Halal Certification: What the SME Producers Should Know.

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Abstract

The receptions of Muslims consumers towards Halal certification are an opportunity for SME producers in competing in the globalized market. The objective of the research is to measure the factors contributing the consumers' behaviors towards purchasing Halal certified products particularly in the food industry. The research tries to identify the factors that contribute to Halal certification using factor analysis and logistic regression. Consumers' data were collected based on 1075 samples. The findings show that there are 11 factors that could contribute to Halal certification awareness. Further analysis using the logistic regression, there are only seven factors that contribute significantly to the importance of Halal certification. The factors are; attractive and quality, Halal certification, market demand, SME producers, Halal certification to Muslim companies, difference between Halal certified and non certified, and clean operation.

Keywords: Halal Certification, Food Product, Malaysia, Factor Analysis, Logistic Regression.

1.0 Introduction

Government's intention in making Malaysia as a global Halal hub has created a new playing field in which the participation of Muslims' SMEs is very much desired. The Halal hub will create opportunities for the Muslims SMIs to penetrate the Halal market such as the Middle East, the OIC countries and the rest of the world. At present, the business and commercial potential of the Halal industry is beyond doubt, with a market of 1.6 billion Muslims and an estimated market size of more than US$600 billion (RM2.1 trillion). According to Federal Agricultural Marketing Authority (FAMA), the market size for frozen food only will increase to RM193 billion in 2010. It is because the total population of Muslims in the world was increased 3 percent a year (Berita Harian, 1 February 2003). However, the Halal products in the market still small and is not sufficient to cater the demand.

The demand for Halal food is on the rise due to greater awareness among Muslims on their responsibility to consume only Halal food. Coincidently, global awareness on how important is food safety, which has been associated with Halal food, has arisen. With advanced technology, it is now possible to analyze the contents of food products with speed and accuracy. In addition, Halal certification, which provides assurance on quality and wholesomeness, results in the increase in demand for such products.

Malaysia is currently in a strategic position to be a leading player in the global Halal business. Accordingly, the Malaysian Government has undertaken measures to support the development of Halal industry as identified in the Second Industrial Master Plan (1996-2005) and The National Agriculture Policy (1998-2010). In tandem with Government's call to make Malaysia as the Halal hub, the State Government of Selangor, Kedah, Malacca, Negeri Sembilan, Perak and Pahang have established industrial Halal parks in their respective states.

1.1 Halal and Haram Concept

Halal is a Quranic word meaning lawful or permitted. In reference to food, it is the dietary standard, as prescribed in the Quran the Muslim scripture. General Quranic guidance dictates that all foods are Halal except those that are specifically mentioned as Haram (unlawful or Prohibited). The Al- Quran mentioned;

"O ye who believe! Eat of the good things wherewith We have provided you and render thanks to Allah, if it is He whom we worship[1]"

The unlawful foods are specifically mentioned in the Glorious Quran-an, in the following verses;

"Forbidden unto you (for food) are: carrion, and blood, and swine flesh, and that which hath been dedicated unto any other than Allah, and the strangled, and the dead through beating, and the dead through falling from a height, and that hath been killed by the gorging of horns, and the devoured of wild beasts saving that which ye make lawful and that which hath been immolated to idols, and that ye swear by the divining arrows".

"Forbidden to you is anything that dies by itself, and blood and pork, as well as whatever has been consecrated to something besides Allah, and whatever has been strangled, beaten to death, trapped in a pit, gored, and what some beast of prey has begun to eat, unless you give it the final blow; and what has been slaughtered before some idol, or what you divide up in a raffle; (all) that is immoral!...[2]"

In general, to determine the Halal-Haram status of foodstuffs and other material, Islam has laid general guidelines on this matter, namely:

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[1] Surah Al-Baqarah; 172
[2] Surah Al-Ma'idah;3

1)   All raw materials and ingredients used must be Halal.
2)   Naturally Halal animals such as cattle, goats etc., must be slaughtered according to Islamic rites, the rituals specify that the act must be performed by a mentally sound Muslim, to sever the blood and respiratory channels of the animal, using a sharp cutting tool such as knife.
3)   The Halal ingredients must not be mixed, or come into contact with haram materials such as products from pig or dog during storage, transport, cooking, serving etc. It must be understood that the production of Halal food is not only beneficial to Muslims, but also to food producers, by means of increased market acceptance of their products.

