



## Analysis of Halal Supply Chain Management and Internal Halal Traceability System on the Halal Integrity of Tourism in Support of UMKM Products in Lombok

Uswatun Nafi'ah<sup>1</sup>; Sulhaini<sup>2</sup>; Lalu Edi Herman Mulyono<sup>2</sup>

<sup>1</sup>Master of Management, University of Mataram, Indonesia

<sup>2</sup>Lecturer of Economic Faculty, University of Mataram, Indonesia

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### **Abstract**

This study aims to analyze and test the effect of halal supply chain management and internal halal traceability systems on the halal integrity of UMKM products supporting tourism in Lombok. Quantitative survey with 100 respondents. The sample criteria are Generation Y (24-39 years) UMKM entrepreneurs who have halal certified products. The sampling technique uses non-probability sampling, which is a targeted sampling technique. The technique of data collection is done through interview, questionnaire and observation. The data analysis technique in this study utilized PLS (Partial Least Square) analysis with the SmartPLS program. The results show that halal supply chain management has a significant positive effect on halal integrity, the internal halal traceability system has no significant positive effect on halal integrity and the internal halal traceability system has a significant positive effect on halal supply chain management.

**Keywords:** *Halal Supply Chain Management; Internal Halal Traceability System; Halal Integrity; UMKM*

### **Introduction**

Along with current technological developments, all activities are based on meeting needs that can make it easier for consumers (Wulandari, Santoso, & Athar, 2017). Prices will evaluate costs in relation to consumers' perceived benefits (Athar, 2020). Currently people's choice has shifted from choosing cheap and healthy producers to products that are safe, healthy and halal. Because Halal products are believed to contain blessings. Halal includes all processes in every phase of the chain supply. Halal supply chain management is a management to regulate material/ingredients, information and capital so that products are kept halal and toyyib until consumed (Khan, et al., 20118).

Rahman, (2016) said UMKM that are halal certified should implement a traceability system to reduce conflict in the halal supply chain. Internal traceability is internal monitoring with regard to the production process and product movement within the business scope (Zoroja, et al., 2016).

There were only 80 studies of the halal supply chain from 2008 to 2018 that entered the Scopus data, while those focused on food were only 60 studies. Thus, research remains to be done in this area. As a concern for halal products and the development of science (Muna & Sutopo, 2018). Meanwhile, in Dzwolak (2015), the literature regarding traceability in UMKM food products is also very limited.

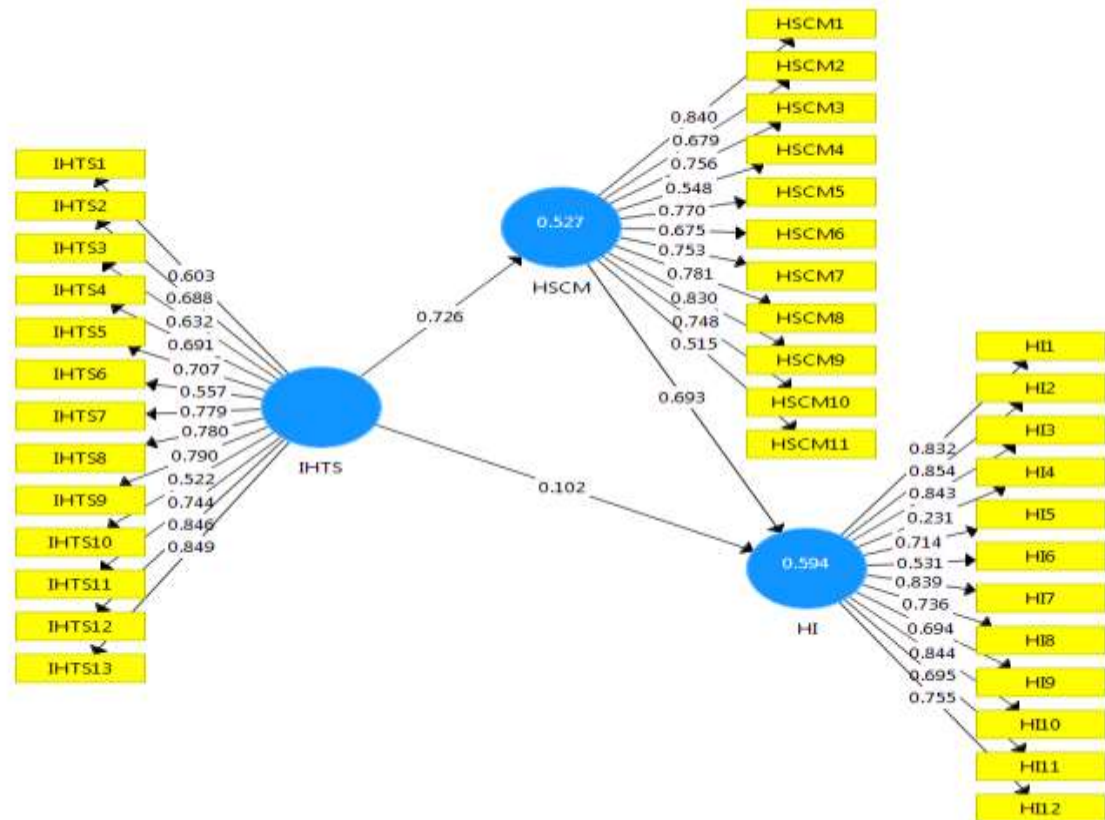
The existing research mainly uses qualitative methods and no one has jointly researched halal supply chain management and internal halal traceability systems on halal integrity with quantitative methods. So that this study seeks to close this gap by investigating the analysis of halal supply chain management and internal halal traceability systems on the halal integrity of UMKM products supporting Lombok tourism.

