Knowledge on Compositions of Ingredients in Syubhah Semi Processed Food and Muslim Consumers Purchase Behavior

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Abstract

The concern on halal, haram and syubhah are directly related with the ingredients used particularly in the semi processed food products such as yellow noodle, kue teow, fish ball, fish cake and Tofu. In other words, these three concepts are the important religious elements in shaping Muslim consumers' attitudes by which it also influenced their food purchasing behavior. This study empirically examines the causal relationship between knowledge on syubhah semi processed food in regards to the composition of ingredients of the semi and rural Muslim consumers purchase behavior. This causal research design used the quantitative approach to the semi and rural consumers in Kedah as the sample of the study. Through a self-administered survey, 780 usable questionnaires were successfully collected. A Multivariate Structural Equation Modelling (SEM) via Partial Least Square (PLS-SEM) is used to answer the research objective, research question and hypotheses. The results provide evidences that there is a linkage between knowledge of syubhah semi processed food in regards to the composition of ingredients and consumer purchase behavior. The remarkable findings from this study indicated that without knowledge on the characteristic of the products, consumers still purchase the product although they are still in the doubtful stage.

Keywords: Halal, Syubhah, Semi Processed Food and Consumer Purchase Behaviour.

Introduction

Islam is confined into three basic concepts which are 1) Halal (permitted), 2) Haram (prohibited) and 3) Syubhah (ambiguity). In general, halal means lawful, permitted, pure, wholesome and recommended by the Islamic law (Dahalan, 2008; Man & Yahaya, 2014; Aziz & Nyen, 2013). Haram on the other hand refers to unlawful, not permitted, unwholesomeness and specifically not recommended by the Islamic law (Al Ghazali, 2013; Qaradhawi, 2014) and those that contradict with the above mentioned conditions while syubhah is the ambiguity between halal and haram and its inclination is descending more towards Haram (Man & Yahaya, 2014; Al Ghazali, 2013; Qaradhawi, 2014; Hamdan, Issa, Abu, & Jusoff, 2013). In this sense, a Muslim is strongly advised to practice good religious understanding besides having the awareness on the issue of syubhah or doubtful as halal in order to avoid them to consume something that is Haram as well as committing sin (Aziz & Nyen, 2013; Man & Yahaya, 2014). A good Muslim will usually aware of this order which came from Allah and this also portrays their self-identity as a Muslim.

Malaysian Muslim consumers as similar to other Muslims in the world with regards to food, undeniably put their greater concern on the three concepts as mentioned above. Muslim consumers as the highest population in this country have been undoubtedly clarified that the food products obtained or bought from any market place should religiously fit for their consumption (Rahman, Ahmad, Mohamad, & Ismail, 2011; Ambali & Bakar, 2014; Hamdan, Issa, Abu, & Jusoff, 2013). The concern basically relates to the halal status of the ingredients used, preparation and cleanliness of the products either on dry, wet, fresh, canned or processed food (Dindyal, 2003). In short, halal, haram and syubhah are the important religious elements in shaping Muslim consumers' attitudes that which also influenced their food purchasing behavior (Delener, 1994, Pettinger, Holdsworth & Gerber, 2004; Al-Hyari, Alnsour, Al-Weshah, & Haffar, 2012) and eating decisions (Blackwell and Miniard, 2001 and Ambali and Bakar, 2014).

Despite those notions, owing Malaysia as a multi-racial and multi–religious country with multi religions food producers, there are noticeable arguments that semi processed food products such as Tofu, kway teow, yellow noodles, fish ball and fish cakes available in the marketplace are not confirmed on their halal status or it has fallen to the state of syubhah (Ambali & Bakar, 2014; Hassan, Stephen, Anuar & Cyril, 2009) despite the implemented law. Most of the situations happened in regards to syubhah semi processed food products and basically this issue does not only involve the cleanliness or in compliance with stipulated standard of the cleanliness (Berita Harian, 2015) but also on the issue of using non-permissible food chemical and additives (Ministry of Health Malaysia, 2010; Talib, Ali, & Jamaludin, 2008), fraud and integrity (Ali, Marzuki, & Halim, 2014) and manipulated ingredients too (Mufti Department of Brunei, 2012). This situation has contributed towards a serious consequence not only to Muslim consumers but to food manufacturers, relevant authorities and the nation as a whole. This has also given an impact on the consumer purchase behavior especially on the Muslim concern of the halal status.