Islam is the natural way of life. Its economical system is just; its social system is based on cooperation and brotherhood; its political system is based on consultation and its dietary laws are very simple and beneficial for the entire humanity. The life of a Muslim revolves around the concept of Halal. A Muslim must earn income from Halal sources, be involved only in Halal transactions and consume Halal food and drink. The concept of Halal in Islam has very specific motives;

1)   To preserve the purity of religion
2)   To safeguard the Islamic mentality
3)   To preserve life
4)   To safeguard property
5)   To safeguard future generations
6)   To maintain self-respect and integrity.

1.2   Branding

Branding is an act in which an organization uses a name, phrase, design, symbols, or combination of these to identify its products and distinguish them from those of competitors, while brand name is any word, 'device' (design, sound, shape, or color), or combination of these used to distinguish a seller's goods or services (Berkowitz, 1997). Branding can contribute towards enhancing the competitiveness of the country's goods and services. Strong brand can create an identity for Malaysia by differentiating Malaysian products and services in the global market. It involves developing a branding culture throughout the organization and requires commitment in investing towards building a lifetime relationship with the consumer. Halal certification can be a benchmark for Halal products and distinguish it from other competitors.

According to Kotler. P & Armstrong. G (2006), a brand is a name, term, sign, symbol, or design, or a combination of these, that identifies the maker or seller of a product or service (Kotler. P & Armstrong. G 2006). Consumers view a brand as an important part of a product, and branding can add value to a product. For example, Darlie and Colgate is toothpaste and Pampers is a diaper. Brand is very important to promote and sell a product. Brands are more than just names and symbols.

Brands represent consumers' perceptions and feeling about a product and its performance. Everything that the product or service means to consumers. Thus, the real value of a strong brand is its power to capture consumer preference and loyalty. A powerful brand has high brand equity. Brand equity is the positive differential effect that knowing the brand name has on customer response to the product or service. A measure of a brand's equity is the extent to which customers are willing to pay more for the brand. Roland.T. R et.al (2004) found that 72 percent of customers would pay a 20 percent premium for their brand of choice relative to the closest competing brand whereas 40 percent said they would pay a 50 percent premium (Roland.T. R et.al, 2004).

There are a few reasons why brands are important, firstly; brands have never been more important than they are today. Given the proliferation of products and services in the global marketplace brought about by the ongoing liberalization in the international trading environment, developments in ICT and rapid changes due to globalization, consumers today have a wide choice of products and services to choose from. It is thus important that we develop

and promote Malaysian own brand names to differentiate the country's products and services in the marketplace (MATRADE, 2004).

Secondly, in the world of parity where everything tends to be equal, and the world marketplace is a world of commodities, brands differentiate products. The availability of new technologies has enabled companies to easily replicate the products, systems, services and processes of others, generating major strategic problems for businesses in differentiation. Added to this problem is the rapidly decreasing life cycle of products, in some cases now down to a matter of weeks (MATRADE, 2004). On the other hand, halal branding is defines Halal as a cross-over brand that has demonstrated the ability to attract Muslims and non-Muslims alike (Abdalhamid Evans, The Halal Journal, 2006). According to Mohd. Nakhaie, things that are lawful in Islamic religion are termed as Halal and if they are unlawful then they are classified as haram (Mohd Nakhaie, 2005).

This paper discussing the factors that contributes to Halal branding using factor analysis. After the introductory section, the review of literature in Halal product is covered followed by a methodology of the research. The next section describes the findings and discussions. The last section will conclude the discussion and policy recommendation.

2.0   Literature Review

In Malaysia, a few researches have been done on Halal product such as Azrina (2006); Rosly et al (2006) and Nuradli et.al (2007). According to Azrina (2006) although Malaysian's awareness towards local or domestic product have been proven as increasing, however their awareness are still low compared to other countries such as Indonesia and Thailand. The main factor that contribute to this situation is because lack of information on most of the product in the markets. Even some consumers claimed that the products although with Halal logos are still unconvincing. These issues have been further aggravated when often we can read in the newspaper regarding the issue of mismanagement of the Halal logo. Due to the phenomenon above, the researchers would like to measure the awareness of the consumers thus proposing a suitable concept in promoting local Halal products.

