

# Understanding the Relationship between Perceived Quality Cues and Quality Attributes in the Purchase of Meat in Malaysia

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## ABSTRACT

This study utilises the Total Food Quality Model to gain a better understanding of how Malaysian consumers make their decision to purchase fresh/chilled meat. We examine the association between quality cues and desired values (quality attributes) with regards to food that is guaranteed Halal, safe to eat, healthy and nutritious, has a good taste, represents good value for money, and is produced in a way which protects the environment and worker welfare. The findings reveal that different quality cues assume different levels of importance when pursuing different desired values.

**KEYWORDS:** perceived quality, quality cues, quality attributes, fresh meat, Malaysia.

## INTRODUCTION

Consumer behavior is about dealing with how and why consumers purchase goods and services. According to Neal et al. (2007), consumer behavior is a combination of both observable and non-observable behaviour.

According to Veeck and Veeck (2000), studies on consumer behavior, specifically on food purchase patterns in Asia, are limited and the consumption patterns observed for Western consumers do not always correspond with those observed in Asia. Goldman and Hino (2005) demonstrate that economic development in the West, which encourages consumers to purchase food from modern retail outlets, does not always apply in Asian countries. Despite having access to modern retail outlets, consumers continue to purchase fresh meat and fresh fruit and vegetables from the wet markets.

Furthermore, consumer preferences are often dissimilar between countries. While Nielsen et al. (2003) report that some consumers in Argentina, Mexico, China and North America have a preference for genetically modified food because of the lower cost, consumers in Western Europe and Japan are concerned about the potential health hazards of consuming genetically modified products.

Culture is known to influence consumer behavior (Veeck and Veeck 2000). Ackerman and Tellis (2001) mention how consumers' shopping behavior differs among consumers from different countries due to their different cultural values and norms. Keast (2009) suggests that food quality perceptions are determined by the sensory factors (taste, smell, food texture, appearance) and non-sensory factors which include: (1) price; (2) convenience; (3) branding; (4) food production and processing methods; (5) credence attributes; (6) cultural differences, and (7) food traditions. In turn, these are subject to individual differences and situational factors. Moreover, Keast (2009) suggests that food quality perception is a subjective experience, for many of the variables which relate to the quality of a product may not be employed in subsequent purchases.

Given that food consumption patterns in Malaysia are changing (Tey et al. 2008a) and there is a lack of information about consumers food purchase behavior, this study aims to identify what quality cues consumers associate with desired quality attributes such as Halal, food safety, healthy and nutritious food, taste, value for money, sustainable production and ethical requirements.

## **RESEARCH FRAMEWORK**

The conceptual framework for this study was adapted from Steenkamp (1990) and the Total Food Quality Model developed by Grunert, Larsen, Madsen and Baadsgaard (1996) [cited in Grunert 2002]. Steenkamp (1990) defined the concept of perceived quality through the concept of value. In a similar approach, the study of food quality perceptions was introduced by Grunert et al. (1996) through the Total Food Quality Model. The Total Food Quality Model is a common framework that deals with how consumers perceive food quality and food safety, and how perceptions influence consumer's decision-making. According to Grunert (2005), food quality can be examined through two different dimensions; horizontal and vertical.

### **Quality Cue - The Horizontal Dimension of Perceived Quality**

Quality cues are defined as information stimuli that are related to the quality of the product and can be ascertained by the consumer through the senses prior to consumption (Steenkamp 1990, p.312). Consumers are offered a large number of quality cues in the market. In the consumers' mind, desired cues are gathered and categorised, before making predictions of the product quality. How the cues are gathered and categorised are based upon the consumers' beliefs and prior knowledge of the product.

In the Total Food Quality Model (Grunert et al. 1996), quality cues revolve around the ability of the consumer to evaluate the quality of food before (quality expectation) and after purchase (quality experience). Consumer satisfaction or dissatisfaction with the purchase will subsequently reflect upon the cues that were utilised in the purchasing process. For this paper, we look only into the quality perceptions before purchase.

