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Do different halal certificates have different impacts on Muslims? A case study of Malaysia

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ABSTRACT

Muslims whether practicing Islam or not but they are sincerely concerned about halal food. Halal is one of the most primary concepts for Muslims. With a rising number of the Muslim population worldwide, halal has become a vital concern among enterprises. Halal can be interpreted as permissible or lawful. In the Holy Quran, Allah orders Muslims and all of humankind to eat anything halal to the Shari'ah'. The halal is one of the most essential concepts for Muslims and many associations worldwide issue halal certificates of their own. This study investigated in what ways Muslims treat different halal certificates using instant coffee as an example. If Muslims perceive different values for different halal certificates, it means that they regard halal certificates more like a commercial certificate. On the other hand, if they perceive almost the same value for different halal certificates, they regard the certificate as a religious certificate. To investigate which is more relevant, the choice experiment was conducted to gather data in Malaysia. Then, a conditional logit model was applied to estimate willingness to pay for packed instant coffee of the same company produced in 6 different countries (with/without the halal certificate logo of the produced country). The results showed that although Malaysian Muslims were not familiar with halal certification logos except for the Malaysian halal logo, they perceived almost the same values for halal certificates from 6 different countries, indicating that they regarded different halal certificates in the same way. This result implied that Muslims found the halal concept as a religious concept and not as a commercial one.

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1. Introduction

Both the number and ratio of Muslims have been increasing steadily. Muslims accounted for 24.1% of the world population in 2015 and the ratio is expected to be 31.1% in 2060 (Pew Research Center, 2017). Accordingly, the halal markets have more impacts on the world business and have attracted wider and deeper attention, resulting in a boost of related studies (de Araújo, 2019; Fischer, 2016; Izberk-Bilgin, Nakata, 2016; Al-Ansi, Han, 2019). The term halal is the Arabic meaning "permissible" or "lawful" and is one of the most important concepts for Muslims (Yunus et al., 2014; de Araújo, 2019). Muslims may infer products that received the permission of using the halal certificate logo must have satisfied the religious requirements at a sufficient level. Muslims may think there is no substantial difference among different halal certificates. The fact that if or not a product received a halal certificate is the essential point for Muslims.

The situation above may be similar to the usage of a high school graduation certificate. For the application to a university, acquisition of a graduation certificate is required and which high school has issued it is out of the question. However, it is also true that, in daily life, if students graduated from higher-ranked high schools, they often perform better on average. Therefore, it may be inferred that different high school certificates may represent different qualities of alumni. Our research motivation is to empirically examine in what ways Muslims treat halal certificates. Muslims may perceive different values for different halal certificates just like highschool certificates. If so, a halal certificate is more like a worldly or commercial concept rather than a religious one. However, as far as the authors know, there are no existing studies that examine in what ways Muslims distinguish different halal certificates.

There are some related existing studies. The same and/or similar halal products have a different value if non-Muslims are involved. Not a few studies examine if or not non-Muslim consumers accept halal products (Mathew, Abdullah, and Ismail, 2014; Wibowo and Ahmad, 2016; Kawata, Htay, and Syed, 2018); some existing studies check if Muslims accept halal packaged products prepared by non-Muslims (Yunus et al., 2014; Manan, Ariffin, Maknu, Ibrahim, and Jaafar, 2019); others consider halal tourisms in non-Islamic countries (Battour and Ismail, 2016; Putit, Muda, Mahmood, Ahmad Taufek, and Wahib, 2016; Han, Al-Ansi, Olya, and Kim, 2019). These existing studies imply that the same halal products may have different values because of the involvement of non-Muslims in the process. As far as the authors know no extent study examines if or not Muslims detect different values for different halal products when non-Muslims are not involved. This study aimed to fill in this knowledge gap by conducting a hypothetical experiment to investigate Muslims' perceptions of different halal certificates.

To do so, packed instant coffee is selected because packed instant coffee is popular and available in many Asian countries. There are some instant coffee brands whose products are circulated worldwide. It is often the case that the halal logo of the country is printed on the package. Thus, it is natural to suppose that the instant coffee of the same company with different countries' halal logo is circulated in the market. Malaysia is selected as a target country and the following situation is supposed. In a shop nearby, consumers can find some packed instant coffees from several countries whose package is the same except for the halal certificate logo. There are also some packed instant coffees whose package has no halal logo. Under these settings, a choice experiment is applied to elicit the premium values of halal certificates of different countries. As far as the authors know, there is no existing study that examined the same research question using conjoint analysis, although the application of conjoint analysis for coffee and related studies has been accumulated (e.g. Rotaris and Danielis, 2011; Mustafa, 2015; Asioli, Næs, Øvrum, and Almli, 2016; Hindsley, McEvoy, and Morgan, 2020).