Rosly et.al (2006) in their studies in gauging the customers' attitude towards Halal food status in Penang found that customer's attitude towards Halal logo was generally favorable with a mean of 3.978. 40% of the respondents will not buy food products that do not have Halal logo. Based on the percentage and the sample population, it is shocking that even though sample population is comprised of Muslims, the percentage of them buying food products that display Halal logo is very low. The researchers used two methods which are the questionnaire method and the observational method. When the researchers observed these sample populations purchasing behavior, only 18% of them actually looked at the products labels and half of those actually read the label before deciding to purchase the products.

This statistics again shows that the stereotypes of Muslims will always look for Halal products and services are on the opposite. This phenomenon can happen as a result of living in a Muslim country where Muslims have become complacent by assuming that all the products and services produced, manufactured or sold in this country is Halal by nature unless being told otherwise by the relevant authorities.

Nuradli et al (2007) in a research conducted online concluded that female consumers are more concerned that all food and other consumer products should obtain the Halal verification from JAKIM as compared to the male respondents at 5% significant level. A significant finding of the research is that the Indians disagree with the idea of having other than JAKIM to become the authority to come up with the Halal certification.

Shahidan and Md Nor (2006) found some issues and challenges on implementation of Halal certification which are the inconsistency of definition of Halal on the aspect of slaughtering of animal, the introduction of Halal logo by individual firms, the use of Arabic-sounded of Islamic-signaled brand names, the rampant display of Quranic verses by food operators to indirectly signal that the premise is operated by Muslim and that it offers Halal foods and the lack of enforcement by the authorities with regards to the misuse of Halal logos. The main challenge faces by the

government is in the area of enforcement where there is lack of enforcement by the Department of Islamic Development's (JAKIM) in monitoring the usage of certified Halal logo that caused the public to question the validity on some of the products or services claiming to be Halal. In addition, the lack of collaboration amongst the world's Halal certification authorities has created "doubts" amongst the Muslims consumers on the authenticity of the Halal certification process.

3.0   Methodology

Halal products and services cover a wide spectrum of product and service lines ranging from insurance, financial products, food, and also personal hygiene products. For this particular study, emphasis will be given only to the food and beverages industry because when discussing about Halal, this particular industry will be the first to be analyzed and scrutinized.

The method of sampling is through cluster sampling based on locations with high purchasing power. The choice of locations is made based on the purchasing power that these sample have. This is because when the purchasing power is significantly high, the consumers will have a lot of choices to be made in terms of purchase decision. Thus samples from these selected locations are believed to be significant to best represent the Malaysian overall market. To justify the decision to use purchasing power in segmentizing the sample, the researchers are using mean monthly household income and also percentage of incidence of poverty as indicators. The researchers have set RM2000 or higher as the basis for the mean household income and 5% or lower as the basis for the percentage of incidence of poverty in choosing the states in which the respondents are selected from.

According to the data from Household Income Survey (2004) there are 8 states that fall under those particular categories namely Perak, Pulau Pinang, Melaka, Negeri Sembilan, Selangor, Wilayah Persekutuan Kuala Lumpur, Johor and Pahang. The numbers of the sample which have been collected are 1075 respondents.

The questionnaires are divided into three main sections namely demographics of the population, the level of awareness towards Halal as a brand and the perception of the consumers towards Halal product. Factor analysis was used to determine the factors that influence the consumers to buy Halal products.

There will be two analysis methods that are used in this research. Factor analysis will be used to reduce and group the independent variables whereas logistic regression will be used subsequently to analyze the relationship between the categorical dependent variable with the independent variables found in the factor analysis.

