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I. Masudin

F. W. Fernanda

Ferry Jie

*Edith Cowan University, f.jie@ecu.edu.au*

H. Djajadikerta

Widayat

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# Muslim and non-muslim perceptions on Halal Meat Logistics (HML)

I Masudin<sup>1</sup>, F W Fernanda<sup>2</sup>, F Jie<sup>3</sup>, H Djajadikerta<sup>3</sup> and Widayat<sup>2</sup>

<sup>1</sup>Department of Industrial Engineering, <sup>2</sup>Department of Management  
Universitas Muhammadiyah Malang  
Jl. Raya Tlogomas 26 Malang, Indonesia

<sup>3</sup>School of Business & Law, Edith Cowan University  
270 Joondalup Dr, Joondalup WA 6027, Australia

masudin@umm.ac.id

**Abstract.** The study explores customer preferences of willingness to pay halal meat products based on logistics activities for Indonesian consumers in muslim and non-muslim areas. Two different Indonesian places were chosen to explore and compare the difference preferences about halal meat products. This paper investigates the factors influencing muslim consumers to pay halal meat products especially in term of logistics activity factors. The respondents of East Java and Bali provinces are collected to be compared to explore consumers' preferences in purchasing halal meat products in term logistics activities. Statistics descriptive is used to answer the research question using Cut off Point (COP) or average ration to figure out the distribution data of respondents in two different areas. Two variables considered in this study are halal logistic performance and customer's satisfaction.

## 1. Introduction

The increasing demand on halal products in most countries in the world tends to widen the study about halal logistics (H-logistics) recently as the result of fast growing population of muslims around the world that enlarged size of halal market. A study about halal logistic by [1] identified shows that the number of muslim is more than one quarter of the world's population that spreading over 112 countries. In addition, the fast demographic movement across the world and some regions regulations that has reduced the nations' borderless and the principles of halal food for muslims for daily consumption, it is important to determine determining the level of certification of halal food products in areas of both muslim and non muslim countries.

As most other Muslim countries, Indonesia and Malaysia require halal product that needs halal logistic to keep halal status, particularly for meat product that needs more complex halal logistic than other products. It is because halal meat status was started from giving halal food to the cattles into halal meat display in traditional and modern market. Good halal logistic performance will improve halal meat product quality and create greater Muslim customer's satisfaction. This paper attempts to investigates the factors influencing muslim consumers to pay halal meat products in term of logistics activity factors. The objective of this study could be met by finding the answers of these questions: Are the willingness to pay halal meat of muslim consumers in muslim and non muslim areas



influenced by halal logistics performance? And in what are the factors affecting the decisions of muslim people who are living in muslim and non muslim areas when purchasing halal meat products?

## 2. Literature review

Meat is one of major sources of proteins and has social meaning in mostly community [2]. For Muslim, halal status is major requirement before making decision to purchase meat [3]. Halal is term which means of permitted and allowed according Islamic syariah law [4]. Halal is not only applied in the physical product, but also on the process of production, distribution, and sale [5]. It means that halal meat is meat that permitted to be consumption if the manufacturing process and meat quality is in accordance to Islamic syariah law. The process starts from feeding halal food to cattle, halal slaughter process, halal meat process until the display in market. Because the process is very complex, halal meat is vulnerable to be non halal meat.

Because of its vulnerable, demand of halal meat is high especially for Muslim customer in non Muslim area. Jusmaliani and Nasution [6] have investigated Muslim customer's behavior in Jakarta and Melbourne toward halal meat product. The result is halal meat availability is the only one significant determinant factor in customer's behavior between Jakarta and Melbourne Muslim customer. In non muslim area, halal process (halal logistic) mostly does not use as a standard and make it more difficult for Muslim customer to purchase a product. Stitou and Rezgui [7] make research in Muslim community in France, and the result showed 56% of 223 Muslim respondent will not purchase a product if they are doubt about halal status of the product. Otherwise, 87% respondent is willing to pay for a product that has guaranteed the halal status. It indicates a requirement of halal logistic for a Muslim customer, especially in non Muslim area, even if it is more expensive than conventional logistic.