Because Malaysia is a multiethnic country with Bumiputera, Chinese, Indians, and others accounting for 69.3%, 22.8%, 6.9%, and 1.0% as of 2019 (Department of Statistics Malaysia, 2019), the authors set Malaysian citizens as the population of the study. Therefore, Muslims may be more concerned about halal

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certificates compared to countries where the Muslim population dominates such as Indonesia. Malaysian Muslims may pay more attention to the halal logo when selecting and purchasing products.

2. Survey design and data

2.1 Hypotheses

The primary reason for printing the halal logo on the package is to indicate the product is halal. This is the most important aspect of the halal logos for Muslims. The halal certificate is the religious standard. Therefore, the halal certificate indicates that a product fully satisfies the religious requirement. Muslim consumers may not think that, for example, product A satisfies the religious requirements much better way than product B.

It is noteworthy that the procedures required to obtain the halal certificates for foods and those to obtain food quality certificates such as HACCP may be similar to each other. Therefore, some people regard the halal certificate may involve some features of food safety (Kohilavani et al., 2013). Food certificate is used to transform credence goods into search goods (Nelson, 1970; Darby and Karni, 1973). In this case, the certificate may ensure that the product satisfies the minimum requirements of a certain standard. The possible differences between halal and food certificates are Tabulated in Table 1. In the case of a food certificate, consumers can compare the quality of products that received food certificates. For example, suppose that there are brand A and B apples from regions A and B, respectively, and further suppose that both brand A and B apples have obtained the same food certificate. Both brands A and B apple must satisfy the minimum standard of pesticide residue but the remaining level of pesticide may be different.

Therefore, there are two possibilities. First, Muslims may regard the halal certificate to be a religious one. Second, Muslims may regard the halal certificate to be a more commercial one (in addition to religious aspects) because the halal certificate is similar to food certificates. Thus, the following hypothesis is formulated:

Hypothesis 1

If Muslim consumers regard the halal certificate to be a religious one, they may evaluate the different halal logo in the same way (Figure 1). The additional willingness to pay (WTP) by Muslim consumers for products with halal logo will be almost the same for products from different countries.

This study also checks and discuss the following hypotheses:

Hypothesis 2

The additional WTP for the halal logo is positive (Figure 1). That is, consumers, in general, find products with halal logo more valuable.

Hypothesis 3

The total WTP for different products may be different (Figure 1). It is assumed so because consumers, in general, may think that the quality of different products differs from one another.

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Table 1. Differences between halal and Food Certificates

	Halal certificate	Food certificate
Targets	✧ Muslim consumers	✧ Consumers in general
Example	✧ Malaysian halal certificate by the Department of Islamic Development Malaysia	✧ Some food standards such as GLOBALG.A.P. (Germany) assured by the Global Food Safety Initiative
Purposes	✧ To assure that products meet the requirements of the halal standard set by some organization	✧ To assure that products meet the minimum requirements of a food certificate set by some organization
Standards based on	✧ The Quan and maybe other rationales such as Hadith	✧ The rules and agreements set by a certificate organization and/or associated committee
Features	✧ This certificate enables Muslim consumers to select products that meet religious requirements ✧ Muslim consumers normally have their standards. Therefore, Muslim consumers may buy products with this certificate as long as this certificate satisfies their standard fully ✧ It follows that for Muslim consumers who satisfied with this standard, this standard means the product fully satisfies the religious standard	✧ This certificate enables us to transform credence goods to be search goods ✧ Different food certificates may indicate the different quality of products

2.2 Survey design

Instant coffee was selected for the experiments. This was because “3 in 1 instant coffee” was one of the most popular beverages in Malaysia. Besides, to compare similar products from different countries, instant coffee was the most suitable because coffee is popular and consumed worldwide. It was assumed that each instant coffee package included 28 sticks (18g for each); that the appearance of the package was the same except for the halal logo (Figure 2). To increase the response rate, respondents were asked to imagine their preferred instant coffee when replying to the questionnaire. For example, respondents were allowed to suppose "2 in 1 instant coffee” instead of “3 in 1.” It was implicitly supposed the famous coffee company’s products but respondents were allowed to imagine the products of their favorite coffee maker. Because the purpose of the experiment was to reveal if or not different halal certificates had different impacts on Muslims, the above procedures may not skew the results inappropriately.