#### *Intrinsic cues*

The concept of intrinsic and extrinsic cues was developed by Olson and Jacoby (1972) [cited in Oude Ophuis and Van Trijp 1995]. Intrinsic cues describe the physical attributes of the product, which cannot be changed or manipulated without changing the product itself (Oude Ophuis and Van Trijp 1995; Grunert 2005). According to Verbeke et al. (2005), intrinsic cues include such search attributes as appearance, color, shape, size and structure. For example: when judging the quality of a raw piece of meat in a retail store, consumers may utilise intrinsic cues such as color, the amount of fat, fat marbling and juice (Brunso et al. 2002). Brunso et al. (2002) also demonstrated how the visual appearance of meat had a strong association with consumers' quality expectations.

#### *Extrinsic cues*

According to Oude Ophuis and Van Trijp (1995), extrinsic cues are quality cues that are not related to the physical product, but become an important indicator when comparing between two or more products that are similar in appearance. Price and brand are the best known examples of extrinsic cues.

Brand names or labels are widely applied in the food area (Oude Ophuis and Van Trijp 1995). As mentioned by Bowbrick (1992), a label attached to a specific product provides information about a specific producer, origin or retailer and aims to influence consumers with regards to the quality, reliability, social status, value for money or safety of the product. Brand names are important in reducing the uncertainty and the risk involved when purchasing food (Grunert 2005; Krystallis and Arvanitoyannis 2006). Grunert et al. (2004) suggest that brands provide a means for a seller to signal a superior quality product, which may then induce consumers to pay a premium price. For meat, consumers have started to show an interest in areas such as origin, food safety, information regarding the producers and the food production process after numerous food safety scares (Krystallis and Arvanitoyannis 2006).

### *Credence cues*

Credence cues denote features of the product which are considered important by the consumers, but are not experienced directly in consumption (Becker 1999). Credence cues cannot be verified readily by the consumer upon consumption (Davidson et al. 2003). Credence cues include nutrition, the presence of genetically modified food, the adoption of sustainable agricultural production systems, considerations for animal welfare, fair trade and the prohibition of forced and child labor (Steenkamp 1990).

Halal is also a credence cue, given that the characteristics of Halal are not always visible and cannot be validated by the consumer even after consuming the food (Bonne and Verbeke 2008a). According to Davidson et al. (2003), consumers usually rely on actors within the supply chain to provide honest and meaningful information, as evidenced by the presence of labels and independent third party, quality assurance certificates.

### **Desired Values - The Vertical Dimension of Perceived Quality**

Quality attributes are defined as the functional and psychosocial benefits or consequences provided by the product (Steenkamp 1990). The quality attributes of a product are the expected benefits that a consumer will experience after consumption, which captures what the consumer really wanted. Although consumers know what they want, Steenkamp (1990) suggests that the benefits of the product are rarely known prior to consumption. This indicates that the quality attributes of a product can only be determined and evaluated after consumers have consumed the product.

According to Steenkamp (1990), in the quality perception process, a quality cue is valued because of the perceived relationship with the quality attributes of the product. These relationships between quality cues and quality attributes can be conceptualised as means-end chains. Through means-end chains, quality cues are perceived to provide a means to achieve certain ends (quality attributes) that are valued by the consumer. Similarly, in the Total Food Quality Model, consumers are not interested in the product, but rather the self-relevant consequences of the product, which enable them to reach their desired life values (Grunert 2005). Perceived quality attempts to link product characteristics (quality cues) with the more abstract quality dimensions which are associated with consumer motivations (beliefs, attitudes) and values.

Based on the Total Food Quality Model, good quality revolves around four central concepts: sensory characteristics, health, convenience, and process characteristics (production) (Grunert 2005). In this study, the concepts were described as desired values. For Holbrook and Corfman (1983, p. 23), value is defined as a relativistic preference characterising a subject's interaction experience with some object.