## **Method**

Quantitative research using a causality approach has a population, namely all UMKM food and drink entrepreneurs in Lombok and the population in this study is unknown. In this study, the sampling method used was targeted sampling with samples selected according to the criteria, namely UMKM entrepreneurs who are part of the millennial generation (gene Y), namely 24-39 years (Dimock, 2019) and have products that are halal certified. The research site is Lombok Island, which includes North Lombok Regency, West Lombok Regency, East Lombok Regency, and Mataram City. The number of samples used in this study were 100 people referred to Chin in Latent & Ghazali (2012). The indicator of the halal variable supply chain management according to Nor, et al., (2016) is halal purchasing, halal food quality and hygiene, halal cleaning and halal logistics. Internal halal traceability system variables refer to Khan, et al., (2018), namely employee training, halal integrity assurance, system halal awareness, coordination and collaboration between supply chain partners. The halal integrity variable refers to Ali, et al., (2017), namely raw material integrity, manufacturing integrity, service integrity, information integrity. So this study consisted of 3 variables with 12 variable indicators. Of the 12 indicator variables, 36 statement items were included in the questionnaire.

## **Result and Discussion**

The convergent validity value is the load factor value on the latent variable with its indicators. Load factor is a coefficient that explains the level of relationship between indicators and latent variables. In general, the higher the load factor, the better and values below 0.30 are not interpreted. Load above 0.71 excellent, 0.63 very good, 0.55 good, 0.45 sufficient and 0.32 less. So that the application automatically calculates that the expected limit value for the load factor is  $> 0.7$ . The results of the first load factor calculation are shown in the following table:



**Figure 1: The Results of the First Load Factor Calculation**

From the results of the execution it can be seen that in the statement items HI1, HI2, HI3, HI5, HI7, HI8, HI10, HI12, the outside load value is as expected, which is greater than 0.7. However, there are some items whose outer load is less than 0.7 namely HI6, HI9 and HI11. Although the outside load value is less than 0.7, according to Ghozali (2012) this value is still acceptable and considered sufficient. While for HI4 items the outer load value is 0.231, HI4 items must be removed from the model. After the HI4 item is removed and all items run again, the outer load value is as required.

