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Awareness and Demand for 100% Halal Supply Chain Meat Products

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Abstract

Muslim consumers globally must assure that the food they consume meets halal requirements under Islamic law. Meat and poultry must be slaughtered in accordance with Islamic rites to render them halal. It is also important that these meat products are kept separately throughout the supply chain to avoid the risk of contamination. This study seeks and examines data from consumers of halal meat products, their views, understanding and perceptions of their awareness of and demand for 100% halal supply chain. The study is conducted in the context of consumers’ feelings of satisfaction and/or dissatisfaction with their buying preference for halal meat products. It also aims to unravel the expectations and perceptions of consumers with interrelated issues such as halal food requirement and halal supply chain, with each affecting the other in multi-directional ways. This study has revealed new insights for policy makers, business owners/consumers or practitioners whose decisions might impact the halal logistics industry.

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1. Introduction

The underlying principle for a Muslim’s diet is that food not only has to be halal (permissible – Syariah compliant), but also toyyiban which means wholesomeness (healthy, safe, nutritious, quality). This principle came

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about from one of the scriptures in the Quran which says “O ye people! Eat of what is on earth, Halal and toyyib; and do not follow the footsteps of the Evil One, for he is to you an avowed enemy” (Al-Baqarah, n.d). The concept of halal in Islam has very specific motives. They are to preserve the purity of religion, to safeguard the Islamic mentality, to preserve life, to safeguard property, to safeguard future generations and to maintain self-respect and integrity (Riaz & Chaudry 2004).

It is believed that most consumers who prefer halal meat products are not aware of the halal supply chain principles. Currently, consumers of halal meat usually purchase those with a halal logo stamped on the packaging without doubting its authenticity and trusting the suppliers whole-heartedly. Most of them are unaware of the halal food requirement that involved the supply chain and logistics aspects. Nevertheless, it is disputed that majority of consumers do not have a choice whenever they purchased halal meat products (Hawkes 2008). For example in Tasmania, the halal meat products are sold in the display space alongside other non-halal meat products (such as pork) which contradict one of the principles of halal. In Singapore and Malaysia, one of the halal issues that concern consumers are whether there is segregation and proper handling for the halal meat products from the non-halal meat products and whether companies conducting halal meat business are fully knowledgeable. Since there is no way consumers can be completely sure that the meat that they are purchasing is halal; they have no choice but to take it at face value.

1.1. Objectives

Hence, this study aims to investigate Muslim consumers’ preference and demand for 100% halal meat products supply chain, their knowledge about halal food requirements and meat products’ supply chain. This is due to the fact that there will be no change in the current supply chain and logistics if the awareness of the consumers and demand for 100% halal meat products are not significant enough and do not constitute any commercial value to the upstream players. This study focused on the perceptions of participants from Muslim consumers in two non-Muslim countries and one Muslim country. As such, 200 participants from three countries namely Singapore, Malaysia and Australia were involved in the study. The sample of 200 participants represented six age groups, from three different countries with different culture and way of life; although they were all consumers of halal meat products.

1.2. Research questions

Two research questions were employed in the study’s investigations into the awareness of and demand for 100% halal supply chain meat products. They were:

- Are consumers of halal meat products in Singapore, Malaysia and Australia aware of 100% halal supply chain?
- Is there a demand for 100% halal supply chain and if so, are consumers willing to pay a premium for it?

1.3. Significance of the study

The study will be significant to the theoretical and practical advancement of the relationship between consumers’ religion, cultural values and buying behaviour on wholesome halal food. It will analyse the perception and attitudes of Muslim consumers when buying wholesome halal food product. This information will become the reference point to all academia and businesses as it will unravel the true relationship between consumers’ perception, attitude and their purchasing decision. There are many studies on consumers’ behavioural purchasing pattern including perception and attitude. However, these studies are not based on experimental evidence but grounded on assumptions.

2. Review of the literature

Presently, south-east Asia and the Middle East are the two strong markets for halal products. Southeast Asia is home to more than 250 million halal consumers while the Middle East holds the halal key market with 445 million populations in total (Sungkar, Othman, & Hussin, 2008). Europe, U.S.A., Canada and Australia are emerging as centres with large and growing Muslim populations and as major markets for halal production, trade and
consumption. Interestingly, according to Bonne and Verbeke (2007), the concern over halal is far more pronounced in some Southeast Asian countries such as Malaysia, Indonesia and Singapore compared to the Middle East. However, the impact of religion on halal meat purchase and consumption depends most likely on the religion itself and on the extent to which individuals interpret and follow the teachings of their religion (Ismail & Phoon 2007).