The 2-page questionnaire was created, consisting of 10 questions. Q1 to Q6 was choice experiments (CEs) using choice sets (Figure 2), Q7 to Q10 asked individual attributes of respondents. Ten types of questionnaires were prepared based on the following procedure. Three attributes were selected: these were country (6 countries), price level (5 levels), and halal logo (Halal logo was printed on the package or not; 2 cases) as shown in Table 2. The number of profiles was 60 (= 6 × 5 × 2). Four choices were prepared for each choice sets. For Choices 1 to 3 in Figure 2, each profile was used 3 times. That is, three profiles were selected from 180 profiles (= 60 × 3) so that 60 combinations of profiles (Choices 1 to 3 in Figure 2) were different from each other. The "no choice" option was added when making choice sets (Choice 4 in Figure 2), which means that respondents do not by any. Based on the above procedures, sixty choice sets were created, and the non-labeled type CEs was selected. Six choice sets were assigned to each questionnaire and made 10 different types of questionnaires. Because each questionnaire consisted of 6 choice sets, each respondent answered choice set questions 6 times (that is, Q1 to Q6).

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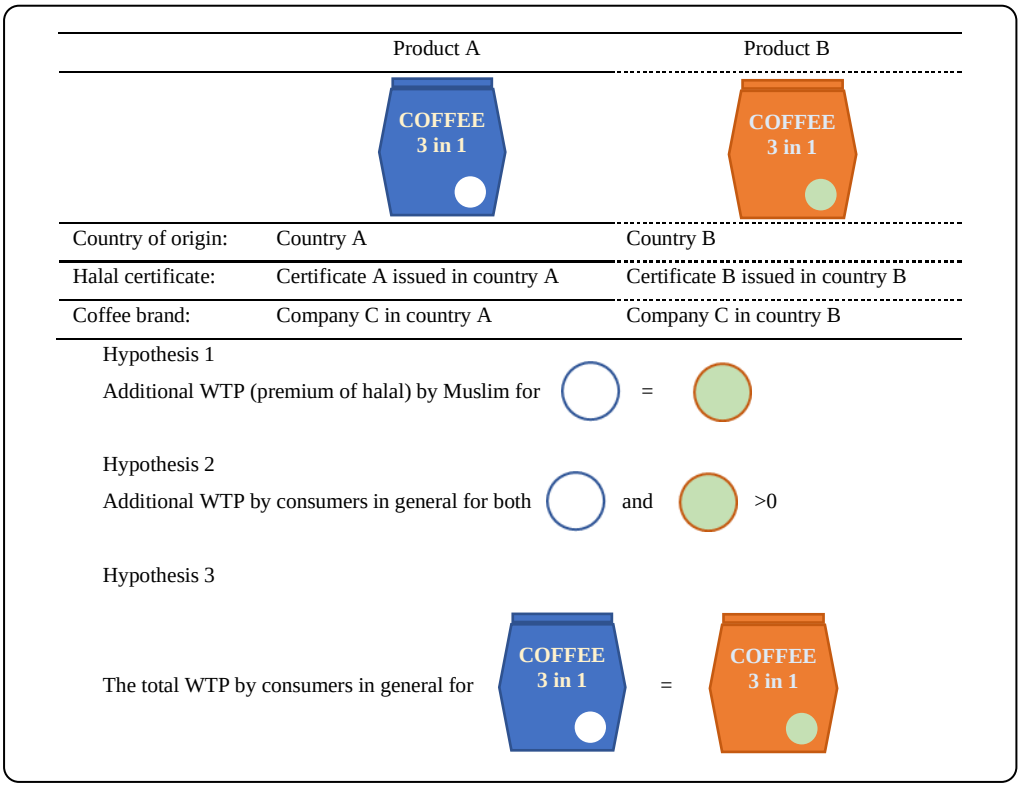

Fig. 1. Graphical description of our hypotheses

Six countries (Indonesia, Viet Nam, Malaysia, India, Thailand, and Taiwan) were selected based on the fact that 3 in 1 instant coffee with a halal logo is circulated in markets of these countries. Besides, it was also checked if or not these countries produce coffee and close enough from Malaysia. Before setting the price level, the Malaysian local price of packaged instant coffees was checked. In order to make our price setting to be realistic to respondents, packaged instant coffees whose characteristics such as the number of sticks was the same as and similar to our hypothetical instant coffee package were selected. The real halal logo of each country was used in the questionnaires. The halal logos selected were those of the Indonesian Council of Ulama (Indonesia), the Halal Certificate Agency (Viet Nam), the Department of Islamic Development Malaysia (Malaysia), the Jamiat Ulama-e-Hind Halal Trust (India), the Central Islamic Committee of Thailand (Thailand) and the Taiwan Halal Integrity Development Association (Taiwan).