In this paper, we concentrate on the sensory characteristics (taste), health, and production and ethical requirements (concern for the environment and worker welfare). However, with the changes that are currently occurring in the Malaysian food market, we have included additional values such as food safety (Peri 2006), Halal (Bonne and Verbeke 2008a) and value for money (Liu et al. 2006).

#### *Sensory characteristics (taste)*

For Becker (2000), characteristics such as taste, flavor, tenderness, leanness, juiciness and texture were grouped as sensory characteristics. McCarthy et al. (2003) mentioned how sensory characteristics such as taste play an important part in the consumer's level of 'eating enjoyment'. However, during the purchase process, particularly for fresh meat, consumers seldom have the opportunity to taste the meat prior to consumption. In such instances, search quality cues like color, marbling, leanness, place of purchase, price and country-of-origin may enable the consumer to assess the eating quality of the meat while shopping (Becker 2000).

#### *Healthy and nutritious*

Consuming nutritious healthy food provides health benefits and strengthens the body against disease (Peri 2006). In Krystallis and Arvanitoyannis (2006), the health quality attributes were found to be more important for consumers who desired health in their diet.

#### *Production and ethical requirements (concerns for the environment and worker welfare)*

Consumers are becoming more concerned about how, when and where their food has been produced. The process-related quality variables include food safety, sustainability of agricultural production systems, the presence of genetically modified food ingredients, animal welfare, farm labor conditions and child labor (Steenkamp 1990; Oude Ophuis and Van Trijp 1995). In meat production, European food safety legislation protects not only consumers, but also responds to aesthetic and ethical issues such as genetic modification, animal housing, animal nutrition and the use of antibiotics (McEachern and Schroder 2002). However, in practice, McEachern and Schroder (2002) suggest that it is difficult for most consumers to focus on ethical issues when purchasing fresh meat, given that they often need to pay more to purchase meat that has been ethically produced.

#### *Food safety*

Both Peri (2006) and Keast (2009) consider food safety to be an implicit part of food quality. Consumers generally assume that all food available for consumption has met prior safety standards and requirements (Hester and Harrison 2001 [cited in Keast 2009]). However, in some cases, the reliability and integrity of the food supply system has been dampened by outbreaks such as BSE in Europe (Vos 2000) and the bird flu epidemic that hit Asia (Abbott and Pearson 2004). Due to the lack of strict quality controls for meat production in China, consumers rank food safety as the most important attribute when purchasing beef from a retail store (Liu et al. 2006).

#### *Halal requirements*

Bonne and Verbeke (2006) demonstrate how religion influences consumers' attitude towards the food that they intend to purchase. In a Muslim country such as Malaysia, eating food that is Halal is considered important. The slaughtering method (credence attribute) was found to be the most important attribute for Muslim consumers in Belgium when purchasing fresh meat (Bonne and Verbeke 2006). Given that the slaughter method cannot be verified by

consumers even after consuming the food, they associate this attribute with the place of purchase, where they trust their butcher, who is also Muslim, to deliver Halal meat. In a market where all participants do not have access to all the information, Becker (1999) mentioned that credence quality could also be verified by experts (sellers) who have more information about the product than consumers (buyers). However, according to Riaz (1996) [cited in Ahmed 2008], the utilisation of labels to indicate that the food product is lawful for Muslim consumption is still low. Subsequently, the number of Muslim consumers that highlight the importance of Halal certification (labels) on food products is increasing (Abdul et al. 2008).

#### *Value for money*

Zeithaml (1988) describes value for money as: (1) a low price (products on sale/special or discounted); (2) the quality I get for the price I pay (affordable quality), and (3) what I get for what I pay (price and the minimization of waste). Grunert (2005) discussed value for money in terms of the consumer's willingness-to-pay for better quality attributes, together with some additional quality features (food safety and information with regards to the production method).

