

# Amwaluna

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## THE ANALYSIS OF INFLUENTIAL FACTORS OF HALAL SUPPLY CHAIN MANAGEMENT IMPLEMENTATION IN BANDA ACEH'S HOTELS

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### Abstract

Aceh is a province in Indonesia that implements Islamic law in its territory and is regulated by Qanun decree. Aceh Qanun No. 8/2016 confirms the determination of the halal product guarantee system. However, the Qanun lacks presenting, regulating, and providing Halal Supply Chain Management (HSCM). This research was conducted on food services in hotels with halal certification in Banda Aceh and surrounding areas that aim to see the implementation of HSCM based on food services by looking at the relationship of the most influential factors using multiple regression. There are seven relationships between variables that form hypotheses, namely halal management, quality and hygiene of halal food, halal warehousing, halal transportation, halal raw materials, halal production facilities, and halal suppliers. ANOVA testing (F-test) shows that all factors influence HSCM. However, Partial testing (T-test) shows that the most influential factors on HSCM are given by halal management and halal warehousing.

**Keywords:** Food Service, Halal Supply Chain Management, Multiple Regression

### I. Introduction

In the current era of globalization, Moslem's understanding of halal products increases significantly through an in-depth review of halal based on what is written in the holy book (Al- Qur'an and Al-Hadist). For Moslem, halal is applied in the natural products and at all production stages by Islamic Law. Moslem awareness and attention on halal food products enforce halal food demand, which is also related to

increasing Moslem populations globally (Omar & Jaafar, 2011; Priyatmoko, Maulana, & Oktaviyanti, 2021). The high demand for halal products has created the halal supply chain's integrity from upstream to downstream.

Halal Supply Chain Management (HSCM) is an essential issue for consumers, food producers, and ingredient suppliers in the Moslem's market (Yusoff, Yusof, & Hussin, 2015). Halal Supply Chain is a

method that separates the non-halal products in the supply chain activities to avoid contamination and maintain the halal integrity of a particular product (Ngah, Zainuddin, & Thurasamy, 2015). Halal Supply Chain Management Issues include food ingredients, food hygiene, health, nutrition, food integrity, animal slaughter, and halal shipping and marketing (Omar & Jaafar, 2011). Halal and haram issues, contamination and broad insight from consumers about Islam is a factor that makes halal supply chain management important. Halal supply chain management starts from specifying, selecting, and evaluating supplier integration (Marco Tieman, 2011; Mohd & Norhidayah, 2018; Nor, Latif, Ismail, & Nor, 2017).

The halal determinants of supply chain management have an essential role in Halal supply chain management (Ali, Tan, & Pawar, 2015; Mohd & Norhidayah, 2018; Nor et al., 2017; Ruth et al., 2012). Previous research was conducted to emphasize the factors that can monitor or control the integrity of halal food. Determining factors is very important to minimize doubts about a food product's halalness where there are no international rules that determine what factors can guarantee halal food. This variable setting can help predominantly

Muslim consumers consider what indicators need to be considered to ensure that the product is genuinely halal (Tieman, 2012; Tieman & Ghazali, 2014).

Aceh is an area with a majority of the moslem population and one of Indonesia's provinces that implements Islamic law in its territory regulated by Qanun. As one of the world's halal tourist destinations, Aceh should have halal facilities, services, and systems. Likewise, with food served in restaurants and hotels in the Aceh region where all the food must be preserved according to the Shari'a halal, not only made from halal ingredients but also must pay attention to these foods' origin can guarantee the halal food. Therefore, this study was conducted in hotels with halal certification in food services in Banda Aceh and its surroundings by looking at the relationship of the most influential factors to the halal application of supply chain management using multiple linear regression.

The related literature study generates seven research hypotheses: one independent variable, namely: Halal Supply Chain Management and seven dependent variables, namely: halal management; quality and hygiene of halal food; halal warehousing; halal transportation; halal

raw materials; halal production facilities; and halal suppliers. Figure 1 shows the conceptual model in this study. Simultaneously, data collection is done by distributing questionnaires to as many as 32 respondents from 8 hotels who are hotel officers and responsible for implementing food service in the hotel. Furthermore, the results of the questionnaire recapitulation were analyzed using a multiple linear regression approach.