In general, religion can influence one’s behaviour, well-being, and lifestyle (Ebaugh, 2002; Francis & Kaldor 2002; Poloma & Pendleton 1990; Sloan et al., 1999; Woods et al., 1999). Some researchers claimed that religion is the main cultural component that influences behaviour and decisions to purchase (Assadi, 2003; Esso & Dibb 2004; Delener 1994; Babakus et. Al., 2004; Cornwell et al., 2005). At the same time, religion is seen as a subsystem of culture and a value in itself, and is regarded as a way of life that encourages people to strive for other values. Religious orientations based on values have two main purposes. Firstly, it is a powerful force in forming one’s attitudes and behaviour and secondly, it serves as important guiding principles in one’s daily life (Schwartz & Huismans, 1995).

Consequently, religiosity will likely administer an individual’s behaviour as it is part of one’s faith (Endang, 2010). Religious traditions and practices which constitute part of faith in certain religions (for example Islam, Judaism, Hinduism and Buddhism) may prohibit the use of certain goods and services. Religious affiliation and commitment may influence various aspects of the choice behaviour of its followers by the rules and taboos it inspires. Endang (2010) adds that religion is one of the factors that limits food consumption, particularly meat consumption. It is agreed by Sitasari (2008) that religiosity is very important because it determines individual cognition and behaviour.

There is a general guideline for Muslims which is also agreed by all Islamic scholars that the rational means to achieve the end is through moderation in consumption (Riaz & Chaudry 2004). This is an important consumption concept or model of a Muslim. Being a Muslim does not guarantee that an individual’s behaviour will always adhere to the concept of moderation in consumption. However, the philosophy and the implementation of Syariah laws are to some extent, constructed through individual learning and socialisation, that is formal and informal education (Endang, 2010). The term moderation may be differently interpreted by different scholars. One of the forms of interpretation is that moderation is achieved through maximisation of utility (the measurement of the satisfaction received from the consumption bundles or expenditures) which have not been modified or adjusted in the Islamic framework, subject to certain constraints. This stand was taken by Siddiqi (1992) and Hamouri (1991). Therefore, it is the religious education experiences that will also determine the level of awareness and values of this moderation concept.

In addition, it is argued that Islamic values are also different from Muslim values due to the fusion of traditional cultural practice in Muslim communities (Ebady, 2004). The impact of religion on consumer behaviour can differ from one culture or country to another (Sood & Nasu 1995). However, not much has been discussed and there is no detailed empirical evidence to validate this statement. Interestingly, Muslims have to embrace the values embodied in the Quran and the practices of Prophet Muhammad (pbuh) that constitutes the Islamic values. Hence, these Islamic values directly or indirectly influence the Muslim lifestyle and food consumption patterns. Muslims, regardless of status, wealth and culture have to abide by a set of halal dietary prescriptions intended to advance their well-being as indicated by Riaz and Chaudry (2004). This is because Islam is a religion governed by rules and customs. Muslims are supposed to make an effort to obtain halal food of good quality. It is their religious obligation to consume only halal food.

Muslims, to a certain extent, consider that they are what they eat and that their flesh and blood are derived from the food they consume. Therefore, careful consideration is given to the food chosen for consumption. The Quran provides specific guidelines for Muslims concerning the selection of food. These are differentiated as being either Halal or Haram. The topic on halal and haram consumptions is cited in the Quran, “Eat of the good things which we have provided for you” (Quran, 2:173). “Eat of what is lawful and wholesome on the earth” (Quran, 2:168).

In 1999, Adila conducted a survey in Singapore to investigate whether a sample of Muslims consumers’ objectives and their means to achieve them comply with Islamic teachings. The findings indicated that the Muslims in Singapore generally are moderate spenders, displaying that moderation, one main concept of the Islamic consumption model, is being practiced. The respondents did not portray the demographics of the country since the majority of Singapore’s population (85%) are non-Muslims. The study concentrated on goods that satisfy physiological needs, such as food and clothing, hence focusing only on non-durable goods. Thus, it did not demonstrate the behaviour of Muslim consumers on the purchasing of durable goods, particularly when buying an automobile, housing or other economic basket. Since then, there is no record of any other similar study in Singapore.
A study done by Shaharudin et al. (2010) on factors affecting purchase intention of organic food in Kedah, Malaysia, revealed that the two significant factors that influence the purchase intention of organic food products are health consciousness and perceived value. They found out that price is not a prime factor as long as the organic food can deliver more nutritional value as compared to the ordinary food in the market. The researchers have categorised halal as part of organic elements. The study also found information which portray that the organic food product has more value and therefore, worth buying. It was discovered that consumers would depend on the respective government enforcement agencies or local authorities to ensure food safety and halal matters. The Muslim consumers feel that it is not necessary for them to be concerned about the food safety and religion as long as the business are legal to operate and those products have been certified halal by the authorities. This phenomenon has been uncovered earlier by Fischer (2008) stating that Muslim consumers rely on the increasing number of ‘certifying bodies’, that claim having authority to certify the authenticity of halal food.