Willingness to pay for good performance halal logistic has been investigated in research by [8-10]. Customer's perception on halal meat logistics is investigated by [8]. His research compares Muslim consumer's behavior between Malaysia (Muslim country) and Netherland (non Muslim country). He found Muslim consumer in Malaysia has higher willingness to pay and request for higher segregation level than Muslim consumer in Netherland. But the research had similar result with [7] and [9] that found Muslim consumer cares and willing to pay for halal logistic, in Muslim and non Muslim country. Research by [10] investigated about driver of consumers' willingness to pay for halal logistics. According to the result, halal logistic certification of 3PL provider is key drivers of consumers' willingness to pay for halal logistic. Service capability and image of 3PL are insignificant factors to create intention to pay for halal logistic. It indicates that companies should educate and emphasize the importance of the halal logistic to current/potential customers [10].

### 2.1. Halal logistic performance

Definition of halal logistic stages of logistic activities that applying halal concept start from point of origin to point of consumption [4]. To ensure halal concept is applied, halal certifiers have to monitor all halal logistic activities. Example of halal certifiers such as Majelis Ulama Indonesia (MUI) and Jabatan Kemajuan Islam Malaysia (JAKIM) that are operated by government. However, there are some countries using private halal laws and halal certifiers from private institutions, such as Netherland and United States [11]. They will monitor all halal logistic activities start from breeding farm, abattoir, and then halal meat will be distributed and sold to domestic customer, halal meat importer, and food industry [4].

To build customer's satisfaction, logistic provider has to create good logistic performance [12]. According to Davis [13], competitive advantage which is built by stronger customer relationship can be generated from good logistic performance. Logistic provider's ability to handle order process will be measured by logistic performance [14-19]. Logistic performance is measured with nine parameter logistic services quality (LSQ) by [20]. The concepts are personnel contact quality; (2) order release quantities; (3) information quality (4) ordering procedures (5) order accuracy; (6) order condition; (7) order quality; (8) order discrepancy handling and (9) timeliness [13-16, 21].

However, respondent of this research ends halal meat customer. That's why the concepts should be adapted by concept that can be measured by customer. Items such as ordering procedures, timeliness, etc cannot be measured because customer can't see that process. To adapt the concepts, research from [22] is used. So that the concept that used for halal logistic performance is personnel contact quality, information quality, order quality, order condition, and order discrepancy. Personnel contact quality refers to customer valuation of the treatment that is given by supplier's logistic contact people [23]. Information quality refers to customer's perception toward information of product which customer may choose [23]. Information quality must be accurate, reliable, and complete to support good logistic performance [24]. Order quality refers to how well the supplier conform customers' needs in a product and how well the products work [23, 25]. Order condition refers to how well condition of product is (damage level in product) [26]. Order discrepancy refers to how well logistic provider handles any discrepancies after the order arrived in customer [27].

## 2.2. Customer satisfaction

Customer satisfaction is an essential and a fundamental element in marketing [28, 29]. It is essential because it is very important for a marketer to fulfil customer's need and desire in a product [30]. Paul *et al.* [31] defined customer's satisfaction as mental state where the customer compares expectation before purchase with customer's perception about product performance after purchase. This valuation depends on product availability, information, and demand. Then customer will compare expectation and perception based on the three factors. If customer expectation fulfilled with product performance, there will be the positive perception as customer's satisfaction indicator [32, 33]. Customer's satisfaction is not a guarantee of repeat business, but most unsatisfied customer will not buy again [34]. Therefore, many industries put customer satisfaction as criteria to assess product performance [35]. Customer satisfaction can also as exit barrier to protect customer from other competitor product [36]. Satisfied customer tends to use product from current producer, because if they switch to other product there will be a risk if the other product doesn't fulfil their expectation [37].

## 3. Methodology

This study will explore the factors influencing muslim consumers to pay halal meat products especially in term of logistics activity factors. Statistics descriptive is used to answer the research question using Cut off Point (COP) or average ration to figure out the distribution data of respondents in two different areas. The aspects considered in this study is halal logistic performance. In this study, 2 different places are determined as the location of research where these two areas are chosen based on the muslim and non muslim population. In this case, the respondents of East Java and Bali provinces are collected to be compared to explore consumers' behavior in purchasing halal meat in term logistics activities. The explanatory single cross sectional design is used to explore the comparisons of respondents or variables in the two different places.