Purchase behavior refers to the process of decision making and consumer action that engaged in purchasing and using the products (Sarker, Bose, Palit & Haque, 2013). Purchase behavior also involves the understanding on the process involved in purchasing from

searching, purchasing, using, evaluating and disposing in order to satisfy the consumers' needs (Solomon, Russel & Previta, 2013). As stipulated by Kotler & Keller, (2015), there are five stages in a decision making model which influence the consumers to purchase; 1) identifying the problem; 2) searching information; 3) evaluating the alternatives; 4) choosing the product and; 5) post-purchase evaluation. From the five stages, one of the elements that involved in consumers' decision making is the search of information and thus the need for suitable knowledge on the components of the products such as the composition of ingredients should actually be addressed before consumers could make any decision of purchasing the products.

Knowledge in terms of the composition of ingredients not only can help the consumers to identify the ingredients used, but it can also prevent them from using low quality products besides assisting the consumers in considering the products to be purchased either they have high nutritive value or not. (Petrovici, Fearne, Nayga & Drolias, 2012). Other than that, by understanding the composition of ingredients, consumers can identify which products they feel safe to eat in terms of hygiene and safety and also allergic reaction in planning their daily diet (Canavari, Castelini & Spadoni, 2010; Rajamanickam, Ganesan & Ravindran, 2012 and Hart, 1997). In the context of Muslim consumers' perspective, knowledge on the composition of ingredients basically helps in terms of assisting the consumers to avoid the issues associated with Syubhah which deals with the purity of the ingredients, the use of high dose of chemical and additives, unethical manufacturing and technology aspects (Marzuki, 2012).

To compare between location and consumers, semi and rural Muslim consumers are more prone to *syubhah* towards semi processed food than those urban Muslim consumers, although they are highly sensitive in religious beliefs (Rezai, Mohamed, & Shamsudin, 2012). In addition, some of the local medium semi processed food producers through its grocers especially among the non–Muslim in the semi-rural districts are selling the yellow noodles, kway teow, fish ball, fish cake, tofu and many other products that are still doubtful in terms of the composition of ingredients (Hamdan, et.al, 2013; Yunus, Chik & Mohamad, 2010). Dali, Nooh, Nawai & Mohammad (2009) and Ambali & Bakar (2014) in fact noted that the semi and rural Muslim consumers with no option or having no other alternative ended up buying those semi processed food products without a glance in looking at the product components or compositions compared to the urban Muslim consumers. These situations have actually raised few questions. i) Do Muslim consumers in the semi and rural area in particular actually have the knowledge on *syubhah* semi processed food in regards to the composition of ingredients?; ii) Do they concern on the composition of ingredients?; iii) To what extent the influence of knowledge on Syubhah semi processed food in regards to the composition of ingredients affected towards Muslim consumer purchase behavior? As these scenarios contributed towards a serious implication, the understanding on how the semi and rural Muslim consumers deal with Syubhah or doubtful halal semi processed food in the aspect of composition of ingredients needs to be undertaken and holistically investigated. Significantly, this study highly impacted the Muslim consumers, the semi processed food producers and the relevant authorities particularly in state level.

Based on the literature, the available studies dealing with Muslim consumers mostly concerned on halal food products. In the restaurant sector, studies are centrally focused on the Halal certification (Marzuki, Colin & Ballantine, 2012a), customer perception (Al-Nahdi, Ismail, Haron & Islam, 2009) and Halal logo (Muhammad, Isa & Kifli, 2009). In halal logistics, most available studies are looking at the halal meat logistics (Tieman, Ghazali & Vorst, 2013), consumer perception (Bruil, 2010) and supply chain (Omar, Jaafar & Osman, 2013). Despite these, there are still less investigation to date, particularly on the causal relationship between Syubhah semi-processed food products in terms of the composition of ingredients and Muslim consumers purchase behavior (Mukhtar & Butt, 2012; and Lada, Tanakinjal & Amin, 2009). In addition, many researchers also suggested that the area of interest that needs to be further investigated is the consumers' knowledge on the composition of ingredients (Mohamed, Rezai, Shamsudin, & Chiew, 2008). Therefore, this study is aimed to review this issue by using the hypothesis below.

H1: *There is a significant relationship between knowledge on compositions of ingredients of syubhah semi processed food and Muslim consumers purchase behavior.*

Literature Review
Syubhah

A strong clarification from Al Bakri translated from Qaradhawi (2014) is that; if the Halal and Haram are accumulated together then Haram will win. However, in between amenable of halal and haram, there comes a word which is *Syubhah* as part of the balance of Islamic sharia rules and regulation. *Syubhah* also originated from the Arabic root word *Syabaha* which means near to, parallel, glimmer, suspected, or unclear things that are suspicious and doubtful in terms of halal and haram status (Man & Yahya, 2014). Mukhtar & Butt (2012) clarified *syubhah* as a certain condition that rises which are difficult to be clearly categorized whether they are halal or haram. In other words, *syubhah* is pronounced due to the unclear explanation or any doubtful products related to haram and halal status, which needs to be comprehensible to comply with the decree of *fatwa*. According to Man & Yahya (2014), in order to determine the amenable of *syubhah*, the *Mujtahid* or Islamic scholars need to refer the *dalil-dalil* in the Al Quran , sunnah, *ijma'* and *qisas*.

