According to the interviewees, inbound is the most crucial part for ensuring the halalness of the whole process. Inbound involved in the receiving of ingredients from suppliers. Thus, they only purchase from halal certified suppliers that approved by JAKIM. Besides, accuracy of documentation such as where do the ingredients came from, the date of halal certification, accurate specification and etc. had been emphasized as halal generally cannot be measure by physical appearance. Subsequently, in the outbound activity in warehousing, inspection by In Process Quality Control (IPQC) committee would be carried out on the ingredients before issued to production as producing finished goods with contaminated ingredients will cause the void of halal status. Saudi Cold Storage Sdn. Bhd emphasize every activities in their operation. They appointed 1 halal committee in each section of the activities which involved in inbound and outbound for inspection and supervising to ensure the assurance of halalness. Moreover, Saudi Cold Storage Sdn. Bhd implemented few strategies in ensuring that there is halal management best practice. Appointing halal committee for supervising and inspection

in each section of activities before entering the next section is one of it. Furthermore, the second-hand equipment or capital like machines are been bought from approved halal supplier. Subsequently, if the items or equipment bought are suspicious, ritual cleaning according to the Islamic Law will be implemented which supervised by halal executive. Apart from that, halal awareness training are provided to the employees in terms of halal knowledge, working procedures and hygiene training. In addition, halal assurance system is the latest practice been implemented by the company. The system established by the company themselves according to the guideline provided by JAKIM. Saudi Cold Storage Sdn. Bhd also implemented internal audit once a year in ensuring the halal compliance. Subsequently, daily inspections in hygiene control are implemented and strengthen by installation of closed-circuit television (CCTV). Saudi's committee conducted an audit at supplier site which aims to ensure that the suppliers' work conform to halal requirement. According to interviewees, the difficulty faced by the company is to request halal containers from the logistics provider to ensure that they received halal products.

DISCUSSIONS AND CONCLUSION

The results showed that the Hypothesis 1 (H1) is supported and accepted. The hypothesis proved that there is an inbound efficiency of food ingredients management for Halal management best practice. The hypothesis too is supported with a positive significance relationship with the halal management best practice during the ANOVA analysis, coefficient analysis, and the correlation analysis. It is also strongly supported by qualitative analysis that showed the company have major strategies in their inbound activities that are practicing positively in food ingredients halal management best practice. In the Hypothesis 2 (H2), the study proved that there is an outbound efficiency of food ingredients management after the independent variable showed a positive significance relationship with the halal management best practice during the quantitative analysis. It is also supported with positive information on outbound efficiency which leads o halal ingredients management best practice. Therefore the Hypothesis 2 is accepted. Theoretically, this research contributes a study on how inbound efficiency of food ingredients management and outbound efficiency of food ingredients management will affect the halal management best practice. Practically, this research is applicable for the managers and executives that practice halal management in foods industries in making important decisions to ensure the best practice of inbound and outbound in food ingredients management are best applied.

LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

There are some limitations in this research which included the methodology used and also the scope of this research. The research was carried out in one company only as the time frame given to us is very limited with 3 months to complete. This research did not reflect the overall results that represent in total of halal management best practice in inbound and outbound for halal foods ingredients management. Therefore, it is suggested that for the future research more companies should be involved in this research study with more time frame given for the researchers. This will allow the researchers to gather more data and information to complete the research thoroughly.

However, this research is indeed an eye opening for the initial starting to be explored further especially in the field of halal foods ingredients in Malaysia.

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