## 4. Data collection and results

In this section will be discussed about the data processing of questionnaires distributed in Muslim majority areas (Malang) and the majority of non-Muslims (Bali). The data were taken as many as 24 respondents in each of these areas. This data is divided into 3 types, first data contains brief question about social demography data, and second data is descriptive statistic data when buying halal meat product. The third is the result of hypothesis test from the respondent's statement using likert scale. Likert scale data will be processed by using statistical software PLS. The results of processing will be the basis for the proving hypothesis that has been prepared.

### 4.1. Non muslim majority area (Denpasar)

Sample profile from 24 respondents in Denpasar divided of man (54.17%) and woman (45.83%). Percentage of sample profile between man and woman almost equal and that is mean distribution of data is pro rata. The largest age group of respondents is group 17-25 (58.34%). Occupation group that

has biggest number is student/scholar (54.17%). High school (SMA/SMK) is biggest education level group (66.66%). The number of meat purchased was collected in questionnaire, but it is not demography data. The number of meat purchased was collected to check the respondents is meat frequent buyer. The result is 62.5% of respondents buy meat in 2-3 times a month. 20.83% of respondents buy meat 4-5 times a month, and 16.67% buy meat more than 5 times a month. Table of data distribution for demography and the number of meat purchased data can be seen in table 1 and table 2.

**Table 1.** Demography information of respondents in Denpasar.

Demography informations	Frequency	Percentage
<b>Gender</b>		
Man	13	54.17%
Woman	11	45.83%
<i>Missing Value</i>	0	0.00%
<b>Age</b>		
17-25	14	58.34%
26-35	5	20.83%
36-45	2	8.33%
46-55	2	8.33%
<i>Missing Value</i>	1	4.17%
<b>Occupation</b>		
Government	1	4.17%
Private	5	20.83%
Entrepreneur	3	12.50%
Student/scholar	13	54.17%
Housewife	2	8.33%
<i>Missing Value</i>	0	0.00%
<b>Education Level</b>		
Elementary School	0	0.00%
Junior High School	0	0.00%
Senior High School	16	66.66%
Diploma Degree	1	4.17%
Bachelor Degree	6	25.00%
Master Degree	0	0.00%
Doctorate Degree	1	4.17%
<i>Missing Value</i>	0	0.00%

**Table 2.** The number of meat purchased.

The Number of Meat Purchased	Frequency	Percentage
2-3 times	15	62.50%
4-5 times	5	20.83%
>5 times	4	16.67%
<i>Missing Value</i>	0	0.00%

#### 4.2. Muslim majority area (Malang)

Sample of respondents in muslim majority area (Malang) as many as 24 people. Male respondents in Malang as many as 13 people (54,17 %) and female respondents as many as 11 people (45,83 %). Percentage in gender group almost equal, it means distribution of data is pro rata. Second item in demography data is age group, which is divided in 4 group, 17-25, 26-35, 36-45, and 46-55. 17-25

group has percentage as many as 95,83% (23 people). 26-35 group has percentage as many as 4,17% (1 people). Other items in demography data is occupation and education level. In occupation group, government section is the biggest group that has 87,5% from sample. For education level group, senior high school has 62,5% from sample. The result of number of meat purchased is 87,5% of respondents buy meat in 2-3 times a month. Other respondents as many as 12,5% buy meat 4-5 times a month. Table of data distribution for demography and the number of meat purchased data can be seen in table 3 and table 4.

**Table 3.** Demography information of respondents in Denpasar.

Demography informations	Frequency	Percentage
<b>Gender</b>		
Man	13	54.17%
Woman	11	45.83%
<i>Missing Value</i>	0	0.00%
<b>Age</b>		
17-25	23	95.83%
26-35	1	4.17%
36-45	0	0.00%
46-55	0	0.00%
<i>Missing Value</i>	0	0.00%
<b>Occupation</b>		
Government	21	87.50%
Private	1	4.17%
Entrepreneur	2	8.33%
Student/scholar	0	0.00%
Housewife	0	0.00%
<i>Missing Value</i>	0	0.00%
<b>Education Level</b>		
Elementary School	0	0.00%
Junior High School	0	0.00%
Senior High School	15	62.50%
Diploma Degree	0	0.00%
Bachelor Degree	7	29.17%
Master Degree	0	0.00%
Doctorate Degree	1	4.17%
<i>Missing Value</i>	1	4.17%

**Table 4.** Demography information of respondents in Denpasar.

The Number of Meat Purchased	Frequency	Percentage
2-3 times	21	87.5%
4-5 times	3	12.5%
>5 times	0	0.0%
<i>Missing Value</i>	0	0.0%

#### 4.3. Descriptive statistical test

This section divided into 2 sub chapters, that is sub chapters halal logistic performance and sub chapters customer satisfaction. Result of descriptive statistical test provide customer's preference about halal meat product. Each dimension of variable will be explained for more detailed test result.