2.3 Data

The questionnaire was conducted for undergraduate students of a Malaysian university in the first week of November 2019. Approximately 90% of class attendants replied questionnaire. They were mostly less than 25 years old. One of 10 types of questionnaires was provided randomly to respondents, which was printed in 2-page paper sheets. PowerPoint slides were also prepared for instructions and questions. The surveys were repeated two times so that the number of respondents reached 70 to each questionnaire type: this procedure brought 700 responses in total.

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Table 2. Attributes and their levels in the choice sets

Attribute	Level
Country	(1) Indonesia, (2) Viet Nam, (3) Malaysia, (4) India, (5) Thailand, (6) Taiwan
Price (MYR)	(1) 9.5, (2) 10.5, (3) 12, (4) 13.5, (5) 14.5
Halal logo	(1) with logo, (2) without logo

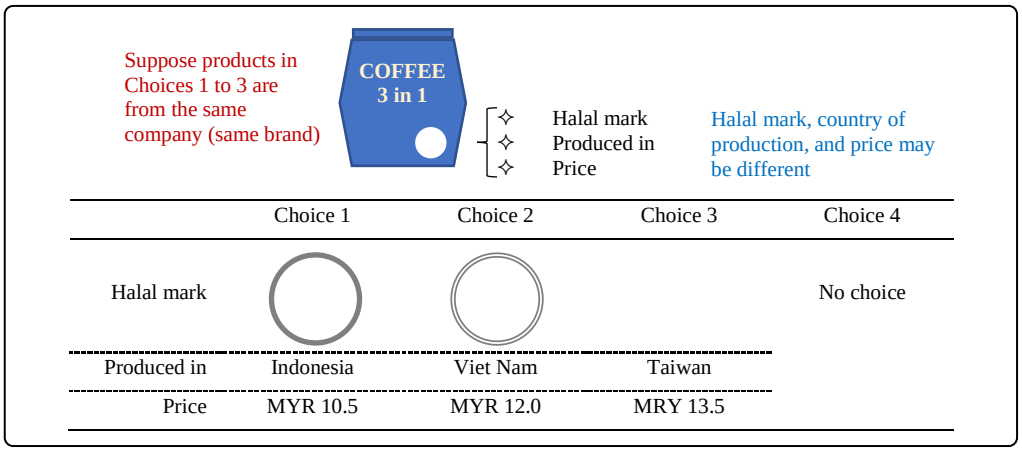

Fig. 2. Example of choice set
Note: In the questionnaire, the real coffee package and halal logos were used. In this figure, a coffee package and halal logo were substituted with the graphical package and circle-shaped figures in cells.

Both Muslims and non-Muslims data was gathered. The WTP for products of the baseline case was calculated using both replies from Muslims and non-Muslims. The replies for the religious question was regarded as one of the personal characteristics and this information was used when checking Muslims' valuation towards the halal certificate. In greater detail, see "3. Econometric model" and "4. Results" sections.

3. Econometric model

The conditional logit model (McFadden, 1974; Train, 2009) was applied to estimate the WTP. Based on the random utility theory, an individual i's utility when selecting a profile j from the choice set J was described as follows:

$$U_{ij} = V_{ij} + e_{ij}. \tag{1}$$

Here, V_{ij} and e_{ij} were observable and unobservable components, respectively. The observable part was specified as follows for both the main effect model and cross term model:

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[Main Effect Model]

$$V_{ij} = \beta^{ASC} ASC_{ij} + \beta^{Price} Price_{ij} + \beta^{VN} X_{ij}^{VN} + \beta^{MY} X_{ij}^{MY} + \beta^{ID} X_{ij}^{ID} + \beta^{TH} X_{ij}^{TH} + \beta^{TW} X_{ij}^{TW} + \beta^{H_IN} X_{ij}^{H_IN} + \beta^{H_VN} X_{ij}^{H_VN} + \beta^{H_MY} X_{ij}^{H_MY} + \beta^{H_ID} X_{ij}^{H_ID} + \beta^{H_TH} X_{ij}^{H_TH} + \beta^{H_TW} X_{ij}^{H_TW}. \quad (2)$$