Based on a study of consumer behaviour in Malaysia, it is vital to market halal products (Lada et al., 2009) even though halal is not known as a volume business. It is suggested that those consumers who use halal are always loyal to halal brands and this would spur the halal market throughout the economic cycle (Yousef, 2010). Muslim consumers, in fact are very similar to any other consumer segments, demanding healthy and quality products, which must also conform to Syariah requirements (Al-Harran & Low, 2008). They have found that certain groups of Muslim consumers would turn their attention to a well-marketed product even though it does not have a halal mark. Instead they would focus more on the quality of its ingredients, in contrast to purchasing one that has less credibility but sports a halal logo (Al-Harran & Low, 2008).

A study done by Wan Omar, Muhammad and Che Omar (2010) found that consumers in Kelantan, Malaysia (also known as the corridor of Makkah) focussed more on ingredients, ownership and marketing-related factors of halal food product rather than on certified halal logo. As such, it is suggested that halal logo seems to be a non-issue in their choices. The findings also reveal that processing factor does not impact the Muslim consumers’ attitudes towards halal food product. The researchers believe that Muslim consumers in Kelantan are likely to adopt positive attitude towards halal food product if the factors of ingredients, ownership and marketing-related factors are taken seriously by the marketer when manufacturing the halal food products.

Generally, consumers’ attitude and behaviour towards food are determined by individual and environmental factors, such as marketing, information, situation and food specific properties. As mentioned by Bonne and Verbeke (2006), consumers in Belgian express doubts about the halal status since the quality label for halal meat is not available. As a result, the decision to purchase the halal meat is based on the information provided by the halal butchers regarding the halal status which are freshness, taste and slaughtering method. Dimara and Skuras (2005) add that exchange of information on the product package such as product labelling plays an important role as the source of information to the consumers.

Although there have been many researches on consumer behaviour and halal food products, there is a dearth of published research on religion of Islam and its relationship to aspects of consumer behaviour. In addition, there is not much debate on the impact of Islamic food laws vis-à-vis halal supply chain on Muslim purchasing behaviour. Likewise, there is little empirical evidence that shows cultural practice influence the behavioural pattern of Muslim purchasing decision, highlighting the level of religiosity and commitment. There is also little evidence concerning the effect of culture/religion on consumers in marketing research (Emery & Tian, 2009; McCort & Malhotra, 1993), in particular on the religion of Islam and its consumers. It is therefore worthwhile that a closer look at consumer intention to choose halal-products is analysed and studied that can be used to predict and satisfy customers and company objectives.

3. Methodology

This study applied descriptive quantitative research techniques (Zikmund, 2003). Investigations were conducted at multiple sites and quantitative data gathering approaches was used. Quantitative research methodologies was to identify the current buying patterns, preferences and perceptions of consumers for 100% halal supply chain meat products, In terms of the multi-site nature of the research design, data were gathered from consumers from different walks of life in Singapore, Malaysia and Australia. In terms of multi-method nature of the research design, data were gathered using online questionnaire (Marshall & Duignan 1987).

The online questionnaire was designed to gather both qualitative and quantitative data from a larger sample of
consumers than that which could be gathered through the interviews. Instead of phrasing all statements positively, some negatively worded statements also were included so the tendency in respondents to tick mechanically the button toward one end of the scale was minimized; for example, in the 22 statements used to tap consumers’ overall general opinion on halal food requirements, current practice and understanding, halal supply chain knowledge on a 5-point Likert scale starting from ‘Extremely Important’ to ‘Extremely Not Important’ and ‘Stronly agree’ to ‘Strongly disagree’. A respondent who was not particularly interested in completing the questionnaire would be more likely to stay involved and remain alert while rating the statements when positively and negatively worded statements were interspersed in it. For instance, if a respondent had ticked ‘Strongly agree’ for a positively worded statement such as, ‘halal meat products sold at the supermarket and butcher have undergone the true halal food requirement of production, handling and distribution’, s/he should not tick ‘Strongly agree’ again to the negatively worded statement such as ‘There is no separate backroom cold storage for the halal meat products either in the supermarkets or in the distribution channels’. If a respondent ticked ‘strongly agree’ for the second question, s/he would score 1 instead of 5.