Man & Yahya (2014) quoted from Imam Al Ghazali's book, "Ihya Ulumuddin" which highlighted four principles considered as *Syubhah* that are; a) when two agreement between halal and haram are encountered for any consumable or non- consumable products; b) something that is known as haram or being doubted to the salient that can be changed into halal - *Syubhah* and compulsory to be avoided and the status is haram to consume. This statement refers to any substances that has been stated in the Qur'an as haram to consume or used such as pig and its derivative that cannot be reprocessed or mixed with other chemicals to alter the original structure for any purpose whatsoever; c) something in principle that is considered as halal but being questioned about the sources of the ingredients used. For example, noodle is considered as a halal product but when the type of the oil used to extend it shelves life is from questionable animal products like lard make it the doubtful; d) something that is initially known as halal, but it comes to a new discovery that the ingredients used to compose it is something that is questionable and thus it falls to be haram. For instance, a person that examines the state of the two water vessels and with his assumption

(Ijtihad) and based on a certain sign, he confirmed that one of vessels probably contain impure or ritually unclean or *najs* and therefore, that particular water vessels should be judged as haram to drink or forbidden to be used for *wudu* (praying water). In sum, *Syubhah* is related to anything that is doubtful and questionable between halal and haram but appeared to be more towards haram.

Consumer Purchase Behavior

Generally, consumer purchase behavior is defined as a process of decision making and consumer action that engaged in purchasing the products (Schiffman & Kanuk, 2007). By some definitions that derived from previous studies, Tieman & Ghazali (2013) defined that consumer purchase behavior is related to the process of gathering the information before buying and the activities in purchasing. This in other words, involves a high expectation before the consumer buys a product or service until purchasing behavior took place. As in consumers' perspective, Sarker, Bose, Palit & Haque (2013) clearly defined consumer purchase behavior as how a consumer displayed their behavior and how he or she act to purchase the products or services which includes the process of searching, purchasing, using, evaluating and disposing in order to satisfy their needs.

Consumer purchase behavior reflects on many inquiries that refer to why consumers make purchases, factors influencing consumers' purchases and changes in community factors (Haroun, Zahari, Zain & Zulkifly, 2016). It covers various aspects such as recognition, information search, evaluation of alternatives, the building of purchase intention, the act of purchasing, consumption and final disposal (Schiffman, Kanuk & Wisenblit, 2010).

Reflecting to Muslim consumers, their purchase behaviors are highly controlled by the halal requirement regardless of the products (Ozgen & Kurt, 2013). With the Islamic teaching and guidance, the Muslim's behavior is associated to Islamic knowledge and understanding (Mukhtar & Butt, 2012) that Muslims will avoid all the products that are proven haram and syubhah. Alam & Sayuthi (2011) noted that the consumers, in particular; those who are highly religious is more careful in their purchase decision, more matured, disciplined and practiced good manners compared to those who are the other way around. They also insisted that Islamic religion portrays that Muslim consumers are of high social value and can influence others to follow their purchase attitude. In contrast, Essoo, Nitty and Dibb (2004) in their study, looking at the religion's influence on consumer shopping behavior found that loyal Muslim consumers are more tolerant and easier to accept certain products rather than casually religious Muslim consumers in terms of product quality, nutritional value and service quality. In this sense, casually Muslim consumers are more demanding and strict in terms of selecting and consuming the products, meanwhile the loyal Muslim consumer were less likely to engage in searching the information. This indicates that the a person with high religious values are basically affected in purchasing the products in market in terms of their purchase behavior.

Composition of Ingredients

On a basic knowledge, the composition of ingredients is a substance that forms part of the mixture (Abbot, 1997) or sources of foods and seasoning used in cooking that are formed to be food mixture (Duyff, Hasler & Ohl, 1990). In a specific and detailed explanation,

Greenfield & Southgate (2003) referred composition of ingredients as the process of identifying, composing, mixing and determining inclusive raw and artificial ingredients with or without chemical substances in the food through new methodology and sophisticated equipment. It is the process which involves the constituent which undergoes a few process starting from the analysis, chemical lab research and substances reaction description of the ingredients in foods which can relate to the energy and nutrients such as protein, carbohydrates, fats, vitamins and minerals and other important nutritional components (Post, Shanahan & Johnson, 2008) up until the bad consequence which gives the side effect that harms the human life (Wheelock, 1989). Each of the ingredients serves a particular function and contributes to the basic characteristic of a food product (Duyff et al, 1990).