[Cross Term Model]

$$V_{ij} = \beta^{ASC} ASC_{ij} + \beta^{Price} Price_{ij} + \beta^{VN} X_{ij}^{VN} + \beta^{MY} X_{ij}^{MY} + \beta^{ID} X_{ij}^{ID} + \beta^{TH} X_{ij}^{TH} + \beta^{TW} X_{ij}^{TW} + \beta^{H_IN} X_{ij}^{H_IN} + \beta^{H_VN} X_{ij}^{H_VN} + \beta^{H_MY} X_{ij}^{H_MY} + \beta^{H_ID} X_{ij}^{H_ID} + \beta^{H_TH} X_{ij}^{H_TH} + \beta^{H_TW} X_{ij}^{H_TW} + \beta^{M_IN} X_{ij}^{M_IN} + \beta^{M_VN} X_{ij}^{M_VN} + \beta^{M_MY} X_{ij}^{M_MY} + \beta^{M_ID} X_{ij}^{M_ID} + \beta^{M_TH} X_{ij}^{M_TH} + \beta^{M_TW} X_{ij}^{M_TW}. \quad (3)$$

Here, βs are parameters. ASC is assumed to be an alternative specific constant (Table 3). $Price$ is a unit price shown in each profile. X^k ($k = VN, MY, IN, TH, and\ TW$) takes 1 if instant coffee is made in country k, and 0 otherwise. $VN, MY, IN, TH, and\ TW$ indicate Viet Nam, Malaysia, India, Thailand, and Taiwan, respectively. X^{H_k} ($k = IN, VN, MY, IN, TH, and\ TW$) takes 1 if a halal logo is printed on the package of an instant coffee produced in the country k, and 0 otherwise. IN indicates Indonesia. X^{M_k} ($k = IN, VN, MY, IN, TH, and\ TW$) takes 1 if a halal logo is printed on the package of an instant coffee produced in country k and the respondent is Muslim/Muslima, and 0 otherwise.

Suppose an individual i selects the profile that brings the largest utility to him/her. Then, the probability that an individual i selects profile j is given as follows:

$$\pi_{ij} = Pr\left(U_{ij} > U_{il}, \forall l \epsilon J, l \neq j\right). \quad (4)$$

Further, suppose that e_{ij} follows the Gumbel distribution with scale parameter 1. Then, π_{ij} is shown as follows:

$$\pi_{ij} = \frac{exp\left(V_{ij}\right)}{\sum_{l \epsilon C} exp(V_{il})}. \quad (5)$$

By applying maximum likelihood estimation, the parameter value of βs can be obtained. The WTP is calculated as follows:

The WTP for a packaged coffee produced in Indonesia without halal logo:

$$-\frac{\beta^{ASC}}{\beta^{Price}}. \quad (6)$$

The WTP for a packaged coffee produced in country k without halal logo:

$$-\frac{\beta^{ASC}}{\beta^{Price}} - \frac{\beta^{k}}{\beta^{Price}}, k = VN, MY, IN, TH, and\ TW. \quad (7)$$

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The WTP for a packaged coffee produced in Indonesia with halal logo:

$$-\frac{\beta^{ASC}}{\beta^{Price}}-\frac{\beta^{H_IN}}{\beta^{Price}}. \tag{8}$$

The WTP for a packaged coffee produced in country k with halal logo:

$$-\frac{\beta^{ASC}}{\beta^{Price}}-\frac{\beta^{k}}{\beta^{Price}}-\frac{\beta^{H_k}}{\beta^{Price}}, k = VN, MY, IN, TH, and\ TW. \tag{9}$$

Muslim's WTP for a packaged coffee produced in Indonesia with halal logo:

$$-\frac{\beta^{ASC}}{\beta^{Price}}-\frac{\beta^{H_IN}}{\beta^{Price}}-\frac{\beta^{M_IN}}{\beta^{Price}}. \tag{10}$$

Muslim's WTP for a packaged coffee produced in country k with halal logo:

$$-\frac{\beta^{ASC}}{\beta^{Price}}-\frac{\beta^{k}}{\beta^{Price}}-\frac{\beta^{H_k}}{\beta^{Price}}-\frac{\beta^{M_k}}{\beta^{Price}}, k = VN, MY, IN, TH, and\ TW. \tag{11}$$