The questionnaire sought consumers’ views on a wide range of matters relating to their feelings of satisfaction and dissatisfaction on their buying preference and their current practice and understanding in relation to halal supply chain and food requirements. These aspects relating to the quality of halal food and supply chain were distilled from the literature on Halal Food Requirement, particularly from the studies conducted by Riaz and Chaudry (2004).

3.1. Sampling

Samples selected from a targeted population are expected to represent the population as a whole (Burns, 2000). Since the study involved the perception of consumers in Singapore, Malaysia and Australia, the sample had to be purposive (Burns, 2000) whereby only consumers who are Muslims and prefer halal meat products were invited to participate in the research study. It was hoped that a significant sample size could be achieved through social networking portal like Facebook, Bulletin boards, corporate e-mails and websites. Sampling was also random as an open invitation was given to all who fit the criteria given above.

4. Results

In order to address the two research questions, five types of data were required. The first one probed into consumers’ buying preference when selecting halal meat products and it was divided into two sections. The second investigated on consumers’ general opinion pertaining to halal food requirements while the third focused on consumers’ knowledge and understanding of current practice of supply chain and logistics for halal meat products. The fourth type of data concentrated on factors that would influence the buying decisions and whether consumers would pay a premium for 100% halal supply chain meat products. It also probed consumers’ opinions or perceptions on the current infrastructure of supply chain and logistics related to perceived factors that assisted or inhibited it to meet 100% halal food requirements for meat products. The last was relatively factual, covering participants’ demographic backgrounds.

4.1. Response Rate

An open invitation was given to Muslim consumers through social networking portal like Facebook and corporate email to participate in the online survey. Also, an invitation was sent to 10 Muslims associations through their corporate websites. It was hoped that 500 consumers would respond to the invitation but the final tally was 200 consumers. Of which 130 were from Singapore, 40 from Malaysia and 30 from Australia. Therefore, the response rate could technically be calculated to be 40% of the projected sample size (200/500*100). This is just a rough estimate of the response rate because there is no telling how many consumers actually clicked on the notification link or read the invitation to participate. Since the traffic generated in the internet could either be small or run up to millions, it is truly difficult to gauge an online as compared to an on-site survey's response rate where the exact
number of invitation could be determined. Furthermore, the identities of respondents were not known because the online survey in this study ensured total confidentiality.

4.2. Respondents’ Demographic Information

Table 4.2 shows the demographic profile of the consumers in the sample. The information was derived from responses to the online questionnaire completed between 15 December and 15 January 2010. The table below shows the participants of each country by their age groups. The overall rate of participation by the age group 25 to 34 years records the highest with 37.0%, followed by the age group 35-44 with 25.5% and age group 18-24 comes third with 21.5%. Interestingly, the rate of participation from the age group 55-65 and 66 and over shows the lowest with 2.5% and 0.5%. This might be due to the nature of the survey that used computer aided software and survey website which were not familiar to these age groups.

Table 4.2 Respondents’ Demographics (Overall)

| Country | Age 18-24 | Age 25-34 | Age (35-44) | Age (45-54) | Age (55-65) | Above 66 | Number of Participants |
|---------|-----------|-----------|-------------|-------------|-------------|---------|-----------------------|
| Singapore | 12 | 51 | 44 | 19 | 3 | 1 | 130 |
| Malaysia | 24 | 9 | 2 | 3 | 0 | 0 | 30 |
| Australia | 7 | 14 | 5 | 4 | 0 | 0 | 30 |
| Total | 43 | 74 | 51 | 26 | 5 | 1 | 200 |
| Overall % | 21.5 | 37.0 | 25.5 | 13.0 | 2.5 | 0.5 | 100 |

4.3. Attributes of Consumers’ Buying Preference

The approach used in the questionnaire was also employed to capture an expression of buying preference of consumers when selecting halal meat products and its supply chain in Singapore, Malaysia and Australia. The responses of the consumers are summarised in Table 4.3. The attribute, with 1 being the most important and 5 being the least important, indicates the consumers’ buying preference when selecting halal meat products.

