

# The Factors That Influence Trust and Confidence in the Halal Food Information Sources and Institutions in Malaysia

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## Abstract

This paper explored the factors that influence trust and confidence in the halal food information sources and institutions in Malaysia. A survey involving 151 participants was used. A Kruskal–Wallis test indicated that there was a significant difference in trust in information sources for halal food, between the information sources groups. Mann–Whitney U-tests indicated that IIUM respondents trusted Independent information sources more than media and commercials sources. Muslims are more trusted over media and commercial sources. However, there was no significant difference between commercial and media and commercial sources, Independent information sources and Muslim sources. But, there was a significant difference between Independent information sources and commercial sources, Muslim and commercial sources. These results suggest that Students of the respondents have a high degree of trust in the information sources regarding halal food in Malaysia. They really have confidence in the local institutions regulating and related to halal food industries and a moderate confidence in foreign institutions.

**Keywords:** Trust; Confidence; Halal Food; Malaysia.

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## **1. Background of the Study**

Dietary regimens in most religions are quite strict but most incumbents of their respective religions do stick to it. According to a study done by [12] that the most migrant Muslims in the US still eat Halal. This couldn't be truer for Muslim migrants as well as Malaysian Muslims themselves living in Malaysia. It must be admitted that there is a possibility that things can go wrong in a country where the Halal business is quite mature. The aspect that is going to be looked into is the integrity of the local players and stakeholders of the Halal food value chain within Malaysia. Malaysia is a case in point. Even though Islam is the state religion the non-Muslim minority is quite sizeable. Thus often there are scandals concerning the integrity of the Halal value chain mostly due to negligence on the part of the players involved. These things are unheard of in countries who, either have a very negligible non-Muslim minority or not at all like Pakistan. The reason being, that there is no existence of non-Halal foods in Pakistan. In Malaysia, for instance, a high-profile bread manufacturer High 5 had a non-Halal oil sourcing scare, believed to be imported from Israel or Germany and its Halal credence was jeopardized (The Malay Mail, 14th September 2006). What is needed is to have a system to measure the integrity of the value chain in the country overall and keep monitoring it to have a bird's eye view by measuring the perceptions of the Muslim consumer because they are the first to know. This is important because even though there are scandals now and then but the Malaysian Halal brand is quite strong and lucrative. If a measure of the Muslim consumer's trust and confidence could be made in Malaysia it would lead to a beginning of a branding goodwill that would be a safety net for this very viable industry. It would also be interesting to note as to which stakeholders deserve the lion's share of the branding integrity so to speak in the Halal food value chain so that mistakes can be rectified in a proactive manner. Otherwise, even if the scare is a hoax, companies like Cadbury which recently went through such an issue, could dent not only the financial aspects and confidence in the brand image of the company but also being substantial in size can affect the Halal industry and the economy [14].

## **2. Research Objectives**

### ***2.1 General objectives***

To research the Muslim perception of the integrity of Halal food in a multi-racial and multi-religious Muslim dominant country such as Malaysia using methods used in Belgium (multi-religious Muslim minority country) by [6] to see whether there are similar patterns or are their differences. Also to see whether their research methods can be used the cross country to come up with a method which can be used universally to analyze the Muslim perceptions of the credence of Halal food in their country of residence.

### ***2.2 Specific Objectives***

1. To examine the degree of trust that students of International Islamic University Malaysia have in the information sources concerning Halal food.
2. To find the degree of confidence that students of international Islamic University Malaysia have in the local Muslim institutions involved in the supply chain of Halal food in Malaysia.

3. To find the degree of confidence that students of international Islamic University Malaysia have in the foreign Muslim/Non-Muslim institutions involved in the supply chain of Halal food in Malaysia.
4. To validate the instrument that [6] in their research in the context of International Islamic University Malaysia.

### **3. Literature Review**

#### ***3.1 Religion as an Influence on Dietary Regimens***

Ample evidence has been provided that religion can influence consumer attitudes and behaviors in general [18], and food purchasing decisions and eating habits in particular [3]. In many societies, religion plays one of the most influential roles in shaping food choice [10]. Many definitions of religion exist. In this anthropological view, religion is an institution consisting of culturally patterned interaction with culturally postulated superhuman beings [23]. This viewpoint on religion explains the influences of culture on religious expression. Although religion has been a significant force in the lives of many individuals, its exact role in consumer food choice is rather unclear [8].