Exploratory factor analysis (EFA) seeks to uncover the underlying structure of a relatively large set of variables. The researcher's *à priori* assumption is that any indicator may be associated with any factor. This is the most common form of factor analysis. There is no prior theory and one uses factor loadings to intuit the factor structure of the data. The main applications of factor analytic techniques are: (1) to *reduce* the number of variables and (2) to *detect structure* in the relationships between variables, that is to *classify variables*. Therefore, factor analysis is applied as a data reduction or structure detection method (the term *factor analysis* was first introduced by Thurstone, 1931). Factor analysis is a correlation technique to determine meaningful clusters of shared variance. Factor analysis begins with a large number of variables and then tries to reduce the interrelationships amongst the variables to a few numbers of clusters or factors. Factor analysis finds relationships or natural connections where variables are maximally correlated with one another and minimally correlated with other variables and then groups the variables accordingly. After this process has been done many times a pattern appears of relationships or factors that capture the essence of all of the data emerges. Therefore factor analysis refers to a collection of statistical methods for reducing correlational data into a smaller number of dimensions or factors

Logistic regression is a form of regression which is used when the dependent is a dichotomy and the independents are of any type (Alan Agresti, 1996). Continuous variables are not used as dependents in logistic regression. Unlike logit regression, there can be only one dependent variable. Logistic regression can be used to predict a dependent

variable on the basis of continuous and/or categorical independents and to determine the percent of variance in the dependent variable explained by the independents; to rank the relative importance of independents; to assess interaction effects; and to understand the impact of covariate control variables.

Logistic regression applies maximum likelihood estimation after transforming the dependent into a logit variable (the natural log of the odds of the dependent occurring or not). In this way, logistic regression estimates the probability of a certain event occurring (Imam Ghozali, 2006). Logistic regression has many analogies to OLS regression: logit coefficients correspond to b coefficients in the logistic regression equation, the standardized logit coefficients correspond to beta weights, and a pseudo R^2 statistic is available to summarize the strength of the relationship. Unlike OLS regression, however, logistic regression does not assume linearity of relationship between the independent variables and the dependent, does not require normally distributed variables.

Press et al (1978) make the case for the superiority of logistic regression for situations where the assumptions of multivariate normality are not met a compared to multiple discriminant. They conclude that logistic and discriminant analyses will usually yield the same conclusions, except in the case when there are independents which result in predictions very close to 0 and 1 in logistic analysis (Press, S. J. and S. Wilson, 1978). Logistic regression also does not assume homoscedasticity, and in general has less stringent requirements. It does, however, require that observations are independent and that the independent variables be linearly related to the logit of the dependent. The success of the logistic regression can be assessed by looking at the classification table, showing correct and incorrect classifications of the dichotomous, ordinal, or polytomous dependent. Also, goodness-of-fit tests such as model chi-square are available as indicators of model appropriateness as is the Wald statistic to test the significance of individual independent variables. .

Research hypothesis:
Ho = There is no relationship between the importance of Halal certificate and independent variables (factoring groups)
H1 = There are relationships between the importance of Halal certificate and independent variables (factoring groups)

4.0   Analysis of the findings

4.1 Reliability Test

Reliability test is conducted using Cronbach Alpha. Using reliability analysis, the questionnaire can be determined the extent to which they are related to each other. The overall index of the repeatability or internal consistency of the scale as a whole would be generated and identification of problem items that should be excluded from the scale would be generated too.

Table 4.1.1: Reliability Test Using Cronbach Alpha

Reliability Coefficients	
N of Cases = 1075	N of Items = 45
Alpha = .825	

The Reliability Test for the questionnaires as shown in the table above measures the Cronbach's Alpha is 0.825. Therefore the Cronbach's Alpha is showing internal inconsistency and therefore reliable because it is higher than 0.70 (Nunnally, 1970).

4.2 Section B: Respondents' Demographic Profiles

Table 4.2.1: State of Residence

State	Frequency	Percent
Johor	195	18.1
Selangor	181	16.8
Pahang	163	15.2
Perak	120	11.2
Wilayah Persekutuan Kuala Lumpur	112	10.4
Pulau Pinang	97	9
Negeri Sembilan	59	5.5
Melaka	37	3.4
Kelantan	36	3.3
Kedah	31	2.9
Terengganu	30	2.8
Perlis	4	0.4
Sabah	3	0.3
Sarawak	3	0.3
Brunei	2	0.2
Labuan	1	0.1
Putrajaya	1	0.1
Total	1075	100

The largest respondents are from Johor comprises approximately 18.1% from the total of 1075 respondents followed by Selangor 16.8%, Pahang 15.2%, Perak 11.2% and Kuala Lumpur 10.4%. The rest of the states are below than 10 percent with the lowest from Putrajaya and Labuan. There are also 2 respondents from Brunei Darussalam which comprises about 0.2% from the total respondents.