From a consumer's perspective, the composition of ingredients information is valuable for them in order to know what the main ingredients in the product are and it also helps them to determine whether the product is safe or not to be consumed (Rajamanickam, Ganesan & Ravindran, 2012). It has also contributed to the information concerned with the allergic reaction to the human body (Rajorhia, 2006). Besides, through ingredients composition information, consumers can plan their daily food diet with ingredients of better quality (Hart, 1997). Goff & Hartel (2013) in their book's chapter on the composition and formulation ice cream ingredient explained that; in order to get the best bit or mixture, the manufacturer need to consider the availability of the raw ingredients, product quality, factory equipment and the processes as well as the legal requirements, demand and supply, market competition and cost effective of the product. They further contended the selection of ingredients basically determines whether the ingredients are low, intermediate or high in quality and the decision made by the manufacturer to set the ingredient quality and next, the production automatically will involve the artificial ingredients perhaps to enrich the product at a low cost and being able to withstand the quality of the product.

Looking at Muslim consumers' awareness, the *syubhah* or the doubtful halal on food products is not just only dealing with the purity of the ingredients, but it also involves the chemicals, production and technology used and the elements to process the products (Nasarudin et.al, 2011). It can be said that manipulation of ingredients beyond Islamic way, the used of banned substances, chemical food as well methodology and supply chain which does not follow the Islamic standard are classified as irresponsible practices (Marzuki, 2012).

Semi Processed Food
In general opinion, semi processed food refers to food products that are produced subjected to partial processing by the manufacturer or the processors (Fortuin & Omta, 2009). In food diet and health perspective, semi processed food is classified as a half-finished food product that is considered the raw material to be used in further manufacturing processes (Hawkes, Blouin, Henson, Drager & Dubé, 2009). Meanwhile, in the perspective of food technology, De Boer, McCarthy, Cowan, & Ryan (2004) defined semi processed food as:

" A convenient food that fully prepared or partially prepared food items where some or all of the preparation time, culinary skills or energy inputs are provided by the food processor-distributor rather than in the home-makers kitchen."

Based on the consumers' perspective, a semi processed food is defined as a suitable food product that suits the user to continue to consume it with less preparation or the preparation process is reduced (Ogden & Henrik 2007). In addition to that, the consumer realizes that the semi processed food product has been produced all the way in the industrial processes through the use of chemical food - packaged, canned and boxed with a specific expiry date (Osman, Osman, Mokhtar, Setapa, Shukor & Temyati (2014). In reference specifically to the Islamic food context, Islamic Food and Nutrition Council of America (IFANCA, 2008) declared semi processed food as a food or ingredients which gone through the partial modification in the processing activities from fresh to convenience which obtained the halal certification standards that are taken into consideration in the aspects of it wholesomeness, environmentally conscious, purity, cleanliness, hygiene and sanitation.

In line with the above notion, many reported that science and technologies have substantially gearing either the small, medium and big food manufacturers to produce various types of semi processed food products (Chaudhry, Scotter, Blackburn, Ross, Boxall, Castle, Aitken & Watkins, 2008; Utusan, 2011). According to Mc Clements, Vega & Mc Bride (2011), the apparent various semi processed foods is resulted from the advances in food science and technology that enables the communities to obtain the products throughout the year or in other words, they are conveniently available. Semi processed foods make a product sustain in the market to meet the consumers' needs (Chaudry et.al, 2000). The availability of semi processed food help the consumers by saving time, the cooking process and it is also lower in terms of cost of consumption. Hui, Lim, Nip, Smith & Yu (2004) differentiated the purpose of the semi processed food between modern reasons and traditional reasons from manufacturers' perspective. They explained that; the reasons besides producing the last longer food product is that - the process is becoming more complex due to value to food, improving visual appeal and convenience where meanwhile, the traditional reason only confined towards avoiding products spoiling.