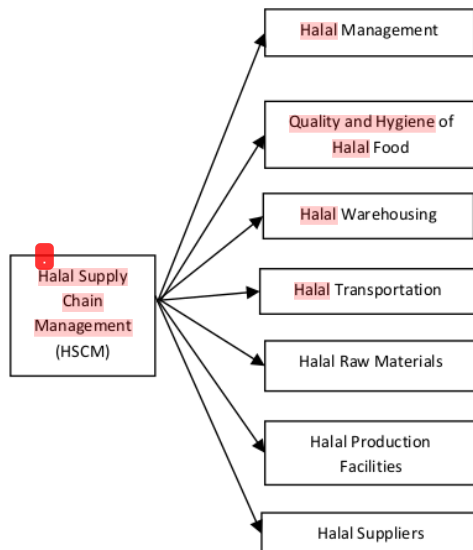


Figure 1  
The Conceptual Model of Halal Supply Chain Management (HSCM)

Based on the conceptual model in Figure 1, seven hypotheses were developed and tested in this study.

#### a. Halal Management

Halal management is part of the company's organizational structure that takes care of its halal product's origin. For instance, conducting audits for every product supplied or purchased by the company must be equipped with halal packaging and certification and selecting halal raw materials purchased by the company. The business process of purchasing or supplying halal raw materials for supply chain management must use halal certified materials and packaging. Therefore, halal supply chain management requires halal policy management that serves as the basis for halal purchases (Tieman and Ghazali, 2014; Nor et al., 2016).

**H1:** There is a significant relationship between Halal Supply Chain Management and Halal Management.

#### b. Quality and Hygiene of Halal Food

The quality of halal food hygiene is hygienic. The quality of raw materials and food produced must be maintained until it reaches the end consumer because cleanliness and food quality significantly affect halal food. Halal food producers must also ensure that consumers are equipped with clear and easily understood information by labelling and food

packaging. (Ratanamaneichat & Rakarn, 2015; Nor et al., 2016).

**H2:** There is a significant relationship between Halal Supply Chain Management and Quality and Hygiene of Halal Food.

c. Halal Warehousing

Halal warehousing is a process and system for storing raw materials and food products that must be separated and free from raw materials and food products that are haram, unclean, stale, rotten, and free from contamination (Nor et al., 2017; Omar, E.N & Jaafar, 2011; Talib, Zailani, & Zainuddin, 2010). If a product is not stored with halal treatment, then the product cannot be said to be halal (Syed Shah Alam & Nazura Mohamed Sayuti, 2011). Storage of products in temporary or not warehouses must be free from contamination of materials or non-halal / unclean products (HAS 23000, 2012). Products stored in warehouses must also be separated from product storage racks that are not halal (Talib et al., 2010).

**H3:** There is a significant relationship between Halal Supply Chain Management and Halal Warehousing.

d. Halal Transportation

Halal transportation is the process and system of transporting or transferring raw materials or food products from one place

to another, separated and free from raw materials and food products that are haram, unclean, stale, rotten, and free contamination. Contamination free means that there are the non-mixing of halal and non-halal goods in the material handling process, both in the production and distribution process (Tieman, 2007; HAS 23000, 2012; Hafaz, Zainuddin and Thurasamy, 2014).

**H4:** There is a significant relationship between Halal Supply Chain Management and Halal Transportation.

e. Halal Raw Materials

Transparency of raw materials used both from nature, origin, and processing should be clear (Ruth et al., 2012). For example, like ingredients mixed during food processing, the origin of the halal must be exact. Halal raw materials, even though they must be explicit in nature and origin (Maruheck, Greis, Mena, & Cai, 2011). In daily life, the company's assessment of raw materials' purity is seen based on the certification possessed by raw material. Therefore, certification is the best way to provide information about where raw materials are obtained (Manning, 2018).

**H5:** There is a significant relationship between Halal Supply Chain Management and Halal Raw Materials.

f. Halal Production Facilities

Halal production facilities are the use of tools, materials, and places to produce halal sustainability. In other terms, the production facilities are used only for the production process of halal products and may not be mixed with production processes containing unclean or haram products. Halal production facilities are divided into three categories, such as halal production facilities for processing industries, halal production facilities for restaurants/catering, and production facilities for slaughterhouses (HAS 23000, 2012).

