

## Decision to Purchase Local Fruits Based on Halal Traceability: An Evidence in Indonesia

Resista Vikaliana<sup>1</sup>, Raja Zuraidah Raja Mohd Rasi<sup>2</sup>, I Nyoman Pujawan<sup>3</sup>, Irwansyah<sup>4</sup>

<sup>1</sup>Departement of Logistics Management, Institut Ilmu Sosial dan Manajemen Stiami, Jakarta, Indonesia

<sup>2</sup>Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia, Malaysia

<sup>3</sup>Departemen Teknik Industri, Institut Teknologi Sepuluh November, Surabaya, Indonesia

<sup>4</sup>Departement of Management, STIE Syariah Gasantara, Sukabumi, Indonesia  
Email: <sup>1</sup>resistav31@gmail.com

**Abstract.** This study aimed to determine the decision to purchase local Indonesian fruit based on the understanding of the halal traceability of local fruit. This study used a quantitative approach, with a sample of 255 consumers who purchased local fruit in the last 3 months. Regression analysis is used to analyze the data from the questionnaire in this study. The results showed that halal traceability positively and significantly affected local fruit purchasing decisions, as indicated by the equation  $Y = 14.885 + 0.251X$ . The results of hypothesis testing also prove that there is an influence between halal traceability and local fruit purchasing decisions. While the correlation coefficient is 0.384, meaning that the effect is weak, and the coefficient of determination is 14.8%. The correlation coefficient and the coefficient of determination indicate that other variables not examined in this study influence the local fruit purchasing decisions, which are recommended for further investigation.

**Keywords:** halal traceability; purchase decision; local fruit

### 1. Introduction

Whether in Muslim countries or not, halal awareness is related to the level of food quality. Concerns about the potential risk of contamination of haram substances that may arise in food make halal important [1], so food quality and safety assurance are important for food industry players [2]. Consumers are increasingly aware of the importance of the integrity of the halal status and the halal process along the food supply chain [3].

Based on previous research, some of the factors that have become the success of the supply chain are the first Halal Supply Chain code on cargo documents, cargo labels, customs, and logistics systems. Then the utilization of the flow of halal products in non-Muslim countries that are not sold as halal-certified products. In addition, the application of innovations to simplify segregation in non-Muslim environments (through the possibility of containerization at lower levels) [4]. Therefore, halal standards appear to be determined through political processes grounded in techno-scientific principles such as neutrality, transparency, consistency, and objectivity. In contrast, another strand of research has suggested that the development of halal standards, particularly state-driven, is closely aligned with politico-economic goals [5].

The evidence presented in this paper also brings the problems of transparency in halal food governance into the spotlight. The image captured backstage has unveiled that the actual halal standards and certification processes involve non-religious actors and, therefore, are influenced by non-religious concerns. This information, however, remains inaccessible to the broader audience outside the meeting room since only the technical rules and procedures stipulated in the standards and a list of the committee members involved are made available to the public [5].

Therefore, monitoring all supply chain activities is very important, or in other words, traceability in the supply chain is very important, to provide information about food processing and enable customers to track the processes involved in transparently preparing food [6], [7]. The traceability of food, especially agribusiness commodities, still has the potential to be investigated [8]. Halal is a potential industry, but halal traceability research appears to be in its infancy. Traceability in the supply chain is aimed at increasing monitoring and transparency along the supply chain [9].

Halal traceability is needed to obtain information about all upstream production activities, namely the origin of raw materials to the downstream, which is guaranteed to be halal. Supply chain areas that affect halal traceability are reverse logistics, tracking of product withdrawals, and quality control [9]. The previous study found that the highest adoptions of halal traceability systems among the producer and end-user are the economic and sociocultural traceability system adoption and environmental factors [10].

The halal industry is a potential future market that has not been fully explored [11]. In Indonesia the magnitude of halal food consumption in Indonesia has not attracted sufficient attention from scholars to study the development of halal standards in the country. This is remarkable, considering its position as the epicenter of global halal markets. Transformations in policy regulation on halal food in Indonesia would directly affect how food is produced domestically and globally [5]. Halal traceability provides further information about which Halal standards have been applied, allows the consumer to verify the Halal claims, and ensures that the product delivered to the customer is *thayyib* (wholesome, healthy, safe, nutritious, and of good quality) [11].

In 2019, Indonesian local fruit production reached 22.5 million tons, an increase of 4.8% compared to 2018. On the production side, local fruit has experienced an increase in average production in the last 4 years of 10.12 percent. Based on data from the Indonesian Statistics Agency/ BPS, the trend of local fruit production in the last 4 years has been confirmed to have increased.

During the Covid 19 pandemic, the agricultural sector was one of the best-developed. The contribution of agriculture to the national Gross Domestic Product is around 13.5 percent, although horticulture's contribution to the national GDP is still around 1.6 percent. Indonesia's fruit trade balance is still a deficit of IDR 19.1 trillion. The magnitude of this deficit was mainly influenced by imports of grapes, apples, cloudy, and pears. Meanwhile, the types of fruits that contributed the most to the export were mangosteen, pineapple, banana, salak, and mango, with a value of IDR 986.1 billion. During the COVID-19 pandemic, fruit imports in Q1 2020 decreased by 14.5 thousand tons, a 45 percent decrease compared to imports in the previous period. Compared to the same period in 2019, fruit imports fell by 54 percent.

Terms of consumption of local fruit in Indonesia are still small. Currently, consumption is recorded at 37 kilograms per capita per year. The FAO/Food Agricultural Organization recommendation states that fruit consumption is 91.25 kg/per capita/ year as a healthy adequacy figure. This means that consumers' desire to buy local fruit is still low. A study on consumers' purchasing of local Indonesian fruits showed that labeling, brand image, and packaging could explain variation variables in consumer buying intention of 45.4% [12]. Another study showed that consumers prefer to buy imported fruits over local fruits because of the low price and attractive color for consumers, not an issue of varieties of fruit. Still, the more important factor is the price, color, usability, and freshness [13].