Compared with their regular diet, during the fasting periods, the absence of meats, dairy, and eggs in the diet was compensated by a fourfold increase in the intake of legumes and moderate increases of fruits and vegetables, potatoes, and cereals. In addition, the intakes of pastries and alcohol decreased. The direction of all these changes in food intake is in accordance with current dietary guidelines for chronic disease prevention [15,17].

The wide range of dietary habits coupled with no use of tobacco or alcohol makes Adventists and Muslims very attractive populations study [24]. Early studies of Adventists in several countries documented the distinct diets of this religious group and the differences in disease rates compared with the general population of the respective countries [11,20]. In general, overall mortality, CVD (Cardiovascular disease) and cancer rates were substantially lower among Adventists, which may be because of their diet or other lifestyle factors. Consequent studies have exposed that vegetarian Adventists have inferior rates of heart diseases, hypertension, diabetes and some cancers, and have superior permanence than non-vegetarian Adventists [11,22].

#### ***3.2 Muslims and Halal Food***

Although religions may impose strict dietary laws, a number of people following them may vary considerably. Reference [12] states that 75 percent of Muslims in the US follow these above-mentioned dietary rules in contrast with only 16 percent of Jews. Factors explaining differences in adherence to religious dietary prescriptions pertain among others to social structures, e.g. origin, immigration, and generation differences [4]. Broadly speaking, religious food practices vary widely, even within a particular faith or in a specific community of a nation where the population is multiracial and multicultural. At a closer look, eating in Islam is a matter of faith where Muslims eat only halal food for good health and overindulgence is discouraged. Fasting is required during the month of Ramadhan and feast days include Eid-il-Fitr, Eid-il-Adha and Maulud Nabi [12].

The lives of Muslims are guided by the Islamic or Shariah Law. The Shariah Law is based on the Quran (the Holy Book of Islam), Al-Hadith and Al-Sunnah actions, habits and approval of Prophet Muhammad, Ijma' (consensus Ulama) and Qiyas (deduction or analogy) according to various Islamic Schools of Thought (Mazhab) or fatwa approved by the relevant Islamic Authority [7].

### ***3.3 Pure and Nutritious Food***

Islam is a religion concerned with cleanliness, in both the physical and spiritual aspects. What is haram is unclean. In the Quran, Allah almighty commands those who are accustomed to cleanliness: "Allah loves those who turn to Him constantly and He loves those who keep themselves pure and clean". (Al Baqarah: 22) The Prophet Muhammad (peace be upon him) also stressed the importance of cleanliness. This can be seen in some of his sayings: "Cleanse yourself, for Islam, is cleanliness" and "Cleanliness invites towards faith and faith leads its possessor to the Gardens (Heaven)". From the hadiths [sayings and deeds of Prophet Muhammad (peace be upon him)] narrated by Muslim and At Tirmidzi, "The Holy Prophet once related a story of a man, who having journeyed far, is disheveled and dusty and who spreads out his hands to the sky (saying) a Lord - while his food is unlawful, his drink is unlawful, his clothing unlawful and he is nourished unlawfully, so how can he be answered."

### ***3.4 Halal Food as a Way of Life***

Islam is a practical religion with rules and principles governing every aspect of the life of an individual Muslim. This code of conduct, however, is not to be viewed as restrictions per se nor a matter of mere social courtesy. Rather, it is derived from the broad objectives of the religion and hence is a reflection of its ideas and values. Here, we examine the relationship between the food that we consume and our physical as well as spiritual health. A Muslim eats to maintain a strong and healthy body and mind in order to be able to perform acts of worship (ibadah), but also to contribute his knowledge and efforts for the welfare of society. In the Islamic context, therefore, it is important to understand and appreciate the concepts of halal and haram. Halal food and drink are that which is permitted for Muslims. For instance, in the Quran, on each occasion when the word halal is mentioned with food, the word Thoyyiban is also mentioned: "O ye people halal Eat of what is on earth, lawful and good" (Al Baqarah: 168). Allah commands the believers with what he has commanded the Messengers. He has said: "O you Messengers, eat of the good things and act righteously" (Al Mu'minun: 51). He has also said: "O you who believe, eat of the good things which we have provided for you" (Al Baqarah: 168).

