

Introducing Halal Food Knowledge to the Non-Muslim Consumers in Malaysia

(Its Effect on Attitude and Purchase Intention)

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Abstract—Health benefits become the main reason for the non-Muslim consumers to consume halal food. However, the non-Muslim consumers perceive that the Islamic slaughtering method is inhumane, at the same time. As a result, inconclusive findings are identified within the literatures leading to the need to address the gap of empirical evidence for the knowledge of the non-Muslim consumers towards halal food purchase intention. This study aims to fill this gap by investigating the relationship of Halal Food Knowledge (HFK), attitude (ATT) and purchase intention (PI) amongst non-Muslim consumers in Malaysia. The theory of Planned Behavior (TPB) and Hierarchy of Effect (HOE) Model are used as the basis of the relationship. This study applies the quantitative research methodology and collects the purchase intention data by questionnaire distribution. Data were collected from 315 non-Muslim consumers in Kuala Lumpur and Selangor through self-administered questionnaire. Structural Equation Modelling with Smart PLS was adopted to validate the model of this study. The findings of this study reveals that attitude significantly mediates the relationship between halal food knowledge and purchase intention. The significant mediating role of attitude suggests that both health and animal-friendly attributes of halal food are aligned with non-Muslim consumers' motives on food consumption. Based on the findings, emphasizing on both attributes as informational elements would result in a positive attitude and, in turn, increase the Malaysian Non-Muslim consumers' halal food purchase intention.

Keywords: *halal food, halal food knowledge, Malaysia, non-Muslim consumers, SmartPLS*

I. INTRODUCTION

Halal is the basic requirement for food consumption in Malaysia as Islam is the predominant religion in the country. Hence, the principles of Halalan-Toyyiban is enforced by its government to ensure that the food is permissible, wholesome, clean, and healthy [1,2]. As a result, Malaysian Standard MS1500:2009 was formulated that complied with both Sharia

Laws and ISO in food production, such as Good Manufacturing Practices (GMP) and Hazard Analysis and Critical Control Points (HACCP) [3–5]. Further, the enforcement of MS1500:2009 is supported by Jabatan Kemajuan Islam Malaysia (JAKIM) which acts as Malaysian sole halal certification body, to perform the auditing, monitoring, and issuance of the halal certificate and logo within a stringent procedure [6–8]. In addition, MS1500: 2009 has gained global reputation as the standard is cited by Codex Alimentarius Commission (CAC) and regarded as the best example of halal food standard [9,10]. Thus, the Malaysian halal food industry holds a very strong position according to the State of the Global Islamic Economy Report [11,12].

Past studies documented that health benefits are the main reason behind the consumption of halal food among the non-Muslim consumers, that consist of Chinese and Indian [13]. These benefits are in line with the non-Muslim consumers' consideration and preference to consume safe and fresh ingredients on their daily food intake [14–17]. Furthermore, past studies also revealed the significant purchasing power among the Malaysian non-Muslim consumers, due to higher monthly income [18–20]. Overall, it is safe to say that halal food has a good opportunity to be marketed towards the non-Muslim consumers in Malaysia.

However, despite the attraction of health benefits offered by halal food, ambiguous evaluation emerged among the non-Muslim consumers. The Islamic slaughtering method, which is the crucial part of halal food production [21,22], is considered as inhumane [23]. Consequently, the purchase intention on halal food among the non-Muslim consumers remain inconclusive [24,25]. The ambiguous condition is therefore would lead to the hesitation among the non-Muslim consumers to purchase halal food [26,27]. Drawing from the discussion, there is a gap in the literature that need to be addressed. In particular, to investigate the degree of halal food knowledge

among the non-Muslim consumers that acts as an informational basis that significantly influence their evaluation or attitude towards halal food [28,29]. In turn, the ambiguous evaluation or attitude could be reduced that leads to a more accurate conclusion of the halal food purchase intention among the Malaysian non-Muslim consumers [30–32].