Table 4.2.2: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	450	41.9	41.9	41.9
	Female	625	58.1	58.1	100.0
	Total	1075	100.0	100.0	

Majority of respondents are female which are approximately 625 respondents or 58.1% from the total respondents. The remaining of 450 respondents are male or about 41.9%.

Table 4.2.3: Race

		Frequency	Percent
Valid	Malay	1000	93.0
	Chinese	38	3.5
	Indian	23	2.1
	Others:kadazan;punjab;siam;indonesian;iban;kemboja	14	1.3
	Total	1075	100.0

We have managed to collect data from various races to get multi ethnic responses on the Halal certification issues. The majority is Malay which turn out approximately 1000 respondents or 93%, Chinese about 38 respondents or 3.5%, Indian about 23 respondents and others about 14 respondents. The non-Malays respondents are small since they are not ready to answer the Halal certification issues perhaps due to their misconception on the possible complication regarding about the issues.

Table 4.2.4: Religion

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Islam	1010	94.0	94.0	94.0
	Buddhist	28	2.6	2.6	96.6
	Christian	18	1.7	1.7	98.2
	Others:hindu ,sikh	19	1.8	1.8	100.0
	Total	1075	100.0	100.0	

Majority of respondents are Muslim which are about 94% and the rest are Buddhist, Christian and Hindu.

Table 4.2.5: Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 to 24	354	32.9	32.9	32.9
	25 to 34	416	38.7	38.7	71.6
	35 to 44	161	15.0	15.0	86.6
	45 to 54	112	10.4	10.4	97.0
	55 and above	32	3.0	3.0	100.0
	Total	1075	100.0	100.0	

Almost 39% of respondents are from the range of 25 until 34 years old which is the highest group of respondents in this survey followed by from the age 18 until 24 about 32,9%. Respondents from 35 to 44 years old are about 161 respondents and from 45 to 54 are about 112 respondents. The lowest number of respondents come from the range 55 and above which comprises only 32 respondents or 3 percent.

Table 4.2.6: Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	523	48.7	48.7	48.7
	Married	539	50.1	50.1	98.8
	Divorce	13	1.2	1.2	100.0
	Total	1075	100.0	100.0	

The marital status from the single and married respondents are almost the same with a difference of about 1.4% only while divorced respondents comprises about 1.2 percent only from the total 1075 respondents.

Table 4.2.7: Occupation

	Frequency	Percent
Government sector	447	41.6
Private sector	253	23.5
Others:retiree;felda settler;housewife;student;forex trader	236	22
Entrepreneurs/Business	92	8.6
Industry/Manufacturing	47	4.4
Total	1075	100

Majority of respondents are from the government sector which are about 41.6% or 447 respondents while 23.5 % come from the private sector. 22% are retirees, Felda settlers, housewife and students, 8.6% are entrepreneurs and the remaining is from the manufacturing sector.

Table 4.2.8: Qualification

Education Level	Frequency	Percent
Diploma/STPM/Certificate	321	29.9
Bachelor Degree	307	28.6
SPM	288	26.8
PhD/Postgraduate	103	9.6
Others:SRP;Form1;Standard6	35	3.3
Professional	21	2
Total	1075	100

Majority of the respondents have diploma (29.9%), followed by bachelor degree about 28.6%, SPM holders about 26.8% and remaining are having postgraduate degree, SRP or professional certificates.

Table 4.2.9: Monthly Household Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than RM1,500	486	45.2	45.2	45.2
	RM1,501 to RM3,000	305	28.4	28.4	73.6
	RM3,001 to RM4,500	139	12.9	12.9	86.5
	RM4,501 to RM6,000	80	7.4	7.4	94.0
	RM6,001 and above	65	6.0	6.0	100.0
	Total	1075	100.0	100.0	

Majority of respondents have a household income lower than RM1500 about 45.2%. 28.4% have a household income in between 1501 to RM3000. 12.9% have a household income in between RM3001 until RM4500 and the remaining 13.4% have a household income more than RM4500.