### ***3.5 Contemporary Dietary Habits***

From the above verses in the Quran, we can see clearly that Muslims should give due regard to the food that they consume which would later be part of the body and soul. In this context, Muslims should also pay attention to the pureness (Thoyyiban) of the food. The sad and grim conditions in which farm animals are raised are against the teaching of Islam. For example in the Quran, Allah said: "There is not an animal on earth, nor a bird that flies on its wings, but they are communities like you ..." (Al An'aam: 38). Healthy nutrition means having a balanced diet, in order to maintain the balance that Allah has established in all matters, and to which reference is

made in the Quran: "And He enforced the balance. That you exceed not the bounds; but observe the balance strictly, and fall not short thereof"(Ar-Rahman: 7-9). A balanced diet should be balanced in terms of quantity. Eating too much is contrary to Islamic teachings. In the Quran, we read: "Eat and drink, but avoid excess. . . "(Taha: 81). Healthy nutrition also means a diet that is balanced in its contents. This means that it must have a mixture of the different types of food which Allah has graciously provided for His Creation, in the sense that it satisfies all the bodily needs in terms of proteins, fat, carbohydrates, salts and vitamins. Most of these are mentioned in the Quran. For example, Allah says: "He created cattle which give you warmth, benefits, and food to eat..." (An-Nahl: 5). He also says: "It is He who subdued the seas, from which you eat fresh fish..." (A Nihk 14). Referring to vegetarian food, Allah says: "It is He who sends down water from the sky with which He brings up corn, olives, dates and grapes and other fruit." (An-Nahl: 116). Milk and honey are also mentioned: "In cattle too you have a worthy lesson. We give you to drink of that which is in their bellies, between the chyle and the blood: pure milk, a pleasant beverage for those who drink it." (An Nahl: 66). Allah also says: "From within their (i.e. the bees) bellies come forth a fluid of many hues that provides people with a cure (of illnesses)." (An Nahl: 69).

### ***3.6 Trust and Confidence***

Religion is one of the prospective distinct factors that will form consumption decisions, particularly among "the Muslims" [19]. Religion is a principal point in most societies' intellectual, moving and conative discriminations in the due process of living one's life [18] and this is very significant in feature of food consumption in such societies [2,3,15,22]. A good example relates to Hindus who are harshly vegetarian and traditional Jews who are very afraid of their lawful food [19].

## **4. Methodology**

### ***4.1 Research Design***

This cross-sectional study is done to research the factors that influence trust and confidence in the halal food information sources and institutions in Malaysia. A cross-sectional study is that research conducted only once in a snapshot of one point in time. The respondent answered the questionnaires at one point in time and aims to describe the important factors that are concerned with the halal trust and confidence perception of different people and entities and as well as institutions respectively.

### ***4.2 Research Framework***

The dependent variables are trust and confidence. Trust is the personal credibility of a source of information and confidence is the integrity – a concerned person believes in - which an entity embraces in the process of conducting something [6]. The trust aspect is going to be measured for four sources of information such as media and advertisement, independent expert sources, Muslim sources and Commercial (halal industry) sources, to see whether they are relevant to the Malaysian context especially in International Islamic International University Malaysia. Of interest is whether they represent the factors in Malaysia as they do in the Belgian context as done in [6] work cited before. On top of that, it would be interesting to know whether there any

significant differences in terms of trust between the four sources of information on halal food in International Islamic University Malaysia. Similarly, it would be interesting to note the two surrogate institutions in Malaysia, local Muslim institutions, and foreign Muslim/ non-Muslim institutions - for Muslim institutions and Belgian institutions respectively [5] - are adequately meeting the confidence expectations of the respondents in them. The significant difference in confidence between the two surrogate's entities is also of interest. In the end, it is a replica of [6] work to find out the halal integrity of the halal food industry in Malaysia as perceived by the students of International Islamic University Malaysia by adapting [6] work to the context of Malaysia.

#### **4.3 Instrumentation**

The questionnaire has two sections; section A for Demographics and section B asking opinions about variables - institutions and sources of information - that affect the dependent variables i.e. confidence and trust respectively, in the halal food context in Malaysia. They will be required to fill in a questionnaire (self-administered) that is adapted from [6] work "Muslim consumer trust in Halal meat status and control in Belgium". This is a replication study to validate the itinerary that [6] developed to see whether it can be generalized to Malaysia especially International Islamic University Malaysia. For items measuring the latent constructs, the respondents had to agree or disagree (strongly disagree being measured on a Likert scale of 5 to 1 being strongly agree). The data was reverse coded in SPSS by transforming the data in order to get the correct analysis for the non-parametric tests mentioned below. For each group, a composite score was calculated (mean scores of the item for that group).