Table 4.3: Consumers’ Buying Preference for Halal Meat Products

| Attribute | 1 | 2 | 3 | 4 | 5 | % | Rank |
|-----------|---|---|---|---|---|---|------|
| Prices of Halal Meat Products | 31 | 19 | 45 | 29 | 76 | 15.5 | 5 |
| Display of Halal Logo and Certificate | 124 | 31 | 15 | 9 | 21 | 62.0 | 1 |
| Separate cold Storage/ Refrigerator/display space | 70 | 48 | 37 | 29 | 16 | 35.0 | 4 |
| Observation of 100% Halal supply chains and logistics from farm to retailers | 88 | 27 | 35 | 27 | 23 | 44.0 | 2 |
| Cleanliness of the butcher/grocery/Supermarket | 75 | 29 | 35 | 38 | 23 | 37.5 | 3 |

It showed that 62 % of the consumers ranked “Display of halal logo and certificate” as top priority in making their decisions to purchase halal meat products followed by the “observation of 100% halal supply chain and logistics from farm to retailers”. These figures were considered noteworthy and raised some concern about current infrastructure of supply chain for halal meat products. The attribute “Prices of halal meat products” were ranked last and the least important attribute to the consumers from these three countries. Meanwhile, Table 4-4 illustrates an interesting variation in the ranking of attributes when selecting halal meat products based on the respondents’ home country. The attribute that showed the most difference was the cleanliness of butcher store, wet markets and supermarket. It was ranked fourth by the Singapore consumers whereas Australian and Malaysian consumers voted
cleanliness as the first and second priority respectively. The other attributes do not show a marked difference among the respondents of the three countries. This came as a surprise to the researcher because being a Singaporean himself, he was surprised with the respondents’ responses whom he thought would have placed cleanliness as one of the top priorities. This is due to the fact that Singapore has always been internationally touted to be a clean and green city (Trip Advisor, 2010).

Table 4.4 Ranking of Attributes when Selecting Halal Meat Products

| Attributes                                      | Singapore Rank | %  | Malaysia Rank | %  | Australia Rank | %  |
|------------------------------------------------|----------------|----|---------------|----|----------------|----|
| Prices of Halal Meat Products                  | 5              | 12.31 | 5             | 30.0 | 5             | 10.0 |
| Display of Halal Logo and Certificate          | 1              | 66.92 | 1             | 60.0 | 2             | 43.33 |
| Separate cold Storage/Refrigerator/display space | 3              | 35.38 | 4             | 40.0 | 4             | 26.67 |
| Observation of 100% Halal supply chain & logistics | 2              | 43.85 | 2             | 47.5 | 3             | 40.0 |
| Cleanliness of the butcher store/grocery/Supermarket | 4              | 30.0  | 2             | 47.5 | 1             | 56.67 |

As seen in table 4.4, 12.31% of Singaporean respondents and 10% of the Australian respondents would consider the “prices of halal meat products” the least important compared to Malaysian respondents of 30%. This is because in Malaysia, the Muslim consumers have many choices in terms of halal food products (HDC, 2010). This attribute, however received the lowest ranking throughout the consumers of the three countries. Another attribute “Display of halal logo and certificate”, was ranked first by the respondents from Singapore and Malaysia, and was ranked the second by Australian respondents. Hence, there is not much difference among these three groups.

5 Buying Preferences When Selecting Halal Meat Products

Six attributes were used to investigate the Muslim consumers’ buying preference when selecting halal meat products before making a purchase decision. Majority of the consumers from the three countries believed that the presence of halal mark from a recognised organisation on the packaging is extremely important attribute (average mean score is 4.82). Majority of the respondents also felt that it is extremely important that the leading supermarket or the butcher store display their halal logo and certification (average mean score is 4.65). These two attributes are the main concern of the respondents in all the three countries. This is likely due that many businesses are not owned by Muslims as halal has been made into a huge global business entity (WHF, 2010). The display of halal logo will give consumers particularly in Singapore and Australia, the confidence to purchase the halal meat products because companies involved in halal business are mainly the non-Muslims (Zakaria, 2008). In addition, many shops or supermarkets in Australia are not displaying halal logo and certification, even though they are selling halal meat products, as the owners do not want to create any unnecessary feedback or protest by other customers. There are certain groups in Australia who are monitoring the development of halal certification (Halal Choices, 2013; Boycott Halal 2013).