4.3 Factor Analysis

Factor analysis attempts to identify underlying variables, or factors, that explain the pattern of correlations within a set of observed variables. Factor analysis is often used in data reduction to identify a small number of factors that explain most of the variance observed in a much larger number of manifest variables. Factor analysis can also be used to generate hypotheses regarding causal mechanisms or to screen variables for subsequent analysis (for example, to identify co-linearity prior to performing a linear regression analysis). In this analysis, the factor analysis procedure using the varimax rotation would be used in order to identify the questions that could be grouped together which influence the Halal certification. Furthermore, the reduction of data or uncorrelated questions would reduce the variables used in future analysis.

Table 4.3.1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.866
Bartlett's Test of Sphericity	Approx. Chi-Square	14301.101
	df	990
	Sig.	.000

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The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) test shows that the factor analysis could be done because it is more than 0.5. Therefore no variables would be excluded. In addition the Bartlett's test of Sphericity is significant at 0.000 therefore we conclude that the factor analysis could be further analyzed.

Table 4.3.2: 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	5.870	13.044	13.044	5.870	13.044	13.044	4.666	10.368	10.368
2	4.996	11.102	24.146	4.996	11.102	24.146	3.863	8.583	18.952
3	2.799	6.219	30.365	2.799	6.219	30.365	3.291	7.313	26.264
4	2.258	5.018	35.383	2.258	5.018	35.383	3.004	6.675	32.939
5	1.855	4.122	39.505	1.855	4.122	39.505	1.706	3.791	36.730
6	1.278	2.841	42.346	1.278	2.841	42.346	1.495	3.322	40.052
7	1.241	2.757	45.103	1.241	2.757	45.103	1.492	3.316	43.368
8	1.189	2.642	47.745	1.189	2.642	47.745	1.372	3.050	46.418
9	1.097	2.437	50.182	1.097	2.437	50.182	1.348	2.995	49.413
10	1.084	2.409	52.592	1.084	2.409	52.592	1.269	2.820	52.233
11	1.006	2.236	54.828	1.006	2.236	54.828	1.168	2.595	54.828
12	.974	2.165	56.993						
13	.933	2.073	59.066						
14	.890	1.978	61.044						
15	.860	1.910	62.954						
16	.849	1.887	64.841						
17	.827	1.838	66.680						
18	.801	1.781	68.460						
19	.777	1.726	70.186						
20	.769	1.709	71.895						
21	.761	1.690	73.585						
22	.730	1.623	75.209						
23	.721	1.601	76.810						
24	.687	1.526	78.336						
25	.671	1.490	79.826						
26	.648	1.441	81.266						
27	.620	1.378	82.644						
28	.605	1.344	83.988						
29	.584	1.298	85.286						
30	.569	1.265	86.551						
31	.556	1.236	87.788						
32	.547	1.215	89.003						
33	.521	1.158	90.161						
34	.501	1.113	91.274						

35	.496	1.103	92.377									
36	.488	1.085	93.462									
37	.441	.979	94.441									
38	.426	.946	95.387									
39	.395	.877	96.264									
40	.370	.822	97.086									
41	.358	.795	97.881									
42	.323	.718	98.599									
43	.287	.637	99.236									
44	.202	.449	99.685									
45	.142	.315	100.000									

Extraction Method: Principal Component Analysis.

Based on the total variance, there are 11 factors were extracted because the eigenvalues is higher than 1 for the respective factors. Based on the extraction it is noted that factor 1 could explain (13.044%), factor 2 (11.102%), factor 3 (6.219%), factor 4 (5.018%), factor 5 (4.122%), factor 6 (2.841%), factor 7 (2.757%), factor 8 (2.642%), factor 9 (2.437%), factor 10 (2.409%) and factor 11 (2.236%) of the variation. The total 11 factors could only explain 54.28% of the total variations.