**H6:** There is a significant relationship between Halal Supply Chain Management and Halal Production Facilities.

g. Halal Suppliers

Halal Suppliers are transferring operations and management activities in an agency to other parties to maximize transparent company performance about the halal processes and systems carried out by outsourcing or such suppliers (HAS 23000, 2012; Ali et al., 2014). The big problem in a company is choosing a supplier to decide to take a high-quality supplier or take many suppliers with a less specific quality (Nghah et al., 2015). It is challenging to maintain stable raw material inventories due to a

limited number of suppliers who can meet demand, especially for halal food (Ali et al., 2015).

**H7:** There is a significant relationship between Halal Supply Chain Management and Halal Suppliers.

## II. Discussion

This study uses correlation analysis to obtain information about the degree of closeness between dependent variables and independent variables. Table 1 shows the reliability of the main variables used. The Cronbach's Alpha for all variables was above 0.60, which presented strong reliability was achieved for all the instruments.

Moreover, table 2 shows the correlation analysis results and VIF value, which refer to the multicollinearity test. The multicollinearity test aims to identify whether independent variables have high intercorrelations in a multiple linear regression model. The result shows that the results of correlation analysis with the highest score given by halal warehousing (0.721) and the lowest score is halal production facility (0.301) and no multicollinearity between the independent variables (VIF values < 10).



Table 1  
Reliability of the Instruments

Variable	No. of Item	Cronbach's Alpha	Result
Halal Management	5	0,833	R
Quality and Hygiene of Halal Food	5	0,656	R
Halal Warehousing	4	0,609	R
Halal Transportation	4	0,856	R
Halal Raw Materials	5	0,804	R
Halal Production Facilities	5	0,765	R
Halal Suppliers	4	0,821	R
Halal Supply Chain Management	5	0,712	R

Note: R = Reliable

Table 2  
Correlation Value and Multicollinearity Test Results

Variable	Correlations	VIF
Halal Management	0,534	2,091
Quality and Hygiene of Halal Food	0,451	2,860
Halal Warehousing	0,721	3,187
Halal Transportation	0,397	4,177
Halal Raw Materials	0,531	2,949
Halal Production Facilities	0,301	2,167
Halal Suppliers	0,359	3,351

Furthermore, this study uses Anova Testing (F-test) to determine the relationship between dependent variables and independent variables. Then, the T-Test is used to partially determine whether there is a relationship between independent and non-independent variables. On the other hand, the conceptual model has been designed to analyze and test the most influential halal supply chain management factors. There are seven hypotheses formed based on literature studies. Table 3 indicates the result of regression analysis for Halal Supply Chain Management.

Table 3  
Result of Regression Analysis for HSCM

Variable	Sig.	F	R <sup>2</sup>
Halal Supply Chain Management	0.001	5.232	0.604
Halal Management	0,043		
Quality and Hygiene of Halal Food	0,536		
Halal Warehousing	0,003		
Halal Transportation	0,364		
Halal Raw Materials	0,931		
Halal Production Facilities	0,800		
Halal Suppliers	0,996		

Based on table 3, the significance value obtained is lower than the significance level used ( $0.001 < 0.005$ ). The F value obtained is higher than the F table ( $5.232 > 2.42$ ). This result indicates that  $H_0$  is rejected. As a consequence, independent variables have a significant effect on HSCM. Based on testing, the T-Test is used to partially determine whether there is a relationship between independent variables and non-independent variables.

This study reveals that two out of seven hypotheses formed have significant relationships to HSCM, indicated by Sig. value below 0,005. The two independent variables are halal management (Sig. value 0,043) and halal warehousing (Sig. value 0,003). In contrast, the other independent variables have an insignificant effect on HSCM partially (with Sig. value above 0,005). Then, this study reveals that the independent variables influence the dependent variable as of 60,4%. In 100% condition, the rest 39,6% is influenced by other factors (variables) out of the model.

### III. CONCLUSION

Based on the test results, it can be concluded that halal management, quality and hygiene of halal food, halal warehousing, halal transportation, halal

raw materials, halal production facilities, and halal suppliers have a direct relationship to HSCM. However, this study's results indicate that halal management and halal warehousing are significantly associated with HSCM based on food services in Banda Aceh and surrounding areas. These factors are essential factors that should be more attention to by the hotels in implementing HSCM.

In halal management factors, several things that must be considered include purchasing raw materials, selecting raw materials, halal certification, and halal purchasing audits. While the halal warehousing factor, things that must be considered include logistics service providers, halal supply chain management, free contamination, and storage arrangements at a hotel. With more attention to halal management and halal warehousing, it will improve the quality of halal food services in hotels in Banda Aceh and its surroundings.

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