#### **4.4 Population and Sampling**

The population is International Islamic University Malaysia's students. The reason it is going to be International Islamic University Malaysia is because this research has limitations considering the time limit constraints (it has to be done within a semester). The sample is going to be convenient sampling extracted by going around campus at random and asking respondents to fill in the questionnaire due to the time constraints and lack of resources to get the population frame. The items are going to be modified to suit the context of the International Islamic University Malaysia environment. Another implication of the limitations of this study is that the population of IIUM is not representative of Malaysia. This is an international university where mostly Muslim students from over 100 countries come to the Malaysian environment. It does give a richer perspective to the study as it brings different experiences, personalities, and culture to the context of the research. The sample is 151 respondents.

#### **4.5 Data Analysis**

An exploratory factor analysis is conducted to see whether each item in the questionnaire adapted from [6] loads onto the factors as they do in their research. They do (more about this later) but the sample size is small and the assumption of normality of data is violated. The sample is around 151 respondents and according to [9] there, "results showed that when data are well-conditioned (i.e., high  $\lambda$ , low  $f$ , high  $p$ ), EFA (exploratory factor analysis) can yield reliable results for  $N$ -well below 50, even in the presence of small distortions".

The exploratory factor analysis was done twice. In the literature, the trust and confidence measures are not the

same thing. Thus, the independent variables were divided into the ones which measured trust and the other that measured confidence when the exploratory factor analysis was run.

After that Kruskal-Wallis test conducted between groups of entities such as media and commercial, independent, Muslim and commercial sources of information (latent constructs) that were extracted in the factor analysis as well as a Mann-Whitney U test done for confidence groups. The scores were reverse coded in SPSS order to make things simpler in interpreting the non-parametric tests' output. Composite scores were calculated for each group by taking out the means of the items constructing each latent group for both dependent variables. These scores were used for the Kruskal-Wallis test and for subsequent Mann-Whitney U test. Further on Mann-Whitney U test were used to find the sources of differences. The reliability of the composite scores was tested and was promising. This is to see whether there are significant differences in trust in each of the information sources by the respondents. Similarly, the two institutions (latent constructs) in another subsection of the itinerary will be compared to see if there are significant differences between the confidence in those institutions of the respondents. Where applicable the source of the difference will be examined.

It needs to be kept in mind that this research is done by convenience sampling and the sample frame is not taken from a population frame that is representative of Malaysia as given by reasons before. On the other hand, the diversity of the sample (IIUM student sample) will give more in terms of perspectives in the source of differences when the relevant Kruskal-Wallis and Mann-Whitney U are conducted.

## 5. Findings

### 5.1 Descriptive Analysis

Descriptive statistics include the mean, standard deviation range of score, and skewness. Descriptive statistics can be obtained in many ways, using frequencies, descriptive, or explore.

In our findings we use frequency, and we separated our variables into categorical variables and a continuous variable for descriptive analysis. The categorical variables are gender, age, Income level, Education qualification, and nationality.

From the Table 1, we can see that our total respondents were 151 from them male are 104 whereas the female is 47. The next categorical variable was nationality, from the total respondent 51 of them were Malay, 8 of them were Indian, 8 of them were Chinese and Others 84. From the total of 151 respondent 40% fall in 20-24 years group whereas 33% fall in 25-29, 17% in 30-35 and 9% 36 and above.

As the age groups reflect that most of the respondent are young, therefore, 98% of the total respondent are Muslim and the remaining 2% are Non-Muslim. As our research took place in the university thus, most of the respondents are student and staff, 2 of the total 151 respondents were diploma and below. From remaining, 55 respondents were the degree holder and other 67 were having Masters and PHD holders are 24 respondents.

**Table 1:** Descriptive statistics of repondents.

Description	Frequency	Percentage
<b>Gender</b>		
Male	104	70
Female	47	31
<b>Ethnicity</b>		
Malay	51	34
Indian	8	5
Chinese	8	5
Others	84	56
<b>Age</b>		
20-24	60	40
25-29	49	33
30-35	26	17
36-Above	14	9
<b>Education</b>		
Diploma	2	1.3
Degree	55	36
Masters	67	44
PhD.	24	16
<b>Religion</b>		
Muslim	148	98
Non-Muslim	4	2

### 5.2 Exploratory Factor Analysis

A questionnaire, using 26 questions to examine trust and confidence in the entities concerned with the halal food in Malaysia, was answered by 151 participants. The aim was to reduce those 26 questions into something more manageable - especially into factors found by [6] in a parallel study done by them. By using exploratory principal components analysis, with Varimax orthogonal rotation and an eigenvalue cut-off of 1.0, we were able to produce four factors for trust that explained more than 78% of the data: independent information sources (six items, with 50% of explained variance), commercial (five items, 13%), media and commercials (four items, 9%) and Muslims (four items, 6%). The outcome is given in Table 3. Our Kaiser-Meyer-Olkin (KMO) Measures of sampling adequacy shows 0.892. This is a good result as it exceeds 0.5. Bartlett's Test of Sphericity is 0.000, which shows that the correlation matrix is not an identity matrix. The result is in Table 2. This is for EFA done on trust.