Table4.3.3: Rotated Component Matrix(a)

	1	2	3	4	5	6	7	8	9	10	11
I always buy the halal products through newspaper	0.909										
I always buy the halal products through the radio	0.885										
I always buy the halal products through brochure	0.87										
I always buy the halal products through banner	0.83										
I always buy the halal products through advertisement	0.82										
I always buy the halal products through words of mouth	0.627										
I always buy the halal products at the stall		0.754									
I always buy the halal products at the place closed to my office		0.719									
I always buy the halal products at the fast food restaurant		0.717									
I always buy the halal products at the restaurant		0.715									
I always buy the halal products at the place closed to my house		0.693									
I always buy the halal products at the grocery		0.609									
I always buy the halal products at the market		0.568									
I always buy the halal products at hyper market											
Halal products in the market are in good quality			0.775								
The features of halal products in the market are according to consumer taste and current requirement			0.741								
Halal products in the market have attractive design			0.728								

Item											
Products with halal certification are normally in high quality			0.689								
Packaging of halal products in the market are suitable with current packaging			0.571								
Halal products in the market includes all types of consumers products			0.558								
Halal certified products should be monitored from any fraudulence				0.685							
Manufacturers which deceive on its halal certificates should be penalized accordingly				0.679							
it is important to have warranty on halal products				0.617							
Halal certified products are suitable for global market				0.534							
Halal products' brand are important for consumers											
Halal products manufactured in Malaysia should get halal certification											
I always buy the halal products at the promotion period											
Food products with halal certification are generally more expensive than the one without halal certification					0.741						
Products with halal certification are relatively more expensive compared to non-certified products					0.715						
Lower price means lower quality					0.569						
I always buy the halal products after you tried the sample						0.699					
Price has always be the main determinant when purchasing halal food and beverages						0.504					
I always buy the halal products if it has a free gift											
I always buy the halal products at discount											
Demand for halal products are determine by the size of the market							0.633				
Halal products with extra services are more attractive							0.559				
Halal food products are cheaper when being sold at hypermarket											
Products manufactured by SMEs are generally cheaper								0.707			
SMEs halal food product manufacturers are more reluctant to give manufacturer discount compared to the large companies								0.521			
Halal certification should be awarded to Bumiputra's manufacturer only									0.781		
Halal products are for Muslim only									0.574		
The difference in term of price between halal food product in the same category is small										0.704	
Halal products are manufactured in clean operations											0.574
I always buy the halal products through internet											

It is difficult to get product with halal certification												

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 12 iterations.

Based on the varimax rotated components, the factors could be extracted to 11 factors based on the factor loadings which are higher than 0.5. The Cronbach alpha is analyzed and the result is 0.806 which is reliable and consistent. Based on the factor analysis we could regroup the factors to 11 groups with the subheadings as listed below.

Factor 1 PROMOTION
Factor 2 PLACE
Factor 3 ATTRACTIVE AND QUALITY
Factor 4 HALAL CERTIFICATION
Factor 5 PRICE
Factor 6 PRODUCT SAMPLES
Factor 7 MARKET DEMAND
Factor 8 SME PRODUCERS
Factor 9 HALAL CERTIFICATION TO MUSLIM COMPANIES
Factor 10 DIFFERENCE BETWEEN HALAL CERTIFIED AND NON CERTIFIED
Factor 11 CLEAN OPERATION

From the above analysis there are 11 factors that could influence the customers to buy Halal products.

4.4 Logistic Regression for Halal Certification

This analysis is conducted to identify the factors which are important in Halal certification using logistic regression. The consumers who believe that Halal certification is important will be categorized as 1 and the consumers who believe that Halal certification is not important will be categorized as 0.

In assessing the model fitness, Hosmer and Lemesshow test is conducted. The hypothesis for the testing the model fitness is as follows:

Ho = The hypothesized model is fit with the data
H1 = The hypothesized model is not fit with the data

The Hosmer and Lemesshow test result is as follows:

Hosmer and Lemesshow Test

Step	Chi-square	Df	Sig.
1	1.566	8	.992

The above result failed to reject the null hypothesis, therefore we accept the null hypothesis and the hypothesized model is fit with the data.

Table 4.4.1: The Importance of Halal Certification

Observed	Predicted	
	Halal certification is important	Percentage Correct

		.00	1.00	
Halal certification is important	.00	39	61	39.0
	1.00	11	964	98.9
Overall Percentage				93.3

a. The cut value is .500

Based on the classification 2 X 2 table, it shows the correct and incorrect estimation value. Based on the above table it is noted that 100 respondents who believe that Halal certification is not important in the observation but in the prediction there are only 61 respondents. Therefore the accuracy of the classification is about 39.0%. In contrary, there are 975 respondents who believe that Halal certification is important in the observation but there are only 964 respondents in the prediction. Therefore the accuracy is about 98.9%. The overall accuracy for both the satisfied and unsatisfied respondents is approximately 93.3%.