Rural and Urban Boundary
In Malaysia, the Department of Statistics Malaysia (2015) classified population areas into two categories that are; a) urban and b) semi and rural. Urban is defined as the gazetted area with its adjoining built-up areas, with a combined population of 10,000 or more; or a special development area that can be identified, with at least a population of 10,000 where at least, 60% of the population (aged 15 years and above) is involved in non-agricultural activities. The semi and rural on the other hand are defined as a settlement covering all types of small towns and villages and small settlement with less than 10,000 population characterized by agricultural areas and agro-nature. In short, the characteristics of semi and rural are as follows:
a) The population is less than 10 000 people
b) Settlement Patterns are scattered, cluster, along and central
c) The economy basis is based on agriculture, industry and natural products
d) Socio-cultural activities include rural organization, family institution, community activities and culture.
As this study is concerned with the semi and rural areas of Muslim consumers, the preceding definition will be used particularly dealing with the information gathering.

Methodology
Sampling and Instrument

The information were gathered using a quantitative approach that looks into causal and effect investigation, cross-sectional study and non-experimental approach with a self-administered survey questionnaire. The population, unit of analysis and the sample was among the individuals who are basically Muslim consumers in the semi and rural areas who experienced purchasing semi processed food in Kedah. These types of consumers are believed to be well experienced in purchasing semi processed food such as kuey teow, yellow noodle, fish ball, fish cake and Tofu (Hamdan, Isa, Abu & Jusoff, 2013; Yunus, Chik & Mohamad, 2010). The total targeted respondents are approximately around 1600 Malay Muslims from the twelve (12) districts in Kedah. By using quota sampling, respondents were initially asked three questions: a) age of the respondents (range between 25 - 39 years: 40 – 54 years: 55 – 69 years: and 70 years and above, b) are they from the respective community and c) have they had experience in consuming semi processed food. Those who met these criteria are then invited to be part of the survey. With the pre-requisite and condition on the selected respondents, the process of gathering the data has managed to collect 780 questionnaires in 40 *mukims*.

Research Instrument

In this study, the independent variable is the composition of ingredients whereas the consumer purchase behavior is the dependent variable. The survey instrument consists three sections with Section A on the information about the respondents' demographic profile while Section B is designed to measure the Muslim semi and rural consumers' perception on the composition of ingredients and lastly Section C is created to examine their purchase behavior on the semi process food products.

Respondents are required to respond their view based on a five-point Likert scale ranging from 1 with "strongly disagree" to 5 "strongly agree. Most items were adapted from the previous related studies with minor modifications made on the wordings to address the specific needs of the current research as well as to suit the objectives of the study (Churchill & Iacobuchi, 2010). Owing to the local and in rural areas, Bahasa Malaysia version of questionnaire survey is used. A pilot study was conducted to verify and confirm the reliability and validity of the items used before a final version of the questionnaire is confirmed.

Procedure for Data Collection

The total targeted respondents are approximately around 1600 Malay Muslims from the twelve (12) districts. Before the actual data collection, the approval from the relevant authority needs to be obtained. The consent letter and cover letter from the university were initially mailed to the selected twelve Districts Officers seeking for the approval of undertaking the survey, name and contact numbers of forty village headman in these districts. After a week, the follow up phone calls were made to confirm that they have received the letters. After two to three weeks period, the approval was successfully granted from all twelve district officers together with the name and contact numbers of forty village headmen.

Subsequent to this, the forty village headmen in twelve districts were contacted via phone in further obtaining the permission of undertaking a survey among the Malay Muslim in their village. With the approval letter obtained from the twelve district officers, all forty village headmen understood on the attention, therefore they have allowed the researcher and his research assistants in undertaking the survey. The dates and time scheduled for the surveys to be carried out were then prearranged which required unlimited flexibility on the part of the researcher.

It is worth mentioning that some of the Muslim consumers who were buying necessities in selected sundry shops in forty semi and rural areas were approached and requested to be part of the survey. In respond to the quota sampling, they were initially asked on the three questions: a) age of the respondents (range between 25 - 39 years: 40 – 54 years: 55 – 69 years: and 70 years and above, b) are they from the respective community and c) have they had experience in using semi processed food. Those who met these criteria are then invited to be part of the survey.

Prior to answering the questionnaire, the respondents were briefed on the aim of the study and the purpose of the survey conducted and they were also informed that the information provided would be strictly kept confidential and no single respondent involved would be identified. Some problems were accoutered during the survey and thus such problems need to be addressed;

a) Some of the respondents were reluctant to participate in the survey and gave various reasons and some of them flatly refused to answer although the total number of respondents by the end of the day was substantial. Among the most popular reasons are that they have no knowledge of answering the questions and they are not the right person for that purpose.

b) Some of the respondents refused to listen just for one (1) minute and they hastily left the venue where some claimed that they do not know much about semi-processed food.

Despite these issues, after explanation and assistance from the researcher and research assistants on the subject matters, the survey was successfully undertaken although the whole process of data collection took almost four months. With that, a total of 810 questionnaires were successfully collected and only 780 questionnaires are useable for further analysis. The data were then coded and keyed-in using Statistical Package of Social Science (SPSS), Version 21.0 for analysis.