Table 3. Explanatory Variables

	Attribute
ASC	An alternative specific constant. One for choices 1 to 3, and zero for choice 4 in the choice set.
$Price$	A unit price is shown in each profile. Zero for choice 4 in the choice set.
X^k	It takes 1 if instant coffee is made in country k, and 0 otherwise. $k = VN, MY, IN, TH, and\ TW.$
X^{H_k}	It takes 1 if a halal logo is printed on the package of an instant coffee produced in country k, and 0 otherwise. $k = IN, VN, MY, IN, TH, and\ TW.$
X^{M_k}	It takes 1 if a halal logo is printed on the package of an instant coffee produced in country k and a respondent is Muslim/Muslima, and 0 otherwise. $k = IN, VN, MY, IN, TH, and\ TW.$

4. Results

4.1 Descriptive statistics

The total number of respondents was 700, among which female was 360 (51.4%) and the male was 340 (48.6%), respectively. The composition of respondents' religion was Muslim/Muslima 420 (60.0%), Buddhist 160 (22.9%), and Hindu 120 (17.1%). The choices of 'Christian,' 'Jew,' 'other than above' and 'atheist,' were prepared but there were none for these categories. The frequency of drinking regular and instant coffee was also asked. The results are provided in Table 4. All respondents answered that they

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drank at least either type of coffee one cup per week; more than half of respondents replied that they drank both regular and instant coffee 1 cup or more every day. The experience of observing the halal logo is provided in Table 5. The upper half of Table 5 shows the results of whole respondents while the lower half shows the results of Muslims. The most familiar halal logo, in general, was the Malaysian logo, followed by Indonesian, and Taiwanese, and the least was Vietnamese (Upper part of Table 5). The tendency was the same when Muslim/Muslima was selected and non-Muslims were removed in the analyses (Lower part of Table 5).

Table 4. How often do you drink "regular" and "instant" coffee? (n = 700)

	Regular Coffee		Instant Coffee	
More than 1 cup per day	185	26.4%	82	11.7%
1 cup per 1 day	290	41.4%	325	46.4%
1 cup per few days	225	32.1%	212	30.3%
1 cup per week	0	0.0%	81	11.6%
Less than the above	0	0.0%	0	0.0%

Table 5. Have you ever seen the following halal marks? (n = 700)

	Viet Nam	Malaysia	Indonesia	India	Thailand	Taiwan
(1) Definitely Yes	0	561	1	0	0	0
(2) Probably Yes	0	139	85	0	0	18
(3) Maybe Yes	0	0	389	126	119	52
(4) Maybe No	357	0	208	276	402	146
(5) Definitely No	343	0	17	298	179	484
[Muslim Only]						
(1) Definitely Yes	0	343	1	0	0	0
		(61.1%)	(100.0%)			
(2) Probably Yes	0	77	67	0	0	15
		(55.4%)	(78.8%)			(83.3%)
(3) Maybe Yes	0	0	196	91	59	36
			(50.4%)	(72.2%)	(49.6%)	(69.2%)
(4) Maybe No	193	0	150	153	202	98
	(54.1%)		(72.1%)	(55.4%)	(50.2%)	(67.1%)
(5) Definitely No	227	0	6	176	159	271
	(66.2%)		(35.3%)	(59.1%)	(88.8%)	(56.0%)

4.2 Estimation results

Two models were estimated: the Main Effect and the Cross Term models. The estimation results were tabulated in Table 6. All coefficients were statistically significant at the 5% level for the Main Effect

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model, while some coefficients were not statistically significant at the 10 % level for the Cross Term model. The McFadden's Pseudo R^2 was 0.307 and 0.386 for the Main Effect and Cross Term models, respectively, suggesting the relatively high performance of our models.

The WTP was estimated for (1) without the halal case, (2) with the halal case, and (3) with halal case evaluated by Muslim (Table 7). Here, (1) is the case where the WTP was calculated for the products without the halal logo, (2) is the case where the WTP was calculated for the products with the halal logo, and (3) is the case where the WTP was calculated for the products with the halal logo and the evaluations were limited to Muslims. The difference between (2) and (1), and (3) and (1) were also calculated. The highest WTP was those of India (case (1)), India (case (2)), and Viet Nam (case (3)), respectively. Grey shading is applied for cells whose value was less than average for each column. The most evaluated were products from India, followed by Indonesia and the least were those from Taiwan, followed by Thai based on the numbers of grey shading cells.