Table 4.4.2 Variables in the Equation for Importance of Halal Certification

		B	S.E.	Wald	df	Sig.	Exp(B)	95.0% C.I.for EXP(B)	
Step 6	Attractive and quality	0.744	0.141	27.783	1	0	2.103	1.595	2.773
	Halal certification	1.259	0.127	97.898	1	0	3.522	2.745	4.519
	Market demand	0.372	0.135	7.562	1	0.006	1.451	1.113	1.891
	SME producers	0.586	0.141	17.36	1	0	1.796	1.364	2.366
	Halal certification to Muslim companies	-0.279	0.135	4.266	1	0.039	0.756	0.58	0.986
	Difference between Halal certified and non certified	-0.347	0.13	7.161	1	0.007	0.707	0.548	0.911
	Clean operation	0.956	0.136	49.294	1	0	2.6	1.991	3.395
	Constant	3.492	0.212	271.465	1	0	32.861		

c Variable(s) entered on step 3: FAC9_2.

Based on the above logistic regression result, it could conclude that the importance of Halal certification could be given by the following logistic model. There seven independent variables factors that are significant in influencing the Halal certification are:

Ln p/1-p = 3.492 + 0.744 (Attractive and Quality)* +1.259 (Halal Certification)* + 0.372 (Market Demand)* + 0.586 (SME Producers)* – 0.279 (Halal Certification to Muslim Companies only) - 0.347 (Difference Between Halal certified and Non Certified)* + 0.956 (Clean Operation)*

Or

p/1-p = e $^{3.492\ +\ 0.744\ (Attractive\ and\ Quality)^*\ +1.259\ (Halal\ Certification)^*\ +\ 0.372\ (Market\ Demand)^*\ +\ 0.586\ (SME\ Producers)^*\ –\ 0.279\ (Halal\ Certification\ to}$
Muslim Companies only) - 0.347 (Difference Between Halal certified and Non Certified)* + 0.956 (Clean Operation)*

The seven factors that significantly contribute positively to the importance of Halal certification are Attractive and Quality, Halal Certification, Market Demand, SME Producers and Clean Operation while two factors contribute negatively to the importance of Halal certification which are Halal Certification to Muslim Companies Only and Difference Between Halal certified and Non Certified factors. The negative relationship shows that the consumers did not believe that the certification of Halal should be given to Bumiputra companies only and the Halal products

are meant solely for Muslims. Therefore the negative result implies that Halal certification is for all and not confined to Bumiputra manufacturers and Muslim consumers. The highest positive factor for the Halal certification is Halal certification factor, which implies that the consumers demand that the Halal product to be monitored from any fraudulence, an d manufacturers which deceive on its Halal certificates should be penalized accordingly. In addition, warranty on Halal products is also demanded by the consumers and the Halal certified products are suitable for global market.

5.0   Discussions and Policy Recommendations.

All the 11 factors were determined using the factor analysis procedures and could be further analyzed in future research. The 11 factors identified are promotion, place, attractive and quality, Halal certification, price, product samples, market demand, SME producers, Halal certification to Muslim companies, difference between Halal certified and non certified and clean operation. It is recommended for the policy makers and halal products marketers to take into consideration all the 11 factors that could influence the consumer behaviors. However there are only seven factors that contribute significantly to the importance of Halal certification positively and negatively. The factors are Attractive and quality, Halal certification, Market Demand, SME Producers, Halal Certification to Muslim Companies only, Difference Between Halal certified and Non Certified, and Clean Operation.

In ensuring that the producers/manufacturers and the consumers could have a win-win situation, it is recommended that all the factors should be considered by the manufacturers or producers. This would enable the producers to gain reasonable profit and the consumers to obtain products which are halal as promulgated by Islam. The major important finding in this research is the consumers are demanding that the SMEs to get the Halal certification and the entrepreneurs should grab this opportunity because the Halal certification would be a contributing factor in the consumer purchase decisions and failure to get the Halal certification would be a competitive disadvantage for the SMEs.

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