All HSCM items can be used without having to delete items. Some items with an outside load value greater than 0.7 are HSCM1, HSCM3, HSCM5, HSCM7, HSCM8, HSCM9, HSCM10. Meanwhile, other items whose value is still allowed are HSCM2, HSCM4 and HSCM11 items. IHTS items with an outer load value greater than 0.7 are IHTS5, IHTS7, IHTS8, IHTS9, IHTS11, IHTS12 and IHTS13. IHTS items whose scores are below 0.7 but still acceptable in the model are IHTS1, IHTS2, IHTS3, IHTS4, IHTS6 and IHTS10.

Discriminant validity is used to see whether an indicator of a particular latent variable differs from other indicators, so that the indicator is considered appropriate to explain the latent variable. Discriminatory validity is done by comparing the value of the root mean variance (AVE) gained for each construct with the correlation between constructs and other constructs (between latent variables) in the model. The model has sufficient discriminatory validity if the AVE root for each construct is greater than the correlation value between the other constructs. The results of the discriminant validity test are shown in the following table.

**Table 1. Root Value of Average Variance Extracted (AVE)**

Variabel	AVE	$\sqrt{\text{AVE}}$	Information
<i>Internal halal traceability system (X)</i>	0.510	0.714	Valid
<i>Halal suply chain management (Y1)</i>	0.525	0.724	Valid
<i>Halal integrity (Y2)</i>	0.585	0.764	Valid

Based on the above table, it can be seen that the AVE root of each variable has a value greater than 0.5. Thus, it can be concluded that all latent variables in this study are valid.

The reliability test can be derived from the Cronbach's alpha value and the composite reliability value. A construct is called reliable if it has a Cronbach's alpha value > 0.6 and a composite confidence value > 0.7. Reliability test results can be seen in the following table:

**Table 2. Variable Reliability Test Results.**

Variable	<i>Cronbach's Alpha</i>	<i>Composite Reliability</i>	Information
<i>Internal halal traceability system (X)</i>	0.920	0.938	Reliabel
<i>Halal suply chain management (Y1)</i>	0.906	0.923	Reliabel
<i>Halal integrity (Y2)</i>	0.920	0.930	Reliabel

The table above shows that all variables in this study are realistic. This is indicated by the Cronbach's alpha value for all variables > 0.6 and the composite confidence value > 0.7.

Structural model tests are done to predict the causal relationship between variables or hypothesis tests, to determine the significance value and the R-square of the research model. The structural model was evaluated using the R-Square, t-test, and significance for the dependent variable of the structural path parameter coefficients. The structural test model in the SmartPLS application goes through a bootstrapping process. Model judgment starts with looking at the R-squared for each dependent latent variable. Changes in the R-square value can be used to assess the effect of certain exogenous latent variables on endogenous latent variables that have a substantial effect. The following table shows the R-squared results using the SmartPLS application calculation.

**Table 3. R-Square Value**

Variable	<i>R-Square</i>	<i>R-Square Adjusted</i>
<i>Halal suply chain management (Y1)</i>	0.527	0.522
<i>Halal integrity (Y2)</i>	0.589	0.581

The table above shows that the R-Square calculation of halal supply chain management is 0.527, which means that in this research model, the halal supply chain management variable is 52.7% affected by the internal halal traceability system variable. While the remaining percentage of 47.3% is affected by other variables not used in this study. Whereas, in the halal integrity variable, the calculation result of R-Square is 0.589, which means that the halal integrity variable is affected by 58.9% of the halal supply chain management variable and the internal halal traceability system. And the remaining 41.1% is affected by other variables not used in this study.

Hypothesis tests using the SmartPLS application can be seen in the path coefficient results on inner model testing using the bootstrapping process. The results of hypothesis tests can be explained by the path coefficient value and the T statistical value. The following table summarizes the test results.

**Table 4. Path Coefficient in Structural Testing**

Relationship between Variables	Coefficient Value	<i>T-statistic</i>	<i>P.Value</i>	Information	Conclusion of the test results
Hypothesis 1: HSCM → HI	0.684	4.390	0.000	Positif Signifikan	Hypothesis Supported
Hypothesis 2: IHTS → HI	0.110	0.791	0.429	Positif Not Signifikan	Hypothesis Supported
Hypothesis 3: IHTS → HSCM	0.726	15.076	0.000	Positif Signifikan	Hypothesis Supported

Following are the results of testing the indirect relationship of the internal halal traceability system (IHTS) variable to halal integrity (HI) through halal supply chain management (HSCM).