Analysis and Results
Respondents Profile
The frequency test for the respondent's profile of this study indicates that 53.1 percent (n =410) of the respondents are female consumers while the other 47 percent (n=370) are male consumer. In terms of age, the highest proportion comes from 25 to 36 years, which makes up around 36 percent (n =281) from the total number of respondents followed by 40 to 54 years old which represent around 32 percent (n =252) of the total respondents. Meanwhile, the age between 55 to 69 years is represented by 26 percent (n=200) from the total number of respondents and the smallest proportion of the sample

which is 6 percent (n=47) comes from the respondents who are 70 years old and above. In regards to consumer's residential areas, the frequency test shows that there are slightly equal proportion between respondents from the semi and rural areas. 43.1 percent (n=336) of the respondents come from rural areas and 56.9 percent (n=444) come from semi-rural areas. The frequency test also shows that in term of education level, only 5 percent (n=39) of the respondents possessed qualification of degree and above while 5.1 percent (n=40) of them obtained a diploma. The majority of the respondents in this sample had completed their secondary and primary education by which around 31.4 percent (n=245) had completed Sijil Pelajaran Malaysia (SPM), 38.7 percent (n=302) had completed Sijil Rendah Pelajaran (SRP) and 19.7 percent (n =154) completed their primary school education. As occupation is concerned, 38 percent (n=295) of the total respondents engaged in the small business in the village while 19 percent (n=151) of the total respondents are working in the government sector. 17 percent (n=134) of them is working in the factory and private sectors. Meanwhile, 14 percent (n=110) is among the pensioner and 12 percent (n=90) are doing the village work. With regards to respondent's income, 35.4 percent (n =276) of the respondents earned between RM 1501 to RM 2500 per month and another 27.2 percent (n = 212) has a total income ranging from RM 901 to RM 1500. 19 percent (n=148) of the respondent earned above RM 2500 per month while 18.5 percent (n=144) earned income that is below than RM 900.

In identifying the places that consumers prefer to purchase the semi processed food products, 24 percent (n=184) of the respondents prefer to purchase their semi-processed food products from the dry and wet markets or in Malaysia, it is familiarly known as daily morning market or night market while 19 percent (n=152) of them prefer to purchase the food product at mini markets. 16 percent (n=124) of the total number of respondents are comfortable of buying it at the grocery shop. Meanwhile, 41 percent (n=320) of the total respondents prefer to purchase the semi processed food products at the above mentioned places. Finally, to find out what type of semi processed food products the consumer usually purchased, it has been found that 20 percent (n=157) of the respondents or Muslim consumers at the semi and rural area for this study prefer to buy seafood based products. 18 percent of the consumers choose to purchase noodle products (n=142) while 17 percent (n=129) of the total number of respondents prefer to buy soy based products like tofu and almost half or 45 percent (n=350) of the respondents are buying those products for their household used.

Descriptive Statistic

Descriptive statistic can be carried out after the reliability and validity test on the items are carried out. In order to ensure the reliability among the items, internal consistency looking at coefficient alpha value needs to be done. By doing this, the researcher is able to identify any measurement errors and make a necessary adjustment or amendments (Churchill & Iacobucci, 2010). As for the independent variable with twelve items related to the composition of ingredients, it has achieved a reliability of .797 and the dependent construct that measure the consumer purchase behavior which also consists of twelve items produced an alpha value of .787. Both alpha values are above 0.6 and they are basically considered acceptable (Creswell, 2009) and more than appropriate to proceed with any further tests (Chua, 2006a; Hair, Money, Samouel & Page, 2007).

The descriptive outcomes derived from the evaluation of the mean score and standard deviation resulted from the respondents rating on each item in the constructs. In dealing with knowledge on composition of ingredients, the respondents slightly agreed that the content of the mixed ingredients is not the main criteria for them to choose the semi processed food products as long as they are halal (M=3.15) and the cleanliness of semi processed food products does not reduce their doubt towards its halal status (M=3.39). In reference to this, it is not surprising that they slightly agreed that they do not care about the use of chemical ingredients in the semi processed food products (M=3.29), slightly agree that the excessive use of chemical ingredients in the semi processed food products does not reduce their doubt towards its halalness (M=3.21) and that they always read the content of product nutrition (M=3.32) as well as the content of chemical ingredients used in the semi processed food products (M=3.22).