In order to fill the research gap, this study employed both hierarchy of effect (HOE) model and the theory of planned behavior (TPB) as the underpinning theory [33,34]. HOE model contains a sequential effects of decision making that consists three mental stages: (i) cognitive (consumers develop knowledge toward a product or service through the incoming information); (ii) affective (consumers process the incoming information to develop evaluation and feeling toward a product or service); and (iii) conative (consumers develop their intention to purchase a product or service). Meanwhile, among the three variables of TPB that predict intention (i.e. attitude, subjective norm, and perceived behavioral control), attitude remains the strongest predictor [35,36]. Therefore, based on the theoretical consideration, the objectives of this study are: (1) to investigate the relationship between halal food knowledge (HFK) and halal food purchase intention (PI) among the Malaysian non-Muslim consumers; (2) to investigate the relationship between HFK and Malaysian non-Muslim consumers' attitude (ATT) toward halal food; (3) to investigate the relationship between Malaysian non-Muslim consumers' ATT and PI; and (4) to investigate the mediating effect of ATT between the relationship of HFK and PI.

A. Review of the Literature

1) *Knowledge and purchase intention*: Knowledge would provide the necessary informational basis for consumers in terms of their decision-making purposes [37]. The information required by consumers encompasses sub-categorical product definition and facts [38]. In general, this would include an extensive range of product categories such as terminology, attributes, attributes evaluation, and general facts [39]. Among those product categories, product attributes would provide the most required information for consumers to relate themselves with a product [40]. As such, consumers' degree of knowledge would in turn simplify their decision making purposes toward a product [41–43]. Therefore, the following hypothesis is presented.

H1. There is a positive and significant relationship between knowledge and purchase intention.

2) *Knowledge and attitude*: Ambiguous evaluation toward halal food would likely to increase the personal conflict regarding consumers' decision-making purposes [26]. In addition, holding both positive and negative evaluation toward a product indicates a weak attitude according to TPB [30,44]. Hence, the introduction of a stimuli, in the form of information, might reduce such ambiguous evaluation and strengthen the consumers' attitude [45]. Specifically, knowledge would act as a stimuli that facilitates consumers to align their consumption motives with a product, which

increases their degree of favorability [35,46,47]. Drawing from the discussion, the hypothesis is presented as follows:

H2. There is a positive and significant relationship between knowledge and attitude.

3) *Attitude and purchase intention*: Attitude captures the degree of consumers' favorability towards a product [30]. It is a psychological tendency that determines favorable or unfavorable evaluation to perform a behavior [48]. In this regard, a strong and positive attitude indicates that the consumers' expectation is fulfilled and aligned with their motives [35,36]. In turn, the consumers' decision-making process would be simplified and increase their intention to purchase a product [49]. Drawing from the discussion, the hypothesis is presented as follows:

H3. There is a positive and significant relationship between attitude and purchase intention.

4) *Mediating role of attitude*: The hesitation of consumers', regarding consumers' purchase-related decision-making caused by ambiguous evaluation, could be changed by introducing a stimuli that acts as an informational basis [45]. In fact, consumers are motivated to reduce such uncertainty by seeking information related to a product [32]. Therefore, knowledge would strengthen consumers' attitude, and in turn, would impact their intention to purchase a product [50–52]. Drawing from the discussion, the following hypothesis is presented as follows:

H4. Attitude will mediate the relationship between knowledge and purchase intention.

II. METHODS

A. Measures

Quantitative research design is employed in this study. Data is collected through self-administered questionnaire, which consists of two parts. The first part of the questionnaire collected the demography profile of the respondents (e.g. gender, age, occupation, religion, education, monthly income, and ethnicity). Meanwhile, the second part focused on non-Muslim consumers' perceptions and measured by halal food knowledge (ten items) [53–55], attitude (five items) [56], and purchase intention [49]. All constructs are measured using agreement statements. These statements were responded on a 5-point-Likert scale, with 1 referring to *strongly disagree* and 5 referring to *strongly agree*.

B. Sample

The population of interest in this study is the non-Muslim consumers that reside in Kuala Lumpur and Selangor. The religious diversity with less Islamic influence on both areas would yield an unbiased response from the non-Muslim consumers [25]. Using judgmental sampling technique, the location for data collection was able to be determined. The non-Muslim consumers are likely to be exposed by halal logo on modern grocery stores [24]. Hence, the questionnaires were distributed on Giant, Aeon, Aeon Big, Eonsave, and Tesco [57]. In total, 300 questionnaires were distributed on all five

