[LOG 12] ENHANCEMENT HALAL SUSTAINABILITY ON CUSTOMER GOODS

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ABSTRACT

Muslims around the world are experiencing an increase in their awareness of the concept of halal food because of the demand for compliance with the requirements of their religion .As we know that not only Muslims who took Halal food products but also non-Muslims are also likely to take and prefer Halal products. Halal logistics is about applying excellence in supply chain during the process of sourcing, production, and distribution. The purpose of our study is to investigate the relationship of traceability and accessibility in order to achieve the halal sustainability. The data was collected via a questionnaire survey targeted Muslim and non-Muslim customers of the halal food product. The multiple linear regression analysis has been used to analyze the date. The 400 respondents from University Utara Malaysia were choosing as respondent for this study. The result shows that the traceability and accessibility variable explained a significant 80% variance in enhancement halal sustainability.

Keywords: Halal food products, Halal sustainability, traceability, accessibility

INTRODUCTION

Muslims around the world are experiencing an increase in their awareness of the concept of halal food because the demand to comply with the requirements of their religion .As we know that not only Muslims who took Halal food products but also non-Muslims may take and prefer products such as Halal food products. According to Chang (2006) states halal certification as the new benchmark and gain popularity for hygiene, quality, and safety, but at the same time comply with Shariah (Islamic Law). Moreover, according to Mohd Yusoff (2004), Halal not only include aspects of religion, but it is very tight in compliance with quality and hygiene in manufacturing practices. Muslim consumers are concerned and demanding quality products that are healthy and which shall comply with the requirements of Shariah (Al-Harran & Low, 2008) .Muslim consumers are concerned about the status of Islamic religious requirements of products and services. Actually, they want to know the ability of manufacturers to trace the beginning to end the process to gain the confidence of users that the whole process of production, processing and distribution of products with Shariah. The main problem in Malaysia is about counterfeiting and unreliability Halal brand, trademark and logo (azah, Nizam, and Azmi, 2008). Aliman and Othman (2007) states that quality is one of the most important in purchasing local and foreign brands in Malaysia with confirmation for religious purposes.

In addition, Wan-Hansen (2007) has underlined that due to different Halal standards not only between countries but also within each country. For example, confusion and misunderstanding in the certification process have occurred .This may enhance the punctuate system supply chain visibility or a detailed tracking rather than rely on the Halal certification mark. According to (Azah et al., 2008) also highlighted in their finding, like the current approach is mainly the lack of a reliable method to determine whether a food product comes from the country specified on their packaging or otherwise. They added that a comprehensive tracking system was required to be used in Malaysia to assist in describing the trademark on the packaging and brand fraud in real-time basis and will be a trusted environment. Another problem can be the state is a lack of accessibility of information on halal food products. This is because they do not know the steps to get information. According to the HDC Global (2016), one of software which is Halal Mobile Apps by Department of Islamic Development Malaysia (JAKIM) was provide ease to consumers when locating halal food premises or restaurants and makes this application. By using this application, the users can access information about the status "Halalness" of halal food product and accurate location of halal food premise by using Global Positioning System (GPS) technology and Google Maps.

In conclusion, these problems to enhancement Halal sustainability on halal food products is a forgery and unreliability Halal brand, trademark and logo, confusion and misunderstanding in the certification process has occurred, the lack of a reliable method to determine whether a food product comes from the country specified on the packaging or otherwise, the difference standardize certification of halal food production between countries when making business activities and customers have no information about halal food products. Therefore, the objective of this study was to investigate the relationship between traceability and sustainability increase access to halal.