In addition, respondents highlighted that it is very important that halal meat products be handled by trained employees and/or workers (average mean score is 4.41). These scores do not fall into the ‘extremely important’ range. It is understood that since companies in these three countries employ people from all walks of life and background, it is rather difficult to instil the right working knowledge when halal foods are concerned. Respondents from Singapore and Malaysia also stressed that it is extremely important for Halal meat be stored inside a separate cold room of the store and/or supermarket (average mean score is 4.58). On the other hand, respondents from Australia felt that it is very important. However, these two attributes need the full commitment from the companies and businesses in order to constantly upgrading and monitoring of the halal integrity (HDC, 2010). Many respondents stressed that training is crucial to the success of Halal supply chain meat products.

Respondents did not place any level of importance to the prices of Halal meat products before making a purchase or they were indifferent. The mean score of 3.41 for this criterion is the lowest among the other selection criteria. Respondents also indicated that it is extremely important that halal meat products not be placed near non-halal meat such as pork in the same display space (average mean score is 4.51). Many respondents were of the same opinion saying that monitoring is the key to ensure there is no possible contamination.
Among the six attributes above, there are two attributes for which there are statistically significant differences between three respondent groups, with p values which are smaller than 0.05 (selected significance level). There is a significant difference between respondents from Australia and respondents from Singapore and Malaysia for the attribute “Prices are vital in selecting halal meat products”. The variance for Singapore and Malaysia is less than 1 compared to Australia, which is 1.085. This may be due to the fact that in Australia it is rather difficult to source for halal meat products in the leading supermarkets or the neighbourhood butcher stores. Therefore, respondents from Australia felt that prices are not vital or important in selecting halal meat products because there are not many choices. Another attribute that has a significant difference between Australia and Singapore and Malaysia is “halal meat products must not be placed near to non-halal meat such as pork in the same display space”. The variance for Singapore and Malaysia is less than 0.05 compared to Australia, which is 1.137. It may be probably due to the fact that there are few Muslims who own halal meat shops in Australia. There is not much competition in Australia compared to countries like Singapore and Malaysia where consumers can simply walk to the halal meat shops or supermarkets to make a purchase.

6  Awareness of 100% Halal Supply Chain for Halal Meat Products

Five statements were probed in this section. Respondents from the three groups, i.e. Singapore, Malaysia and Australia, agreed (average mean score of 4.06) that the production, processing and distribution of Halal meat products involve different companies at various production stages and service companies providing transport and packaging. As such, these respondents know that it would be a difficult task to upkeep the halal integrity of the whole supply chain as it requires constant monitoring. Respondents also strongly agreed (average mean score of 4.81) that food must not contain anything in its preparation, processing, transportation, or storage using means or facilities that is unlawful according to Islamic law.

These three groups of respondents also strongly agreed (average mean score of 4.71) that Halal food rules must apply to the food production, storage, transportation, distribution, preparation and final consumption. Many respondents felt that Halal must be observed starting from slaughtering, transportation used to transport meat and place to store the meat. Some suggested that dedicated Muslims should be placed and oversee the whole process. In addition, respondents from the three countries strongly agreed (average mean score of 4.78) that Halal and non-Halal meat products must be kept separately throughout the supply chain to avoid the risk of contamination of the Halal products. Lastly, respondents strongly agreed (average mean score of 4.8) that stringent hygiene and sanitation standards must be adhered to during processing of Halal food.

Overall, the consumers from the three countries believed that it is very important to meet and satisfy the Halal food requirements (mean score = 4.63). This also shows that these respondents are aware of the requirements needed since Muslims have to consume Halal meat products which are halal and toyyib (Riaz & Chaudry, 2004). Also, it can be seen from the analysis that all the five statements have no significant differences among three respondent groups, with p values which are greater than 0.05 (selected significance level). This is because there should be no compromise with regards to Halal food requirements as already mentioned above. Muslims have to adhere strictly to these requirements and they are required to look into their own needs of Halal food and to create awareness and educating all in respecting the needs and requirements. There are about 18 verses in the Holy Quran that highlight the importance of consuming halal and toyyib food.

7  Current Practice and Understanding

In this section, participants were asked about their current practice and understanding of the current supply chain and logistics with regards to the Halal food requirements for Halal meat products. Below are six attributes that relate to the research question 1 which is “Are consumers of Halal meat products in Singapore, Malaysia and Australia aware of 100% Halal supply chain?”