Table 6. Estimation Results

	Main effect		Cross term	
ASC	7.078	***	7.862	***
Price	-0.571	***	-0.640	***
VN	-0.713	***	-0.619	***
MY	-0.323	**	-0.135	
ID	0.297	***	0.522	***
TH	-1.437	***	-1.499	***
TW	-0.754	***	-0.681	***
H_IN	1.569	***	-0.204	
H_VN	2.822	***	0.700	***
H_MY	1.586	***	0.576	***
H_ID	2.112	***	0.189	
H_TH	2.112	***	1.513	***
H_TW	1.407	***	-0.416	**
M_IN			3.701	***
M_VN			4.354	***
M_MY			2.070	***
M_ID			2.731	***
M_TH			1.592	***
M_TW			3.746	***
Pseudo R2	0.307		0.386	

Note: ***, **, and * are significant at the 1%, 5%, and 10% levels

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Table 7. Willingness to pay (MYR)

	Indonesia	Viet Nam	Malaysia	India	Thailand	Taiwan
(1) w/o halal	12.4	11.1	11.8	12.9	9.9	11.1
(2) with halal	15.1	16.1	14.6	16.6	13.6	13.5
(3) with halal by Muslim	17.7	19.2	16.2	17.7	14.8	16.4
(4) (2) – (1)	2.7	4.9	2.8	3.7	3.7	2.5
(5) (3) – (1)	5.4	8.1	4.4	4.7	4.9	5.3

5. Discussions

5.1 Respondents characteristics and WTP

There were several features to note concerning respondents' knowledge about the halal logo (Table 5). First, it was observed relatively high recognition towards the Malaysian halal logo: Replies concentrates on both “Definitely Yes” and “Probably Yes”. Second, on the other hand, it was observed that recognition towards halal logos other than Malaysia was substantially low. The percentage that respondents selected “Maybe No” and “Definitely No" was 100%, 90%, 83%, 82%, and 32% for Viet Nam, Taiwan, Thai, India, and Indonesia, respectively (the Upper parts of Table 5). The same tendency was also observed when respondents were limited to Muslims: 100%, 88% 86% 78%, and 37% for the same (the Lower parts of Table 5). These results suggest that Malaysian are not familiar with foreign halal logos.

The validity of the result can be demonstrated by the following facts. Khalek (2014, p. 31) conducted a questionnaire for students aged between 16 and 35 at a Private Higher Learning Institutions in Malaysia (n = 207) and states that ‘92.3% of the respondents able to recognize and are aware of the latest halal logo certified by JAKIM.’ Our results for Malaysia seem to be realistic when compared with those of Khalek (2014). The facts that implementation of the halal certificate has been supported by the government and Malaysia aims to be a global halal center may enhance the reliance of Malaysian Muslim consumers for Malaysian halal products, resulting in lower interests in halal logos issued other than Malaysia (Halal Industry Development Corporation, 2019; Henderson, 2016).

In the lower parts of Table 5, results for Muslims were provided with the percentage in parentheses. The percentage indicated the ratio of Muslims who selected each answer: For example, 54.1% for row “Viet Nam” and column “(4) Maybe No” indicated that 193 out of 357 respondents were Muslim. There is the following tendency: the percentage got higher as going down in the case of Viet Nam and Thai, suggesting that Muslims were less familiar with the halal logos of these countries compared to non-Muslims. It was interesting that the difference in WTP between “(3) with halal by Muslim” and “(1) w/o halal” was the highest for Viet Nam in Table 7: the value was MYR 8.1 as shown in column (5): Muslims increased their evaluation when Vietnamese halal logo is put on the package. However, such an obvious increase in the WTP can not be observed for the Thai case: the value was MYR 4.9, almost the same as other countries such as MYR 4.4 of Malaysia and MYR 4.9 of Thailand. One of the possible explanations for this difference in additional WTP of Vietnamese (MYR 8.1) and Thai coffee (MYR 4.7) may be attributed to the fact that Vietnamese coffee is famous worldwide while Thai is not so famous either as a coffee production country or for its coffee products. Therefore, Muslims’ WTP substantially increased for Vietnamese coffee with the halal logo while moderately increased in the case of Thai coffee.