Table 4 shows all the factors extracted from the analysis along with the percent of variance attributable to each factor and the cumulative variance of the factor. From this table it indicates that the first factor accounts for 50%



of the variance, the second cumulative variance is 63%, the third is 72% and the fourth shows a cumulative variation of 78%. It is obvious that Factor 1 to 4 is significant where the four components account for 78% of the total variance.

**Table 2:** KMO and Bartlett's test for trust dependent variable group

**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.892
Bartlett's Test of Sphericity	Approx. Chi-Square
	2480.375
	Df
	171
	Sig.
	.000

**Table 3:** Rotated Component Matrix for trust dependent variable group.

		Components			
		1	2	3	4
Independent Information Sources	Q10	.809			
	Q5	.756			
	Q9	.755			
	Q8	.754			
	Q7	.751			
	Q6	.739			
Commercial	Q17		.869		
	Q18		.865		
	Q19		.808		
	Q16		.745		
	Q15		.602		
Media and commercials	Q2			.912	
	Q3			.899	
	Q1			.868	
	Q4			.834	
Muslims	Q11				.856
	Q14				.715
	Q13				.659
	Q12				.589

By using exploratory principal components analysis, with Varimax orthogonal rotation and an eigenvalue cut-off of 1.0, we were able to produce two factors for confidence that explained more than 82% of the data: foreign

Muslim/Non-Muslim institutions (four items, with 60% of explained variance), local Muslim institutions (two items, 22%). The outcome is given in Table 6.

**Table 4:** Total variance explained for trust dependent variable group.

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.456	49.766	49.766	9.456	49.766	49.766	4.561	24.008	24.008
2	2.550	13.419	63.185	2.550	13.419	63.185	3.782	19.906	43.913
3	1.676	8.820	72.005	1.676	8.820	72.005	3.679	19.362	63.275
4	1.052	5.535	77.540	1.052	5.535	77.540	2.710	14.264	77.540
5	.654	3.441	80.981						
6	.524	2.759	83.740						
7	.498	2.621	86.361						
8	.426	2.243	88.604						
9	.366	1.926	90.530						
10	.337	1.775	92.305						
11	.256	1.350	93.654						
12	.244	1.285	94.939						
13	.208	1.097	96.036						
14	.178	.939	96.975						
15	.155	.814	97.789						
16	.141	.742	98.531						
17	.106	.560	99.091						
18	.091	.481	99.572						
19	.081	.428	100.000						

Extraction Method: Principal Component Analysis.

**Table 5:** KMO and Bartlett's Test for confidence dependent variable group

**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.845
Bartlett's Test of Sphericity	Approx. Chi-Square	761.496
	Df	21
	Sig.	.000

Our Kaiser-Meyer-Olkin (KMO) Measures of sampling adequacy shows 0.845.

This is a good result as it exceeds 0.5. Bartlett's Test of Sphericity is 0.000, which shows that the correlation matrix is not an identity matrix. This is for EFA done on confidence.

**Table 6:** Rotated component matrix for confidence dependent variable group.

**Rotated Component Matrix<sup>a</sup>**

	Component	
	Foreign	Local
I am confident in foreign agencies regulating halal food in the halal industry globally and in Malaysia.	.887	
I am confident of foreign halal food providers in providing halal food in Malaysia.	.885	
I am confident of foreign halal logos	.873	
I am confident that foreign owned supermarkets sell halal food in Malaysia.	.863	
I am confident that JAKIM can regulate halal food in Malaysia.		.904
I am confident that the local halal logo is trustworthy.		.898
I am confident in Halal Development Corporation's effort to build a credible halal industry in Malaysia.		.863

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

The table below shows all the factors extracted from the analysis along with the percent of variance attributable to each factor and the cumulative variance of the factor.

From this table it indicates that the first factor accounts for 60% of the variance, the second cumulative variance is 82%. It is obvious that Factor 1 to 2 is significant where the 2 components account for 82% of the total variance.