**Table 5. Testing of Indirect Relationships**

Relationship between Variables	Coefficient Value	<i>T-statistic</i>	<i>P.Value</i>	Information
IHTS → HSCM → HI	0.497	3.952	0.000	Positif Signifikan

Based on the above table, the test results of the internal halal traceability system (IHTS) coefficient on halal integrity (HI) via halal supply chain management (HSCM) show a positive and significant relationship with a coefficient value of 0.497 with a t statistic value of 3,952 with a significance value at  $\alpha = 0.050$ . The t statistical value is above the 1960 critical value, so  $H_a$  is accepted, which means that the IHTS variable against HI through HSCM has a positive and significant effect on the HSCM variable when processing MSME products in Lombok.

Good halal supply chain management is, according to this research, that attention is paid to four things, namely related to halal purchasing, halal food quality and hygiene, halal cleaning and halal logistics. By properly implementing these four things, the integrity of the raw materials, the production, the service integrity and the information integrity will be higher.

The impact of halal supply chain management on halal integrity is formed by several issues, namely halal purchasing, which is a relationship between buyers and suppliers that has implications for the purchasing and purchasing processes (Tieman & Ghazali, 2013), with the correct halal purchasing process in accordance with Islamic Sharia will create a good buying and selling company and also a responsible business. In halal food quality and hygiene, halal, cleanliness, safety and hygiene are requirements that must be met in order to make halal and quality products, while to ensure safety in storage, halal washings must be applied and to ensure that every product movement is maintained, its halal integrity is to apply halal logistics.

After the company has produced halal products with a good internal halal traceability system, the company will of course sell and distribute its products to customers. In this process it is also important to apply proper direction and control, so that the products produced can be preserved and there is no contamination or mixing of items that should not damage the product. This research is in line with Rahman, (2016) that the traceability system influences the readiness to implement the halal assurance system. Because the traceability system is a form of guarantee for products that have halal integrity.

The insignificant impact of the internal halal traceability system on halal integrity is that it does not go through halal supply chain management. These two variables must be applied together to create halal integrity for halal products. The impact of internal halal traceability system on halal supply chain management is formed by training for employees, company resources are a very important factor to get

training on halal principles so that the company's goal of producing products with halal integrity can (Muhamed, et al., (2019). The assurance of halal integrity is evidenced by the existence of halal certification that shows that the proprietary products are legally recognized. Another thing is awareness of the halal system that is an attribute of action (Osman & Aziz, 2019) and also coordination and collaboration between chain partners, because to create a product that has halal integrity, this must be pursued jointly between partners.

Consistent with the results of data analysis, it shows that the internal halal traceability system for halal integrity through halal supply chain management is positive and significant. Meanwhile, the hypothesis test of direct internal halal traceability system for halal integrity results is positive and insignificant. Both the direct and indirect hypothesis test results indicate that the role of decoration in this study is full mediation.

## **Conclusion**

Based on the research results, it can be concluded that: 1) Halal supply chain management has a significant positive effect on halal integrity. This is because companies can create different standards based on customer demand during the manufacturing process of a product, but product integrity must remain a major concern for the company. So that the application of the halal supply chain is a must for companies to maintain the quality and also the halal integrity of the products produced; 2) Internal halal traceability system on halal integrity has no significant positive effect. This means that the implementation of the internal halal traceability system requires additional management, namely halal supply chain management. Because the internal halal traceability system must prevent contamination from within the company and halal supply chain management to prevent contamination from outside the company; 3) Internal halal traceability system on halal supply chain management has significant positive effect. This means that the system created within the company, especially related to the company's HR, has a significant impact on the implementation of good halal supply chain management. 4) Internal halal traceability system on halal integrity through halal supply chain management has a significant positive effect. This means that the implementation of the internal halal traceability system as well as halal supply chain management will have an impact on increasing the halal integrity of the products produced by the company.

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