LITERATURE REVIEW

Enhancement Halal sustainability

"Halal" is from Arabic words "Halla" that is literally means loosening a free from objects that are dirty or unclean, knot, lawful, that which is allowed, permitted, legal and legitimate by Islamic law. Halal must be applied from the beginning of origin until the point of consumption These activities are including the process in production, processing, and handling, transportation which must follow the Syariah Islamic law (Omar & Jaafar, 2011). A halal concept important to Muslim and also non-Muslim due to the term 'Halalan toyyiban" which is halal products must be halal and can be consumed by the consumer as for being mentioned in Qur'an .According to Zulfakar, Anuar, & Ab Talib (2014), halal is very important to increase or improvement in quality, value or extent of food products to enhancement halal sustainability. Sustainability always associated with the theory "triple bottom line".

Based on the theory of "triple bottom line" sustainability is a subjective perspective on sustainability concept, and is one of the developments of the term used to describe a business's sustainability (Elkington, 2004). So that, the ecologically will be intelligently and safely. It is determined as an implication that assessment of business results should be based on not only economic performance, but also on environmental and to social impacts as well (Sheth, Sethia and Srinivas, 2011). The sustainability is also can

describe as a division of focus on economic prosperity, social, equity and environmental protections.

Consumers nowadays are concern about food quality, safety, origin and halal authenticity and encourage the halal logistics in Malaysia becoming well known to the global. The sustainability is an aspect including that any activity that creates value for a food manufacturer and its customers, as a part of sets of processes of foods that can be acceptable for consumers who are concerned about food safety and quality that focuses on Muslim and non-Muslim consumer (Cutler, 2007). The enhancement sustainability is important to ensure the customers got the whole information such as the activities that happen in the production, processing and handling the food products (Schulze, Spiller & Theuvsen, 2006). Malaysia through agencies like JAKIM and Department of Standards Malaysia, Institute of Islamic Understanding Malaysia and Malaysian Institute of Industrial Research and Standard (SIRIM) was developed the Malaysian Standard Halal Food (MS ISO1500:2009) to ensure the halal food product in "halalan toyyiban" from the beginning of the process until the consumption.

Malaysian Standard Halal Food (MS ISO1500:2009) and halal certification is one guidelines for manufacturer ensure the halal products be operated properly especially in packaging, labeling, advertising logo, name of product that shall not be misleading based on the principles of Syariah law and also need to transport and stored in compliance with the local hygiene and sanitation requirements and other relevant. The enhancement sustainability is important to ensure the customers got the whole information such as the activities that happen in the production, processing and handling the food products (Schulze, Spiller & Theuvsen, 2006). The concept of "Halal" and "sustainability" are now both seen as opportunities and it is no longer enough for producers to focus solely on what type of food is produced and how food is produced but also including the whole process of supply. There is a factor in enhancing the halal sustainability which is the traceability and accessibility of halal food products.

Traceability

Traceability is the ability of manufacturers to trace from the beginning until the end of the process to obtain consumer confidence that the whole process of production of product based on Shariah-compliant. Thoyyib means healthy, safe, efficient and of good quality of the product. So, to make efficient in Halal traceability system, the government should take action of process implement traceability in food production through Jabatan Kemajuan Islam Malaysia (JAKIM). This authority can monitor the Halal production issues about cleanness, ingredients, hygiene and transportation. Traceability is a collection of standards that are recognized in codes of practice, guidelines, recommendations and international standards related to food, food production and food safety (Codex Alimentarius, 2012). Basic guidelines regarding Halal food law discussed in the Quran (Riaz & Chaudry, 2012) . The three main categories that are halal, haram and Syubha Islam .Halal allowed temporary, illegal, prohibited, and syubha (questionable or doubt) is between lawful and unlawful.

In the hadith by Bukhari and Muslim narrated by Abu Abdullah An-Nu'man, the Prophet Muhammad said: "Halal (lawful) is clear and haram (prohibited) is clear in between the two are certain things that suspect or syubha or Mushbooh ". Traceability is a system that will enable us to trace all the possible information related to the product from origin to final point of sale before it reaches to the user. The traceability used for

trace enhancement Halal sustainable in safety and quality of food production. There are two important elements in food customer perception and decision-making processes related to food choices based on quality and safety (Grunert, 2005). Traceability in food production through safety is very important because for example, in manufacturing when a manufacturer puts a halal logo on products, the consumer thinks that the manufacturer is taking care about the Halal of the product. So, this is can be needed for halal storage facilities throughout the world to storage the product (Tieman, 2008). Then, the traceability of quality of food production also important for example, all Halal food that is stored, displayed and served should be labeled halal to prevent them from mixed with products that are non -Halal. Besides that, in general, the consumer will experience based quality through taste when to get food choice (Grunert, Bech-Larsen, & Bredahl, 2000; Richardson, MacFie & Shepherd. 1994).