The potential of the Indonesian domestic market, with a population of Indonesia which is around 260 million people, is very big. The Association of Indonesian Fresh Fruit and Vegetable Exporters and Importers (Aseibssindo) noted that the national fruit consumption potential is predicted to reach 13.35 million tons. This means that per capita consumption reaches 37 kilograms per capita per year. It is predicted to increase to 50 kilograms per capita per year by 2020. Based on this phenomenon, this study aimed to determine the decision to purchase local Indonesian fruit based on the understanding of the halal traceability of local Indonesian fruit.

**2. Research Methods**

This research uses a quantitative approach with correlational research. Quantitative research is recommended to measure perceptual elements of halal logistics, both from a consumer and an industrial perspective[4]. The variables in this study consist of Halal Traceability as independent variables and the dependent variable is Purchasing Decision. The data collection technique was done by using a questionnaire on 255 samples who purchased local fruit in the past three months (July to September 2020). The data analysis techniques used in this study are as follows.

- a. Test of Data Quality (Validity Test, Reliability Test, Normality Test)
- b. Correlation analysis and determination coefficient test
- c. Linear Regression Analysis,
- d. Hypothesis Testing-t test is used to test the significance of the relationship between variable X and variable Y and whether variable X (Halal Traceability) affects variable Y (Purchasing Decision). Data analysis was assisted using SPSS according to the formulation or identification under study [14].

**3. Results and Discussion**

Research conducted in Indonesia with many respondents 255 respondents showed the results that all variables were declared valid because the distribution channel variable had a calculated r value above 0,1224, and all variables were also declared realistic because the Cronbach Alpha value was more than 0.600. All variables also follow the normal data distribution because all variables' calculated  $\alpha$  significance value is more than 0.05. The data processing results using SPSS 26 show that: equation  $Y = 14.885 + 0.251X + e$ , this equation shows that the Purchasing Decision Variable if Halal Traceability Variable does not influence it, is 14,885 units. The regression equation also shows that if Halal Traceability is increased by one unit, it will increase the Purchasing Decision by 14,885. In this study, the hypothesis was tested, namely the t-test. If the probability value of significance is less than 0.050 (5%), then the independent variable significantly affects the dependent variable. The t-test results can be seen from the data processing results in Table 1.

Table 1. *Coefficient<sup>a</sup>* (Result of Linear Regression and Hypothesis Test t)

<b>Coefficients<sup>a</sup></b>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14,885	1,501		9,914	0,000
	X	0,251	0,038	0,384	6,622	0,000

a. Dependent Variable: y

Table 2. *Summary Model* (Correlation Coefficient Test and Determination Coefficient Test)

<b>Model Summary</b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,384 <sup>a</sup>	,148	,144	3,222

a. Predictors: (Constant), x

Based on Table 1 above, it can be concluded that the Halal Traceability variable with count  $6,622 > 1,969$  from the table then H1 is accepted, meaning that the Halal Traceability influences Purchasing Decision. To find out how big the influence is, the Correlation Coefficient and the Coefficient of Determination are tested. For more details, it can be seen in Table 2.

The data processing results in Table 2 show that the correlation coefficient (R) is 0,384, which means that the Halal Traceability variable weakly influences the Purchasing Decision variable. It is known that the R square value of 0.148 shows that Halal Traceability influences Purchasing Decisions by 14.8%, while the remaining 85.2% is influenced by other variables not examined by this research. The results of ANOVA data processing can be seen in Table 3. Table 3 shows that the sig value is 0.000 <0.05, so it can be concluded that Halal Traceability has a significant effect.

Table 3. ANOVA

		ANOVA <sup>a</sup>				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	455,168	1	455,168	43,849	,000 <sup>b</sup>
	Residual	2626,228	253	10,380		
	Total	3081,396	254			

a. Dependent Variable: y

b. Predictors: (Constant), x

This study’s test results show that the Halal Traceability variable significantly influences the Purchasing Decision of Indonesian Local Fruits. The results showed that halal traceability positively and significantly affected local fruit purchasing decisions, as indicated by the equation:  $Y = 14.885 + 0.251X$ . Halal traceability is a consideration for customers in buying local fruit because customers worldwide are concerned about the halalness of food, including local fruit, by eager to know all the activities involved in this food supply chain [3]. Halal traceability allows industry stakeholders to detect and trace important information at each production stage. It reduces product recalls, and the number of compliance cases found by the authorities will harm the growth of this industry [3]. The protection model that consumers want is to ensure that the rights of all consumers are always protected. One of them is by managing the administration of halal products [11]. Traceability can increase the response to consumer confidence (market and customer response) because it improves the company's reputation, increases customer satisfaction, and anticipates consumer demand for food safety [15].

The results of hypothesis testing also prove that there is an influence between halal traceability and local fruit purchasing decisions. At the same time, the correlation coefficient is 0.384, which means that the effect is weak. The coefficient of determination is 14.8%. Based on previous research, Besides halal traceability considerations, there are other factors such as packaging, brand image, label [12], low price, freshness, color, and usage [13].

#### 4. Conclusions

The results of hypothesis testing also prove that there is an influence between halal traceability and local fruit purchasing decisions. The results showed that halal traceability positively and significantly affected local fruit purchasing decisions, as indicated by the equation:  $Y = 14.885 + 0.251X$ . At the same time, the correlation coefficient is 0.384, which means that the effect is weak. The coefficient of determination is 14.8%. Other variables not examined in this study influence the local fruit purchasing decisions, which are recommended for further investigation.

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