In contrast, the respondents agreed that the freshness of semi processed food products determines its quality and halal status (M=3.75) they also agreed that the interesting packaging does not reduce their doubt towards the halal status of semi processed food products (M=3.72). They also agreed that less nutrition value of the semi processed food products is not a problem for them as long as the products are cheap and halal (M= 3.71) and they also believed that the nutrition value that they do not understand does not reduce their doubts towards the halal status of the semi processed food products (M=3.50). What could be said from this section's results is that; the respondents in this study which are among the semi-rural and rural Muslim consumers are still lacking in terms of knowledge with regards to the composition of ingredients of the semi processed food that are purchased for their consumption.

In the aspect of Muslim consumer purchase behavior, the respondents agreed that although being operated by the non-Muslim operators, their certainty towards the halal status of mixed ingredients and content of semi processed food products (M= 3.53), their certainty towards its halal status through the cleanliness of semi processed food products (M= 3.49) and their certainty towards its halal status through the use of chemical ingredients, nutrition content and the processing of semi processed food products(M= 3.69) influenced them in purchasing the products. With these feelings, they agreed with the rest of the items in this section which stated that although being operated by the non-Muslim operators, their certainty towards the products' quality and halal status, food value and authenticity of the ingredients for semi processed food products influences them in purchasing the products (M=3.97). They also agreed that although being operated by the non-Muslim operators, their certainty towards its quality of halal status, food value and authenticity of the ingredients for semi processed food products influences them in purchasing the products (M=4.03).

Besides, they almost agreed that their preference in purchasing the semi processed food products (tofu, yellow noodle, flat noodle, fish balls and fish cakes) produced by the non-muslim operators is determined by the information on the chemical content, additives and food safety law displayed on the products (M=3.70) and also the perception of themselves, family and friends (M=3.86). In addition, it is mainly influenced by the information shared by other consumers (M=4.03), and it also depends on the brands, halal logo as well as the products image (M=4.05) and the slogan and product packaging (M=3.97).

Structural Equation Modeling
Measurement Model

Before proceeding into the PLS-SEM analysis, two stages of procedures need to be undertaken (Chin, 2010; Hair et al., 2010 and Henseler et al., 2009). The first stage is the inner-model or measurement model evaluation or known as confirmatory factor analysis (CFA) which deals with measurement items through psychometric reliability and validity tests. Next is the outer-model or structural model that focuses on the relationship between the underlying exogenous and endogenous constructs.

In performing confirmatory factor analysis (CFA), the measures are validated by (1) internal consistency reliability, (2) indicator reliability, (3) convergent validity and (4) discriminant validity (Hair, Huil, Ringle &Sarstedt, 2014). The internal consistency reliability is assessed through the items from the model by which the value of threshold is above 0.7 in the composite reliability (CR) (Bagozzi and Yi, 1988). For the criteria of indicator reliability, the loadings lesser than 0.70 were removed to increase the value above the threshold value in the composite reliability (Hair Money, Samouel & Page, 2007). The next criterion which is the convergent validity is determined using the method of Average Variance Extracted (AVE) (Hair, Black, Babin, Anderson, & Tatham, 2006) where if the AVE value is greater than 0.5 (Composition=0.57), it represents the average or it simply means that the constructs are capable in explaining more than half of the variance of its measuring items. The value of AVE is in line with Fornell & Larcker (1981) where it has been stated that each construct should be at least 0.50 to establish discriminant validity of the measurement model. This study has indicated that the measurement model is discriminately valid. Based on the preliminary assessments of reliability, convergent validity and discriminant validity, the measures show satisfactory reliability and validity thus indicating that the measurement model is discriminately valid.

Path Analysis

Having established a reliable and valid measurement model, the next step of analysis involved estimating the causal and covariance linear relationships among the exogenous (independent) and endogenous (dependent) latent variables. Partial Least-Square structural equation modeling (PLS-SEM) conducts non-parametric statistical tests to evaluate the overall model fitting. Within the structural model, each path connecting the two latent variables represented a hypothesis. The path estimation which is also known as nomological validity (i.e. hypothetical relations) was performed to examine the significance of the path relations in the inner-model (Chin, 1998). Using the Smart PLS algorithm output, the relationships between independent and dependent variables were examined. To test the significant level, the path relationship presented in the framework was examined through regression coefficient (β) value. The result illustrated in table 1, indicated the path analysis in answering the hypothesis;

Table 1

Path analysis

Hyp	Path Analysis	Sample Mean (M)	T Statistics	P Values	Hypothesis
H$_{1:}$	COMPOSITION -> PURCHASE BEHAVIOR	-0.280	3.195	0.001	Accept