grocery stores. The cases eligible for further analysis are 276, representing 88% of response rate. Afterwards, the respondents' characteristics were obtained and revealed that male represents 49.4%, while female was 50.6%. In terms of age, 15.9% were between the age of 18 and 24, 19.1% were between the age of 25 and 31, 35.5% were between the age of 32 and 38, 9.8% were between the age of 39 and 45, 9.4% were between the age of 46 and 50, and 10.4% were above 50. The occupation of the respondents is classified as government sector (9.1%), private sector (34.9%), self-employed (23.2%), student (15.1%), retirement (2.5%), housewife (12.5%), and unemployed (2.8%). Meanwhile, the level of education of the respondents is classified as SPM and below (14.7%), diploma/certificate (22.3%), bachelor degree (36.8%), master degree (24.2%) and doctorate (2.1%). In terms of monthly income, 15.7% were below RM 1500, 33.6% were in the range between RM 1,501 and RM 3,000, 24.2% were in the range between RM 3001 and RM 4,500, 12.6% were in the range between RM 4,501 and RM 6,000, and 14% were above RM 6000. All respondents are classified as non-Muslim (100%) without specifying the religious affiliation.

C. Data Analysis

SmartPLS 3 [58] was adopted to perform the structural equation modeling (SEM) analysis and to assess the research model. Due to the variance based on its statistical algorithm, the fit indices is not necessary to be conducted [59]. The SEM-PLS analysis was conducted on two steps [60]. Firstly, the analysis was conducted to assess the measurement model. Here, the analysis was performed to assess the outer loading, composite reliability, average variance extracted (AVE), discriminant validity (i.e. Fornell Larcker Criterion and Heterotrait Monotrait Ratio), and collinearity assessment using variance inflated factor (VIF). Secondly, the analysis was performed by assessing the coefficient of determination value (R^2), effect size (f^2), predictive relevance (Q^2), and hypotheses testing by assessing t-values both direct and indirect relationships (i.e. one-tail test ($t > 1.645$, sig. 5%); and two-tail test ($t > 1.96$, sig. 5%), respectively).

In addition, the mediation analysis would also be performed in this study. The analysis would include the bootstrapping of indirect effect by looking at the path coefficient (β) of both direct relationships a (i.e. HFK->ATT) and b (i.e. ATT->PI). The β value of a and b represent the indirect effect in relationship between X and Y. The significance of a mediating or indirect effect of ATT is determined by the product of a and b [61]. The next step of mediation analysis is to determine whether ATT: (a) fully mediates, if HFK->PI β value is insignificant, while $a*b$ is significant; (b) partially mediates, if HFK->PI β value significant, while $a*b$ is significant; or (c) does not mediate, if HFK->PI β value is insignificant, while also $a*b$ insignificant [62].

III. RESULTS AND DISCUSSION

As indicated earlier, SEM-PLS would be used to analyze the research model. The two steps of measurement model and structural model analysis are presented on the following sections.

A. Assessment of Measurement Model (Step one)

This stage was analyzed by performing the PLS algorithm with 300 iterations [63]. The result revealed that outer loadings of the constructs are between the value of 0.607 and 0.909, which met the cut-off value of greater than 0.50 [63]. However, two items are removed due to insufficient loadings (i.e. HFK1=0.426 and HFK2=0.443). PLS algorithm also showed sufficient value of composite reliability (CR) for all constructs (i.e. ATT=0.935; HFK=0.909; and PI=0.878). Lastly, AVE for all constructs also met the cut-off value of greater than 0.5 (i.e. ATT=0.743; HFK=0.594; PI=0.593). Meanwhile, the discriminant validity assessment also revealed sufficient result. The Fornell-Larcker criterion showed that square root values of all constructs' AVE are larger than its largest correlation with any other constructs. Another criteria for discriminant validity used is the HTMT ratio [64]. The result showed that the HTMT values for all constructs are below 0.85, which fulfilled the required cut-off value [64]. Subsequently, the collinearity assessment was performed. The cut-off value for collinearity assessment is below 5 [63]. The result of the collinearity assessment showed that all relationships' VIF value are below the value of 5 (i.e. HFK->PI=1.190; HFK->ATT=1.000; ATT->PI=1.190). Hence, collinearity would not be an issue for the research model and the analysis would proceed to the next step.