**Table 7:** Total variance explained for confidence dependent variable group

□ **Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.192	59.884	59.884	4.192	59.884	59.884	3.202	45.749	45.749
2	1.567	22.389	82.273	1.567	22.389	82.273	2.557	36.523	82.273
3	.355	5.070	87.342						
4	.321	4.582	91.924						
5	.229	3.276	95.200						
6	.171	2.448	97.648						
7	.165	2.352	100.000						

Extraction Method: Principal Component Analysis.

**Table 7:** Confidence communalities.

**Communalities**

	Initial	Extraction
Q20	1.000	.869
Q21	1.000	.855
Q22	1.000	.771
Q23	1.000	.773
Q24	1.000	.822
Q25	1.000	.844
Q26	1.000	.825

Extraction Method: Principal  
Component Analysis.

The communalities for the confidence in institutions are all above .6 the threshold for Principal Components Analysis. This shows that the items adequately measure the variance in their latent constructs (Table 8).

The communalities for the trust in halal information sources entities are all above .6 the threshold for Principal Components Analysis. This shows that the items adequately measure the variance in their latent constructs (Table 9).

**Table 8:** Trust communalities.

**Communalities**

	Initial	Extraction
Q1	1.000	.838
Q2	1.000	.904
Q3	1.000	.858
Q4	1.000	.761
Q5	1.000	.754
Q6	1.000	.745
Q7	1.000	.729
Q8	1.000	.726
Q9	1.000	.769
Q10	1.000	.798
Q11	1.000	.818
Q12	1.000	.570
Q13	1.000	.730
Q14	1.000	.804
Q15	1.000	.694
Q16	1.000	.787
Q17	1.000	.869
Q18	1.000	.822
Q19	1.000	.757

Extraction Method: Principal  
Component Analysis.

**Reliability Tests**

It is important to find the scales that we have used in the questionnaire are reliable. One of the main reasons to

do the reliability test is to check the consistency. That refers to the degree to which the items that make up the scale are consistent with each other which means all the measuring express the same underlying construct.

**Table 9:** Overall reliability test for trust.

**Reliability Statistics**

	Cronbach's Alpha Based on Standardized Items	N of Items
Cronbach's Alpha	.943	19

For this reliability statistics, we got the Cronbach's Alpha to be 0.941, which means that our measuring is very consistent for items measuring trust.

**Table 10:** Overall reliability test for confidence.

**Reliability Statistics**

	Cronbach's Alpha Based on Standardized Items	N of Items
Cronbach's Alpha	.890	7

For this reliability statistics, we got the Cronbach's Alpha to be 0.891, which means that our measuring is very consistent for items measuring confidence.

**Table 11:** Instrument reliability across trust sources of information about halal food.

Sources	No of Items	Cronbach's Alpha
Media and commercials	4	0.938
Independent information sources	6	0.927
Muslims	4	0.848
Commercial	5	0.926
Total items	19	0.941

For each latent construct measuring trust, the items measuring these latent constructs is very consistent.

**Table 12:** Instrument reliability across confidence in different institutions.

Sources	No of Items	Cronbach's Alpha
Local Muslim Institutions	3	0.901
Foreign Muslim/ Non-Muslim Institutions	4	0.927
Total items	7	0.891

For each latent construct measuring confidence, the items measuring these latent constructs is very consistent.

The reliability test show that the composite scores for each latent construct for its respective dependent variable can be used for further analysis to find where the differences lie in the opinion of the respondents concerning the entities providing information about halal foods and regulating the halal industry in terms of their credibility.

### 5.3 Normality Tests

To figure out whether the differences between the latent constructs of trust and also that of confidence are significant it will be meaningful to conduct normality tests. This will determine whether to use parametric ANOVA or its non-parametric equivalents to find the differences.

**Table 13:** Normality test for trust.

		Tests of Normality					
		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
Personal sources		Statistic	Df	Sig.	Statistic	Df	Sig.
Trust	Media and commercials	.171	151	.000	.941	151	.000
	Independent information sources	.202	151	.000	.931	151	.000
	Muslims	.138	151	.000	.925	151	.000
	Commercial	.099	151	.001	.971	151	.003

#### a. Lilliefors Significance Correction

Based on the sample size normality was not established across the groups by using the Kolmogorov-Smirnov test. As all the p values are significant none of the groups showed normality for trust. The normality was tested for the composite scores for each group measuring trust.