From this discussion, a conceptual framework for this study is proposed (Figure 1).

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## **METHODS**

### **Product Categories**

The target meats for this research were highly influenced by the ethnicity and cultural background of the Malaysian population. Malaysia is a multi-ethnic country which consists of Malay (50.4%), Chinese (23.7%), indigenous (11.0%), Indian (7.1%) and others (7.8%) (The World Factbook 2009). It was reported that 60.4% are Muslims, 19.2% are Buddhist, 9.1% are Christian and 6.3% are Hindu. Chicken was chosen due to the high consumption among Malaysian consumers and its acceptability by most religious and ethnic groups (Paragus 2006; Kaur and Arshad 2007).

Beef was the other target meat for this research. Beef consumption among Malaysians is higher than mutton (Paragus 2006). While the consumption of pork is high among the Chinese (Paragus 2006), as the majority of Malaysians are Muslim and the consumption of pork is forbidden, pork was not selected for this research.

### **Sample**

In this study, a central location personal interview method, based on selected shopping malls and traditional markets was considered to provide the most appropriate means of data collection. Potential respondents were intercepted and interviewed as they arrived or as they were about to leave the shopping precinct.

To provide an element of randomness, shoppers passing by the interview station were counted and every 7<sup>th</sup> person was intercepted. The data collection process was conducted at the same period of time everyday at each retail outlet in order to standardise the results and to reduce sampling error.

## **Research Instrument**

The survey instrument, a questionnaire, was divided into several parts. Respondents were first presented with a number of criteria based on the literature (24 criteria for chicken and 23 criteria for beef) which were thought to be most influential in the consumers' decision to purchase fresh chicken and/or beef from a retail store. A six point scale was utilised where respondents were required to rank the importance of each criteria, where 1 was "not at all important" and 6 was "very important". The criteria included a number of: (1) intrinsic quality cues, (2) extrinsic quality cues, and (3) credence quality cues.

Utilizing the same scale respondents were then asked to rank how important each of the seven desired values were to them in their decision to purchase fresh meat from a retail store. Finally, respondents were asked to link the criteria that they most often utilised in their decision to purchase fresh meat with each of the seven desired values.

## **RESULTS AND DISCUSSION**

### **Sample Characteristics**

In terms of gender, the research findings revealed that more females (86%) were responsible for purchasing fresh meat for household consumption compared to males (14%). More than half of the respondents (87%) were aged between 18 to 34 years old, while 13% of the respondents were aged 45 and above. Respondents had a variety of different levels of education, income distribution and ethnicity, thereby providing an adequate representation of the population from which it was drawn.

### **Criteria in Purchasing Fresh Chicken and Beef**

Eleven variables were identified as being of equal importance to respondents in their decision to purchase both fresh chicken and beef (Table 1).

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Variables were grouped under themes which included Halal (appropriate slaughter and Halal certificate), the physical appearance of the meat (freshness, smell/odour, clean/no flies, flesh color), extrinsic indicators (quality assurance label, competitive price and value for money), and the safety of the meat (freedom from chemicals/growth promotants). The only differences identified between the two meat products was skin color, which was considered to be an important variable for respondents in their decision to purchase fresh chicken, and freedom from antibiotics for beef.

### **The Importance of Desired Values in the Decision to Purchase Fresh Meat in a Retail Store**

The importance of each of the desired values was then ranked by respondents. The influence of Halal, food that was safe to eat and food that was healthy and nutritious were the most important desired values respondents considered when purchasing fresh chicken (Table 2).

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Similarly, in purchasing fresh beef, the meat had to be guaranteed Halal, safe to eat, healthy and nutritious, and good tasting.

### **The Food is Guaranteed Halal**

Respondents strongly believed that variables such as Halal certification, appropriate slaughter and a quality assurance label were highly associated with food that was guaranteed Halal (Table 3).