Respondents from the three groups, i.e. Singapore, Malaysia and Australia, agreed (average mean score 4.31) that halal meat products sold at the supermarket and butcher have undergone the true halal food requirement of production, handling and distribution. Respondents also agreed (average mean score of 4.65) that the display of
Halal logo on packaged meat products meant that the meat and poultry were 100% Halal. This could be argued that these respondents believed that the presence of halal mark from recognized organisation have assisted their purchasing decision and increased their confidence level at the same.

Respondents agreed (average mean score of 4.20) that the Halal meat products are transported separately from the other non-halal meat product such as pork throughout the supply chains and logistics. Many respondents believed that their halal meat products are not mixed with the non-halal. Very interestingly, respondents disagreed (average mean score of 2.63) that halal meat products are shipped together with the non-Halal meat products, for example pork, inside one reefer container as part of cargo consolidation and cost reduction from Australia to Singapore or Malaysia. However, respondents do not know that halal meat products can be transported together with the other non-halal products in one container (MUIS, 2010). The halal products must be well packaged and must be placed on top of the non-halal products in one reefer container. However, this arrangement might open and expose to contamination due to lack of knowledge and training in human capital (Tieman, 2010).

On the contrary, respondents from these three countries agreed (average mean score of 4.13) that there was a lack of uniformity and transparency on how Halal meat products were handled from farm to consumers. In order to establish uniformity, many respondents shared the views that there should be transparency in the whole supply chain by demanding suppliers provide with the blueprint process. In addition, respondents’ reaction to the possibility that there is no separate backroom cold storage for the halal meat products either in supermarkets or in the distribution channels was at best ambivalent. An average mean score of 3.53 for the three groups was calculated. However, it is argued that the current infrastructure of supply chain and logistics is not yet 100% full proof but most of the food industries today are more concerned with traceability, source of origin of products and organic food which are actually emerging into the Halalan Toyyiban area (HDC, 2010).

The first significant difference is on the first attribute. It is noted that respondents from Malaysia and Australia have variance which is more than 1 while Singapore showed a variance of 0.529. This means that the respondents from Singapore were fully satisfied with the halal meat products sold at the supermarket and butcher. They believed that it had undergone the true halal food requirement of production, handling and distribution. Meanwhile respondents from Malaysia and Australia were not as satisfied as respondents from Singapore. This was due, maybe to the fact that Singapore respondents were more trusting and their confidence level based on their response towards their regulating bodies was high.

Another significant difference appeared was in second attribute. It could be seen that again respondents from Malaysia and Australia have variance more than 1 while Singapore showed a variance of 0.553. The results revealed that respondents from Singapore were satisfied with the display of halal logo on packaged meat products. They felt that the presence of such logo provided them assurance that the halal meat was 100% halal. Meanwhile respondents from Malaysia and Australia were somewhat felt differently with that matter. This would be the attitude of Singapore respondents who were more trusting and obliging compared to the respondents from Malaysia and Australia who expressed their thoughts and opinions based on their own point of views with different perspective.

The third factor which has a significant difference was in the third attribute. The variance of Malaysia and Australia reflected more than 1.2 while Singapore showed 0.833. Therefore, respondents from Singapore believed that halal meat products are transported separately throughout the supply chain and logistics meanwhile Malaysia and Australia were somewhat not satisfied with the supply chain of halal meat products. Again, the reason could be the same with those of the above two attributes.

8 Other findings

Although they agreed that their halal meat products have undergone the true halal way, respondents from these three countries surprisingly strongly agreed (average mean score of 4.51) that the industry is in demand for more specialised halal compliant solutions for its supply chain and logistics process. It was clear that from these results that supply chain companies need to concentrate and analyse their current infrastructure in order to meet the halal compliant process.

Surprisingly, respondents agreed (average mean score of 4.19) that the issuance of Halal certification normally focuses only on the slaughtering method used by the abattoirs. Most respondents wanted the Halal regulating bodies to play pro-active role in ensuring that the Halal meat products are 100% Halal. In addition, respondents strongly
agreed that Halal meat producers and retailers need to work harder to ensure that their supply chain and logistics participants meet true halal requirements at all times. Respondents reported strong levels of agreement as the average mean score is 4.54. The two results seemed to contradict themselves. On the one hand, respondents assumed that there is a 100% halal supply chain in place but they agreed that the issuance of halal certification is normally focused on the slaughtering method used at the abattoirs. This contradiction may be due to the respondents knowing that abattoirs comply with the halal standard thus receiving the halal logo but it is not easy to monitor the whole supply chain. They could only hope that there is no contamination beyond the abattoir. Most of the respondents felt that it is not feasible for any authority to monitor the whole chain thus they need to have faith in the wholesomeness of their meat products.