The technology method that used in traceability of product is used integration of geographic information systems (GIS), remote sensing (RS) and global positioning systems (GPS). There is method used to traceability in the food production, processing and handling of food production to the enhancement of Halal in the product. Another technology use in food traceability is using Tags. By using Radio frequency identification (RFID) to detecting and identifying a tagged object via radio waves transmitting data from tags to a reader (Jung Lyu, 2009). Another method that can use in food traceability is used web and database technology. This is an application of appropriate computer system. This application can link the food traceability to a central database at the company, national or international level. This system requires lots of data uploading require lots of data uploading to be saved as digital files. Besides that, the increasing speed and capability also contribute to the viability of the system.

In other hands, using software with traceability capabilities can also enable your business to compete more successfully to win the business of retailers. Retailers often require EDI (Electronic Data Interchange) as well as immediate product recall action within a few hours. By using advanced software and systems can provide these necessary capabilities between retailer and consumer. The method such as RFID, barcode and other media tracking to get the process smoothly making the product. Besides price, food safety and quality is considered the most important factor affecting food product purchasing decisions of the consumer (Zhang, 2002). On another point, the technology is very important to as innovation for established network participants (Gadde & Håkansson 1994), as a result from the interactions between sellers and buyers (Roy, Sivakumar, & Wilkinson, 2004). Besides that, diversity goals and convictions always as a requirement for innovation and creative development to take place mention by (Gadde & Snehota, 2000). So, the traceability system appears as a new knowledge domain make easy from the buyer to seller interactions (Truffer & Dürrenberger 1997). Besides traceability, accessibility also used in a Halal food product to enhancement Halal Sustainability. It is because accessibility is very important to the customer getting information about the Halal food product.

Accessibility

Accessibility (or access) can be referred to simply get information on goods, services, activities and location, which is what people usually mean by delivery and handling (Hansen 1959; Engwicht, 1993). It Also can be defined as a potential for interaction and the exchange or the ability of people to use the services and opportunities. The meaning of accessibility also can refer to the quality that can be obtained when needed

by the user. According to the Ahmad and Juhdi, (2010) mentioned the customers have high positive beliefs and accessibility toward buying attitude for the food product. These studies show that the lack of accessibility to food product it will become the barrier in keeping customer possibly. The concept of accessibility of information is can provide the information service as gathering feedback from the users for evaluation and making improvements in the service (Culnan, 1985). For the customer, the reliable and clear Halal standardizes and certification is important so he or she does not need to check the list of ingredients and to understand all about the production. The accessibility for standardizing of Halal food allows the consumers to be more confidently in making an informed choice at the time of purchase (Batu & Regenstein, 2014).

Customer will understand to the accessibility of standardizing of a Halal food product if the manufacturer has Malaysian Standard (MS) 1500:2009. This standard is a guideline for the logistics provider on preparation and handling the Halal food product according to Shariah law and should be applied to all stage of processing (from farm to table). It also explain the standard of "Halalness" must be requirements in food supply chain from processing to handling, storage, distribution, and transportation (SIRIM, 2009) and Muslim customer can be more confident in Halal food product if processing and handling leading to the "Halalness" status (Rezai, Mohamed & Shamsudin, 2012). The information that provided by the logistics providers must accurate to reduce the customer uncertainty. This is because the customer has the right to obtain the reasonable information related to beginning to end the process. This will gain consumer confidence that the whole process of production, processing, and distribution of products are Shariah-compliant. The information about the Halal status or certification of a food needs to be indicated on the "halalness" in more an understandable way (Batu, Regenstein, and Dogan, 2015). Product knowledge can influence how the customers accessing the product (Rao & Monroe, 1988) and it effects the information searching (Rao & Sieben, 1992).