B. Assessment of Structural Model (Step two)

On this stage of analysis, the bootstrapping procedure was performed with 5000 iterations [63]. From the bootstrapping procedure, the coefficient of determination (R^2) values are determined. The result showed that the R^2 value are within the sufficient value (i.e. 0.292). It should be noted that the R^2 value of 0.20 is considered as significant within the field of consumer behavior studies [63]. Hence, the R^2 value for this study is sufficient. The assessment is the effect size (f^2) value with the range of 0.02, 0.15 or 0.35 which point out a small, medium or large contribution of independent variable towards dependent variable [65]. The f^2 values also represent the applicability of the examined relationships [66]. The result from bootstrapping procedure showed that the f^2 values for all relationships are ranged between small to medium (i.e. HFK->PI=0.001; HFK->ATT=0.190; ATT->PI=0.331). The next assessment is the predictive relevance (Q^2) of the model. For this assessment, the blindfolding procedure is performed. Within this procedure, the prediction error is produced by omitting a particular data point. Accordingly, the prediction error is compared with the original one to produce the Q^2 value. In this analysis, every 8th data point is deleted [63]. The blindfolding procedure suggests that the relationship between construct has predictive relevance, since the Q^2 values are greater than 0 (i.e. HFK->ATT=0.115; HFK->PI=0.166) [59].

The next assessment within the structural model stage is the hypotheses testing. As mentioned earlier, t-values for both direct relationship (one tail test, $t > 1.645$, sig. 5%) and indirect relationship (two-tail test, $t > 1.96$, sig. 5%) would be the criteria. The bootstrapping result showed that the direct relationships H1 (HFK->PI) is rejected (i.e. $\beta=0.028$, $t=0.484$). H2 (HFK->ATT) is accepted (i.e. $\beta=0.399$, $t=7.323$), and H3 (ATT->PI) is also accepted (i.e. $\beta=0.528$, $t=10.768$). Meanwhile, for the indirect relationship the assessment of both

lower level (LL) (2.5%) and upper level (UL) (97.5%) of confidence interval (CI) were included. Consequently, H4 (HFK->ATT->PI) is accepted (i.e. $\beta=0.098$, $t=2.467$, $CI(LL)=0.024$, $CI(UL)=0.177$). The results revealed that ATT is fully mediates the relationship between HFK and PI [62]. This means that the information properties from HFK to PI are fully transmitted with the help from ATT that acts as a mediating construct [67].

IV. CONCLUSION

The information regarding both health benefits and animal friendly attributes of halal food do not have a direct impact towards non-Muslim consumers' intention to purchase halal food. Several reasons might explain such insignificance. Halal food logo in Malaysia uses both Latin and Arabic letters, with the latter is positioned at the center of the logo. Accordingly, food products that is labeled with halal logo might be perceived to have a very strong religious aspect by the non-Muslim consumers [27]. Another reasonable explanation is the impact of social media that might have a conflicting views regarding Islam. Hence, due to its global accessibility on various social media platforms, such conflicting views could result in an unwanted generalizations or assumptions regarding halal food [68]. As such, both cases indicate that purchasing halal food remain an uneasy task for the non-Muslim consumers.

Based on the statistical results, the non-Muslim consumers would rely on their psychological factor to internally process the incoming information (i.e. regarding halal food). Under such difficult situation, the reliance on psychological factor would be strengthened, to simplify their purchasing process [69]. This explains the full mediating role of attitude. In this regard, attitude would be used by the non-Muslim consumers as the psychological factor for their internal processing. The evaluation properties of attitude play a significant role to help the non-Muslim consumers to align both health and animal friendly attributes of halal food, with their food consumption motives. Hence, the non-Muslim consumers' ambiguous evaluation toward halal food could be reduced by relying on their self-evaluating factor (i.e. attitude). In turn, their intention to purchase halal food would also increase.

In terms of practical contribution, this study would present several recommendations. The marketing activities of halal food that target the non-Muslim consumers should focus on health benefits and animal friendly attributes. Halal logo would not be a sufficient marketing tool, due to its strong religious aspect. Furthermore, education for the non-Muslim consumers regarding animal-friendly aspect of Islamic slaughtering method should be conducted. By doing this, the attributes of Halal food would be conveyed efficiently.

Several limitations should be addressed by future research. Another consumers' psychological factors should be included by future studies, such as, trust, self confidence, and social norms. In this way, the internal prioritization process of the non-Muslim consumers to purchase halal food could be understood. The model of this research could be used to investigate the non-Muslim consumers in another part of Malaysia. The model could also be used in another country, such as Indonesia, that has a substantial amount of non-Muslim

consumers population. Lastly, the model of this study could also be used in another sector within the halal industry, such as Islamic finance, halal travel/tourism, halal fashion, halal media and recreation and halal pharmaceuticals and cosmetics.

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