Respondents across the three countries would pay a premium of 10-20% more for Halal meat products with 100% Halal supply chain and logistics. Considerable average mean score of 4.02 reflected that consumers would spend extra money to satisfy their food requirements. This show that companies and business should improve on their value chain integration in order to increase the standard of halal throughout their halal ecosystem. Dynamic learning should be part of the ecosystem because the conventional wisdom is that competition in the future will not be company versus company but supply chain versus supply chain (Rice & Hoppe, 2001; Kim, 2005).

In light of all new demands and suggestions reported, respondents strongly agreed that there is a need for public education on the principles of Halal supply chain for both the consumers and suppliers including all players involved. The average mean score is 4.71. The evidence here suggested that most respondents believed that the 100% Halal supply chain could be achieved if public education is rendered massively.

9 Open-Ended Questionnaire (Online)

The open ended items of the questionnaire provided triangulation to the data gathering process. Respondents were invited to give their ideas/suggestions on how to improve the current supply chains and logistics for the halal meat products. Their comments were coded and categorised around similar ideas so that quantitative analysis could be carried out. The results are presented in Table 9.1.

| Response Categories                              | Frequency of Citations (n=181) | %    |
|-------------------------------------------------|-------------------------------|------|
| Checks and balances on halal requirements        | 50                            | 27.6 |
| Public education on the true meaning of halal food| 48                            | 26.5 |
| Halal logistics                                  | 47                            | 26.0 |
| Transparency of the halal process                | 13                            | 7.2  |
| Creating demand for halal food                   | 10                            | 5.5  |
| Financial support for halal food business        | 8                             | 4.4  |
| Increase supply of halal food                    | 5                             | 2.8  |
| Total                                           | 181                           | 100  |

It is clear from these results that ‘checks and balances on halal requirements’ was the most common suggestion given by the respondents. It garnered 50 citations out of 181. When they talked about checks and balances, they tended to use these similar words: working hand in hand, trustworthy, supervision, vigilant, stringent and many more. Public education comes in a close second with 48 citations. One respondent suggested that the general public must be educated so that they are aware that halal certification does not mean ‘no pork, no lard’ but rather the overall handling of the meat product, from the farm to the store. Similar words such as ‘make clear’, ‘educate non-Muslims’, ‘proper handling of halal product’, ‘avoid misunderstanding’ were used. Interestingly halal logistics came third with 47 citations. As far as halal logistics is concerned there were varied and contradicting comments. Some respondents wanted total segregation of halal meat from the non-halal meat but some did not mind if they were placed together with the non-halal meat as long as these halal meat were well packaged. Similar words such as ‘different storage room’, ‘fridge from non-halal food’, ‘separate cold rooms for halal and non-halal meat’, ‘kept separately in the same cold room’ were used.
10 Conclusion

The current study has uncovered some aspects of consumers’ perceptions of their buying choice, knowledge and understanding of halal food requirements relating to halal meat products and also the current practice of supply chain and logistics for such meat products. The future of halal supply chain offers great opportunity for some and great risk for others. It has been established through the surveys data that there is a potential demand for a 100% halal supply chain and logistics. Majority of the respondents from the three countries are aware of the halal food laws requirements and are willing to pay a premium for halal meat products with 100% halal supply chain. True to the law of supply and demand, when demand increases, supply will inevitably decrease and so the common trade-off is the increase in price. Dynamic learning in halal will offer some positive impacts on the supply chain performance. As such, companies must understand the concept of a learning culture in different ways and attempt to implement such a culture accordingly and should embark on this pathway in response to immediate pressures and implement approaches and develop systems which best meet their own supply chain needs that will meet the halal meat laws.

Importantly, companies and businesses should be aware that everyone who wishes to be working within the halal food industry, it is compulsory to practice self-monitoring rather than needing to be monitored by someone else. That should be the way forward as such control and monitoring is very efficient and powerful. It serves a variety of goals and prevents individuals from escaping their duties, rights and responsibilities because self-restraint is much more efficient and effective than outer restraint: “And He is with you wheresoever ye may be. And Allah is Seer of what ye do” (Al-Baqarah: 110).

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