**Table 14:** Normality test for confidence.

**Tests of Normality**

	Institutions/ organisations	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	Df	Sig.
Confidence	Local Muslim institutions	.205	151	.000	.920	151	.000
	Foreign Muslim/Non-Muslim institutions	.157	149	.000	.946	149	.000

a. Lilliefors Significance Correction

Based on the sample size normality was not established across the groups by using the Kolmogorov-Smirnov test. As all the p values are significant none of the groups showed normality for confidence. The normality was tested for the composite scores for each group measuring trust.

Therefore to find if there are significant differences in the respondents' opinions concerning each groups for trust and confidence we need to run Kruskal-Wallis test (equivalent of non-parametric ANOVA) and Mann Whitney U test (equivalent to a non-parametric independent t test)

**5.4 Non-parametric Tests**

The statistical analysis is at 0.05 confidence level for the Kruskal-Wallis test done below. To find the sources for differences the cut off value was set at 0.008 to adjust for multiple comparisons (the predictions are non-specific). Before any of the tests were done it should be noted that the data was transformed (reverse coded) in SPSS to do away with inconsistencies in interpretation of the output.

**Table 15:** Descriptive statistics for constructs measuring trust.

Personal sources for trust	Median Values	95% CI
Media and commercial (N = 151)	4	3.48-3.76
Independent information sources (N = 151)	4	3.81-4.04
Muslims (N = 151)	4	3.84-4.09
Commercial (N = 151)	3.6	3.32-3.59

A Kruskal–Wallis test indicated that there was a significant difference in trust in information sources for halal food, between the information sources groups:  $H(3) = 45, p < 0.001$ . Subsequent Mann–Whitney U tests indicated that IIUM respondents trusted Independent information sources more than media and commercial sources ( $U = 8886.5; N_1 = 151; N_2 = 151; p = 0.001$ ). Muslims are more trusted over media and commercial



sources ( $U = 8612.5$ ;  $N_1 = 151$ ;  $N_2 = 151$ ;  $p < 0.001$ ). There was no significant difference between commercial and media and commercial sources ( $U = 9915$ ;  $N_1 = 151$ ;  $N_2 = 151$ ;  $p = 0.048$ ). There was no significant difference between Independent information sources and Muslim sources ( $U = 10869.5$ ;  $N_1 = 151$ ;  $N_2 = 151$ ;  $p = 0.48$ ). There was significant difference between Independent information sources and commercial sources where the latter was trusted more ( $U = 7329.5$ ;  $N_1 = 151$ ;  $N_2 = 151$ ;  $p < 0.001$ ). There was significant difference between Muslim and commercial sources where the latter was trusted more ( $U = 7194.5$ ;  $N_1 = 151$ ;  $N_2 = 151$ ;  $p < 0.001$ ).

The cut off significance value for Mann Whiney U test is 0.05 done below.

**Table 16:** Descriptive statistics for constructs measuring confidence.

Confidence in institutions	Median Values	95% CI
Local Muslim Institutions (N = 151)	4	3.78-4.05
Foreign Muslim/Non-Muslim Institutions (N=151)	3.25	3.24-3.50

Local Muslim institutions inspired more confidence than Foreign Muslim/Non-Muslim institutions. A Mann–Whitney U test indicated that this difference was significant:  $U=7069.0$ ;  $N_1= 151$ ;  $N_2 = 151$ ;  $p < 0.001$ .

**Table 17:** One Sample Wilcoxon Signed Rank Test for all six groupings.

	Null Hypothesis	Test	Sig.	Decision
1	The median of Media and Commercial equals 3.000.	One-Sample Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.
2	The median of Independent Information Sources equals 3.000.	One-Sample Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.
3	The median of Muslims equals 3.000.	One-Sample Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.
4	The median of commercial equals 3.000.	One-Sample Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.
5	The median of Local Muslim Institutions equals 3.000.	One-Sample Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.
6	The median of Foreign Muslim/Non-Muslim Institutions equals 3.000.	One-Sample Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

All the six latent constructs were significantly different from the neutral status. By looking at median scores in Tables 17 and 16 we can safely assume that significantly respondents tended to believe in the credibility of the halal institutional framework in Malaysia.

## **6. Conclusion**

### ***6.1 Limitation of the Study***

Halal transcends beyond technology, processes, marketing and regulations. Halal living which includes Halal food is the essence of life of a Muslim the dearth of which renders the rest of his Islamic responsibilities worthless. Thus, importance of Halal food is not in the monetary size of the industry but the worth in the eyes of Allah of a practicing Muslim's conformance to consumption of Halal food.