In the year 2008, the government has established Halal Industry Development Corporation (HDC) as a company to handles local and international Halal certification process and halal product issues. One of new software was been develop by Malaysian Halal Industry Development Corporation (HDC) to the customer which is mobile phone application namely as Halal Square, Halal Inside, and Halal Apps. This mobile application has been introduced by Department of Islamic Development Malaysia (JAKIM) that provide ease to consumers when locating Halal food premises or restaurants and makes this application (HDC Global, 2016). According to Jamal and Azreen (2012), this mobile application can allow the user to check the status of Halal food products in the market and nearest location from the current location of users. The result of this study shows that 70 percent of respondent encourage using the mobile application for halal food inspection on their regular basis of purchasing goods. This information about Halal products for a customer in real time (Junaini & Abdullah, 2008).

Customer more likely demand for the better customer services, thus get the better quality products, this will not only involve the retailer but also the transportation and warehouse operation. The "Halalness" information must be involved from the beginning of products process until the products reach to consumers (Ellram, Londe, &

Weber, 1999). Halal mobile apps can provide the users to access information about the accurate location of Halal premise within the 20km radius from current location using Global Positioning System (GPS) locater and Google Maps. These apps also help the users to access social media integration for check-in location, rating system, and share premises and provide halal company contact information by using the E-Mail and call Integration (HDC Global, 2016).

METHODOLOGY

The methods of research that have been used in the collection and analysis of data is descriptive research. Data collection method that been used for this research is a questionnaire. In our research, we research about the traceability and accessibility towards enhancement Halal sustainability among respondent in University Utara Malaysia, Kedah. The randomized sample of 400 respondents from population in University Utara Malaysia. The respondents were required to rate their level of agreement with statements given using 7-point Likert scale. For the section A, we are focused on the demographic profile question for our respondent. In section B of this questionnaire, we are asked about the traceability of Halal food product in Malaysia. For section C, the question is regarding about the information about "Halalness" accessibility of Halal food product in Malaysia. For section D, the question is regarding about the information about enhancing Halal sustainability (Halalan Toyyiban) in Malaysia.

Findings & discussion

Demographic profile

The questionnaire was distributed via hardcopy and the total respondents involve in our study is 400 respondents. In this section, we want to determine the differences of number of respondents and percentage in each element. The Table 1, show the demographic profile for this study.

Table 1 Demographic profile

Item		F	%	Item		F	%
Gender	Male	123	30.8	Occupation	Self-employed	34	8.5
	Female	277	69.3		Employee	57	14.2
Race	Malay	235	58.8		Students	303	75.8
	Chinese	117	29.3		unemployed	6	1.5
	Indian	34	8.5	Halal logo	Yes	267	66.9
	Other	14	3.5		No	132	33.1
Age	Below 20	62	15.5	Consume	Yes	136	34
group	21-30	307	76.8	Muslim	No	43	181
(year)	31-40	30	7.5	product			
	41-above	1	.3				

The gender of respondents is representative of UUM with 30.8% male and 69.3% female. About 58.8% of the respondents are Malay, while the Chinese and Indian are 29.3% and 8.5% respectively. About 3.5% is in the others ethnic group. The age of respondent in the study below 20 about 15.5%, those between 21 until 30 are about 76.8%. The age between 31 until 40 is about 7.5% and only 0.3% aged above 41. About

14.2 % of the respondents are employees of organizations in UUM whilst 8.5% as self – employed.75.8% of student in UUM and unemployed only 1.5 % from results. From the table, only 66.8% only check of Halal Logo before buying and 33.0% respondent do not check for Halal logo before buying. For element consume the Muslim product in their consumption for non-Muslim respondent, only 34.0 % of Muslim respondent, consume the Muslim product in their consumption and 10.8 % non –Muslim respondent are consumed.