## 5. Discussion

### 5.1 Non muslim majority area (Denpasar): Halal logistic performance

Range average value for halal logistic performance start from 5.00 to 5.38. This result indicate halal logistic performance for halal meat product in Denpasar is good. Halal logistic performance has 5 dimensions, that are order quality, personnel contact quality, information quality, order condition, and order discrepancy. Order quality has an average value of 5.38. These results prove that consumers agree that the quality of halal meat in the market is good enough. Personnel contact quality tests the service quality of staff in the market that sells halal meat in Bali. The average value of this dimension is 5.08 which is indicating that market staff are willing and able to provide good information regarding halal meat products.

The third dimension is information quality that has an average value of 5.04. This value indicates that consumers are confident that the halal certification and logos present on the product are from a trusted source. The order condition tests the condition of the product, if there is no damage then the condition of the product is considered good. The average value in this dimension is 5.17. This shows the condition of the product in good condition when it is in the end consumer. Order discrepancy has an average value of 5.00 which is the lowest average among other halal logistic performance dimensions. However, the value already indicates consumer approval that halal meat products in Denpasar have a product return warranty if there is damage in the product.

### 5.2 Non muslim majority area (Denpasar): Customer satisfaction

This variable has 3 indicators in the questionnaire that examines how the satisfaction level of halal meat consumer. The "good service" indicator has an average grade of 5.25. An "appropriate services and products" indicator has an average of 5.63. This value is equal to the average value of "service and product that make consumers happy" indicators. These results indicate that halal meat consumers are already satisfied with the products and services they get. These results are relevant with previous study by [38] who found that service quality and appropriate service of product are the most elements considered by customers at the beginning of purchase.

### 5.3 Muslim majority area (Malang): Halal logistic performance

Descriptive statistical results in Malang area showed varying results with the lowest average ranging from 3.92 and the highest of 5.13. In general, these results show that halal logistic performance in Malang is quite good, although the value is lower than in Denpasar. The dimension that has the lowest average value is order discrepancy. A value of 3.92 means the consumer gives a neutral value for this dimension. The dimension of personnel contact quality has an average value of 4.67. This value means that respondents are quite agree that the personnel in the market is good enough in providing information related to halal meat products to consumers.

The information quality dimension has an average value of 5.02. This dimension serves to measure whether the logos and halal certifications that are provided come from trusted sources. The resulting value of the questionnaire indicates that the respondent agrees that the halal logo and certification on the product come from a trusted source. Order quality dimensions show an average value of 5.13 which means respondents agree that product quality is good. The highest average value of 5.21 is on the order condition dimension. In general, respondents agree that halal meat products have good condition without any damage.

### 5.4 Muslim majority area (Malang): Customer satisfaction

Customer satisfaction measures whether consumers feel satisfaction after using the product. The 3 indicators in this variable have an average value of 4.99. The highest value is a "good service" indicator with an average value of 5.13. The "service and product that make consumers happy" indicators has an average value of 4.96. The "appropriate service and product" indicator has the least average value of 4.88. It can be concluded that consumers are quite satisfied in using halal meat products in Malang. These results reflected the relevance of the arguments stated by [32, 33] that



customer satisfaction depends on the quality of product purchased by customers in fulfilling their expected demand.

## 6. Conclusion

In conclusion, the factors affecting the decisions of muslim people who are living in muslim and non muslim areas when purchasing halal meat products are customer satisfaction on the product purchased and the performance of halal logistics. The outcome of the tests indicate that halal logistic performance has positive and significant effect on customer satisfaction. Good halal status of products obtained from halal logistic performance will improve customer satisfaction and willingness to pay. Results of the tests in non muslim majority area (Denpasar) show higher score than result test in muslim majority area. In Denpasar, average of halal logistic performance score is ranging from 5.00–5.38. Also, customer satisfaction score is ranging from 5.25-5.63. Score of halal logistic performance in Malang is ranging from 3.92-5.13, and customer satisfaction score is ranging from 4.88–5.13. This gap can be taken as future studies of halal product marketing research.

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