### ***6.2 Recommendation***

This study just exactly does that i.e. to have a monitoring instrument to monitor the Muslim communities perceptions on what they consume and thus in the end affect relevant government agencies' policies in rectifying their mistakes. On top of that the contribution to the theory would be to primarily try to generalize an instrument - that measures integrity of the Halal food supply chain - between nations as a first step to come up with a universal instrument in the future. As a policy the management of IIUM would also be interested in this perception measurement of the credibility of food as being Halal in IIUM as it is an Islamic organization and as such has an Islamic brand image to take care of.

### ***6.3 Summary***

Students of International Islamic University Malaysia have a high degree of trust in the information sources concerning halal food in Malaysia. They have confidence in the local institutions regulating and related to halal food industries and a moderate confidence in foreign institutions. The questionnaire adapted from the Belgian context from [6] research fits very well in the Malaysian context.

For further research it would be interesting to note whether there would be the same results if the sample was representative of Malaysia or if another sample was taken from another country to see if the same conclusions can be applied elsewhere.

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## 7. Appendix

**Table19:** Mann Whitney U test for media vs independent groupings.

Ranks				
	Personal sources	N	Mean Rank	Sum of Ranks
Trust	Media and commercials	151	134.85	20362.50
	Independent information sources	151	168.15	25390.50
	Total	302		

### Test Statistics

	Trust
Mann-Whitney U	8886.500
Wilcoxon W	20362.500
Z	-3.367
Asymp. Sig. (2-tailed)	.001

a. Grouping Variable: Personal sources

**Table 20:** Mann Whitney U test for media vs Muslim groupings.

**Ranks**

	Personal sources	N	Mean Rank	Sum of Ranks
Trust	Media and commercials	151	133.04	20088.50
	Muslims	151	169.96	25664.50
	Total	302		

**Test Statistics**

	Trust
Mann-Whitney U	8612.500
Wilcoxon W	20088.500
Z	-3.713
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: Personal sources

**Table 21:** Mann Whitney U test for media vs commercial groupings.

**Ranks**

	Personal sources	N	Mean Rank	Sum of Ranks
Trust	Media and commercials	151	161.34	24362.00
	Commercial	151	141.66	21391.00
	Total	302		

**Test Statistics**

	Trust
Mann-Whitney U	9915.000
Wilcoxon W	21391.000
Z	-1.977
Asymp. Sig. (2-tailed)	.048

a. Grouping Variable: Personal sources

**Table 22:** Mann Whitney U test for independent vs Muslim groupings.

**Ranks**

	Personal sources	N	Mean Rank	Sum of Ranks
Trust	Independent information sources	151	147.98	22345.50
	Muslims	151	155.02	23407.50
	Total	302		

**Test Statistics**

	Trust
Mann-Whitney U	10869.500
Wilcoxon W	22345.500
Z	-.707
Asymp. Sig. (2-tailed)	.480

a. Grouping Variable: Personal sources

**Table 23:** Mann Whitney U test for independent vs commercial groupings.

**Ranks**

	Personal sources	N	Mean Rank	Sum of Ranks
Trust	Independent information sources	151	178.46	26947.50
	Commercial	151	124.54	18805.50
	Total	302		

**Test Statistics**

	Trust
Mann-Whitney U	7329.500
Wilcoxon W	18805.500
Z	-5.415
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: Personal sources

**Table 24:** Mann Whitney U test for Muslim vs Commercial groupings.

**Ranks**

	Personal sources	N	Mean Rank	Sum of Ranks
Trust	Muslims	151	179.35	27082.50
	Commercial	151	123.65	18670.50
	Total	302		

**Test Statistics**

	Trust
Mann-Whitney U	7194.500
Wilcoxon W	18670.500
Z	-5.572
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: Personal sources

**Table 25:** Mann Whitney U test for local institutions vs foriegn institutions groupings (confidence).

**Ranks**

	Institutions/ organizations	N	Mean Rank	Sum of Ranks
Confidence	Local Muslim institutions	151	178.19	26906.00
	Foreign Muslim/Non-Muslim institutions	149	122.44	18244.00
	Total	300		

**Test Statistics<sup>a</sup>**

	Confidence
Mann-Whitney U	7069.000
Wilcoxon W	18244.000
Z	-5.659
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: Institutions/ organizations

**Table 26:** Income of respondents.

Income		
<b>Below 1000</b>	77	51
<b>1000-1500</b>	40	27
<b>2000-5000</b>	19	13
<b>Above 5000</b>	5	3