Reliability analysis

The reliability analysis is used to determine whether the scale that formed by the multiple Likert questions in a questionnaire are reliable or not .Table 2 shows the reliable and acceptable for customers of halal food consumption on the traceability and accessibility factors towards enhancement halal sustainability.

Table 2
The result of Cronbach's Alpha

Variable	No. of Item	Cronbach's Alpha
Traceability	6	0.908
Accessibility	7	0.891
Enhancement Halal sustainability	7	0.949

According to Table 2, the variable of traceability and accessibility factors has the Cronbach's Alpha of 0.908 and 0.891 which means the variable are highly reliable. For the variable of enhancement Halal sustainability, the Cronbach's Alpha is 0.949 which shows the high reliable. According to Nunnally (1978), the Cronbach's Alpha which higher or equal to 0.7 shows that the items in the variable are high reliable.

Correlation analysis

Table 3

Correlation analysis table

	Correlation analysis tai	Die
Variable	Traceability	Accessibility
Traceability		0.620**
Accessibility	0.620**	
Enhancement Halal sustainability	0.698**	0.690**

^{**.} Correlation is significant at the 0.01 level (2 tailed).

The correlation analysis is used to determine the relationship between two variables in a linear fashion. The coefficient value is ranging from -1.0 to 1.0. Results in table 3 reveal that traceability and accessibility factors have significant correlate at 0.620 and shows the relationship between two variables is strong and positive. There is also the significant correlation between enhancing Halal sustainability and traceability (0.698) and enhancing Halal sustainability and accessibility (0.690).

Multiple Linear Regression analysis

The multiple linear regression analysis is used when more than one independent variables to explain variance in a dependent variable. It used to test the relationship between independent variables and dependent variable. R² is the coefficient of determination and it provides information about the goodness of fit of the regression model.

Table 4Model coefficients

Model	R	Adjusted R Square	Std. Error of the Estimate	Change statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
1	0.771	0.595	5.09554	0.595	288.86 4	2	394	0.000

a. Predictors: (Constant), Traceability, Accessibility)

b. Dependent Variable: HS

Based on Table 4, R^2 is 0.771 shows that there is 77.1% of the variance in Halal Sustainability is explained by Traceability and Accessibility. According to the social science, 30 to 50% of variance shows that the model is a good predictor. In our study, the traceability and accessibility variable explained a significant 77.1% variance in enhancement halal sustainability. It implies that the model in our study is a good predictor. The significant value of an independent variable of Traceability is 0.001 (p< 0.01) which shows that Traceability is significantly related to Halal Sustainability. However, the significant value of an independent variable of Accessibility is 0.001 (p> 0.05) which shows Accessibility is significantly related to Halal Sustainability. For the traceability [β =0.441, p<0.01] and accessibility [β =0.416, p<0.01].

CONCLUSION

The findings are indicating that the traceability and accessibility variable explained a significant 80% variance in enhancement halal sustainability. It implies that the model in our study is a good predictor. There is also the significant correlation between enhancing Halal sustainability and traceability (0.698) and enhancing Halal sustainability and accessibility (0.690). It shows that people are concern about the traceability and accessibility of information to ensure the "Halalness" of halal products. The study has implication on halal logistics provider to be more progressively or more proactive to ensure "Halalness". However, the study only for tertiary level and it will better to analyses in the world or it easy compares in tertiary level institutions. Traceability is the ability of manufacturers to trace the beginning to end the process will obtain consumer confidence that the whole process of production of product based on Shariah-compliant. Accessibility (or access) also can be referred to the ease of reaching goods, services, activities and destination, which is what people usually mean by transportation. Technology used in traceability and accessibility towards enhancement Halal Sustainability. In conclusion, traceability and accessibility are very important in a Halal product. This is because the consumer is tracing their product by the knowledge that using accessibility or information method.

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