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5.2 Examination of hypotheses

The WTP for 5 cases for each country was estimated and calculated: these are (1) without halal, (2) with halal, (3) with halal by Muslim, (4) difference between (2) and (1), and (5) difference between (3) and (1). Three hypotheses were formulated. The first Hypothesis was that Muslim consumers may evaluate the different halal logo in the same way. This hypothesis can be examined using the results of (5). The second hypothesis was that the additional WTP for the halal logo is positive. This hypothesis can be examined using the results of (4). The third hypothesis was that the total WTP for different products may be different. This hypothesis can be examined using the results of (1) and (2).

First, as for Hypothesis 1, our results implied that Muslims feel almost the same values towards different halal logos except for Viet Nam. When calculating the difference between (3) and (1), which is shown in (5) column of Table 7, the highest value was that of Viet Nam (MYR 8.1), followed by Indonesia (MYR 5.4) and Taiwan (MYR5.3). While the value of Viet Nam alone was substantially high, those of other countries were between MYR 4.4 and 5.4, implying Muslims' additional WTP for the halal certificate was more or less the same. One of the possible interpretations that a substantial increase was observed in the case of Viet Nam is provided in subsection 5.1. The least WTP was that of Malaysia (MYR 4.4), probably because respondents were mainly Malaysians and they are too familiar with the Malaysian halal logo, resulting in relatively lower evaluation. Our results indicate that Muslims basically find the halal certificate as religious concepts. The fact that substantially high additional WTP for the Vietnamese case suggests the halal logo may be occasionally seen as a more commercial concept.

Second, Hypothesis 2 was examined. The results were shown in the (4) column of Table 7. The hypothesis can be appropriate because all additional WTP were positive values. This result implied citizens in general (that are both Muslims and non-Muslims) found products with halal logo more valuable than products without halal logo. This result was consistent with existing studies. For example, Kawata, Htay, and Syed (2018) examine the non-Muslim acceptance of halal foods (mineral water) and their results demonstrated that non-Muslims show positive additional WTP for the halal logo. One of the possible reasons that citizens, in general, show additional WTP for the halal logo was that non-Muslims regard the halal logo as equivalents of other similar certificates such as HACCP.

Third, Hypothesis 3 was examined. The results were shown in columns (1) and (2) of Table 7. It can be said that the hypothesis was appropriate because the values fluctuate between 9.9 and 12.9 for column (1) and between 13.5 and 16.6 for column (2). It is natural that products from a different country may enjoy different evaluation even if they were provided by the same company (of different countries). Note that there is no clear explanation for the order of the WTP: the highest and lowest values were those of India (MYR 12.9) and Thailand (MYR 9.9) for column (1) of Table 7 and Taiwan (MYR 13.5) and India (MYR 16.6) for column (2) of Table 7.

5.3 Limitations

There are some limitations to this study. First, while Malaysian citizens were selected as the population of the study, this paper used students from a university as a sample. Thus, the results of this study are still tentative and future studies can address this issue by extending e.g. area and age of respondents. Second, the results indicate Muslims' WTP substantially increased for Vietnamese coffee when the halal logo is printed on the package. One of the possible explanations is that Viet Nam is the second largest coffee producing country and the Vietnamese coffee is famous all over the world. Future studies may further examine the reasons for high WTP for Vietnamese coffee.

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6. Conclusions

There are many associations of halal certificates worldwide. It is natural to assume that different halal certificate has the same meaning for Muslims because halal is essentially religious concepts. However, it is also reasonable to infer that Muslims find the difference in halal products if printed halal logos differ. Thus this study examined which expectation is more relevant using 3 in 1 instant coffee as an example and applied choice experiment for Malaysian citizens.

The main results are as follows. First, not only non-Muslims but also Muslims in Malaysia are not familiar with the halal logos of foreign countries. It can be expected that Malaysian Muslims are careful when selecting products because Malaysia is the multiracial country and Haram product is circulated here and there in the country. However, our result was contrary to our expectations. The result may indicate that most Muslims select the product that they normally select and when they need to buy new products, they may search for the product with the Malaysian halal logo.

Second, although Malaysian Muslims were not familiar with foreign halal logos, they evaluated different halal certificates almost the same except the Vietnamese one. Our results seemed to be sound because halal is the religious concept and, therefore, how much improve the level is meaningless or inapplicable. There was no clear explanation of why they show high additional WTP for the Vietnamese one. Further research is required to pursue this remaining question. This study successfully demonstrated that Muslims regard the halal concept as an essential religious concept and not a commercial one.

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