Note: *p>0.5, **p<0.01, ***p<0.001

The results of the study, which respond to the hypothesis (H1) have revealed that knowledge on the COMPOSITION OF INGREDIENTS (β= -0.280 and t=3.195) has showed a negative significant effect to the PURCHASE BEHAVIOR and thus supporting the hypothesis (H1) of this study. Based on the results obtained, it can be explained that knowledge on the composition of ingredients has given impact to the purchase behavior. Despite this, the negative beta value in this analysis shows a slight weak relationship between composition of ingredients and purchase behavior. This is in line with Nathan, Frederick & Kim (2012) where they had testified that the negative sign of beta values indicated that the two correlated variables values are inversely related or in a simple meaning; one variable will increase and the other variable will decrease and vice versa. They also initiated that the negative significant value represented that the dependent variable has decreased in response to an increase in the independent variable. In this study context, the semi and rural Muslim consumers' purchase behavior will decrease as a response to the higher knowledge on the composition of ingredients and labeling.

Applying this rule to the result, it has been found that the increase in Muslim consumer's knowledge on the composition of ingredients of the syubhah semi processed food (independent variable) will decrease their purchase behavior (dependent variable). In other words, Muslim consumers in the semi and rural area purchased the Syubhah semi processed food products due to the lack of knowledge and understanding on the composition of the ingredients. This could also specify that the Muslim consumers in the semi and rural area do not care and give less attention on the composition of ingredients when buying the food products. This finding is parallel with Hamdan, Issa, Abu & Jusoff (2013) by which their study had revealed that knowledge on the characteristic and composition of the processed food has a weak relationship with consumer purchase behavior. On the other hand, the finding is slightly against the statement made by Nasaruddin, Mel, Fuad, Jaswir & Hamid (2011) that awareness of the consumer has increased not only on the doubtful and questionable composition of the ingredients but also in terms of the chemical, production and technology aspects of the food products.

Implications, Recommendation and Conclusions

This study has revealed on the importance and the role of knowledge whether it is genuine or not influencing the consumer purchase behavior towards specific food products. In this context, the knowledge on the composition of ingredients in semi processed food provides a significant role in understanding the Muslim consumers in semi and rural area in particular in light of buying the syubhah or doubtful halal food products. The most remarkable theoretical contribution is that having knowledge on the products will commonly lead the customers to either purchase or not to purchase depending on the characteristics of the product itself. In other words, if the products are good, the consumer will certainly tend to

buy them but if the products are bad, they will definitely not do so. However, what is found in this study is that the consumers without knowledge on the characteristics of the products still purchased the products although they are still in the doubtful stage.

In practical contribution, owing to the lack of knowledge among the semi and rural Muslim consumers on the composition of ingredients has eventually resulted to their act of intentionally buying the syubhah semi processed food such as yellow noodles, fish balls, fish cakes and the other similar products. In this sense, it can apparently be seen that the composition of ingredients portrayed in the semi processed food products although with simple explanation does not seems to assist the semi and rural Muslim consumers in recognizing the actual status of the food products marketed to them. In other words, being ignorant regarding this issue also had created an opportunity to some of the small and medium food manufacturers to produce and market the cheap and low cost products although it does not comply even with the minimum halal standard. This phenomenon is obviously different with the urban Muslim customers as they are more knowledgeable and sensitive on the non -halal, *syubhah* or doubtful halal food products marketed to them.

In dealing with lack of knowledge on the composition of ingredients, the authorities and agencies need to be more proactive not only in stopping or curbing the unethical practice among the irresponsible small and medium food manufacturers but they must also enlighten the reciprocal manner between them and the semi and rural Muslim community as direct involvements of both parties is essential in creating harmonious relationship. This could be done through the dissemination of information to the semi and rural community on what to be looked upon when dealing with the semi processed food marketed to them as well as halal food products and they should also be made aware of the halal issues. The series of sharing session and the discussion with the community together with the multimedia elements are among the effective ways of information dissemination and this should frequently be organized by the department. A more regular checking on the processed food products in the semi and rural areas should also be done aggressively. Even though this kind of approach may add an additional cost in both resources and money, it would help the semi and rural Muslim consumers in uplifting the knowledge besides being able to recognize the status of the food products as well as to better understand the importance of halal status when it comes to food.

As a conclusion, any issues dealing with doubtful halal or *syubhah* are not only effective to be combated through law and monitoring process by the relevant authorities but the knowledge on the composition of ingredients among the Muslim consumers should also not be ignored. Thus, if the haram and doubtful halal or *syubhah* food including the semi and fully processed food are not being closely monitored and understand, the issues associated with halal food will never be resolved in multi religious countries, even with Muslims as the majority of the total population, and the important aspect in the business world with the emerging global *halal* market will also not be achieved.

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