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According to Grunert (2005), Halal is a credence quality attribute, which cannot be evaluated or ascertained by consumers, even after consuming the product. This indicates why intrinsic cues such as freshness and skin color, and extrinsic cues (price) were among the variables least often associated with the Halal status of the meat respondents intended to purchase. Although the presence of credence quality attributes can be communicated through labelling (Bonne and Verbeke 2008b), there have been a number of cases where a Halal logo attached to a piece of meat does not guarantee that the product is Halal. According to the Muslim Consumers Association of Malaysia (PPIM), the misuse of Halal certification and the Halal logo is widespread. Furthermore, consumers have expressed their doubts about the Halal status of beef imported from foreign countries, given that these abattoirs are not regularly inspected.

However, the country from which the meat has been imported may also indicate the Halal status of the meat. Given that the production of meat in Malaysia, particularly beef, is not sufficient to meet the local demand (Mohamed 2007), beef is imported from countries such as India, Pakistan, Australia and New Zealand, as well as several South American countries such as Brazil, Uruguay and Argentina (Meat Trade News Daily 2009).

### **The Food is Safe to Eat**

Freedom from chemicals/growth promotants and antibiotics, and appropriate slaughter (Halal) were the three most frequently cited variables which were believed to indicate that fresh meat was safe to eat (Table 4).

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Issues relating to the usage of chemicals and growth hormones in both poultry and cattle production have raised concerns among Malaysian consumers. Aini (1990) reported that there was an increasing demand for village chicken (*ayam kampung*). Village chicken are breed in a traditional village-based system (free-range system) which requires minimal resource inputs. As a result of a more natural rearing system, Oh (1987) [cited in Aini 1990] believed that the meat and eggs from these chickens were safer to eat and more tasty than commercial chicken meat. Shaharudin et al. (2010) confirmed that because non-organic chicken rearing involved the use of antibiotics, vaccines and growth promotants to accelerate the rate of maturity, it was unhealthy and unsafe for consumption.

The appropriate method of slaughter, which determines the Halal status of the fresh meat, was also associated with food safety. With reference to the Halal food guideline, the slaughtering act shall sever the trachea, oesophagus, carotid arteries and jugular veins to hasten the bleeding and death of the animal (Department of Standards Malaysia 2004). The slaughter method, according to Islamic rules, provides meat that contains less blood and thus there is less likelihood of bacterial contamination (Bonne and Verbeke 2006). The concept of Halal itself guarantees that the food is handled in a manner that is both safe and hygienic (Department of Standards Malaysia 2004).

The physical appearance of the meat such as cleanliness and freshness was also an indicator that the meat was safe to eat. Freshness was a major criteria in assessing the perceived safety of beef, pork and chicken among European consumers (Glitsch 2000). Anklam and Battaglia (2001) found that consumers' expected high quality food to be fresh, good looking, nutritious, wholesome, tasty and most importantly to be safe. Consumers' only major concern was that there was no direct means to verify that the food was safe to eat.

### **The Food is Healthy and Nutritious**

Freshness was the most frequently cited variable which indicated that fresh meat was healthy and nutritious (Table 5).

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Kennedy et al. (2004) found that female respondents who had a positive attitude towards their health and body weight relate the freshness of chicken meat with eating healthy food. Van Wezemaal et al. (2010) found that consumers have a greater preference for fresh beef compared to processed and packaged beef because freshness signals the healthfulness of the meat.

The way the poultry and cattle had been raised (freedom from chemicals/growth promotants, freedom from antibiotics and organically grown) was also associated with healthy and nutritious meat. Farina and de Almeida (2003) demonstrated the association between healthy meat and the method of production, for consumers perceived that eating free-range, natural or organic chicken was considered more healthy, given the absence of steroids and antibiotics. According to Stefani et al. (2008), chicken was perceived to be unhealthy due to the presence of growth hormones and antibiotics used in the rearing process. In Malaysia, Yeoh (2007) reported that the Nutrition Society in Malaysia (NSM) recommended that consumers eat less chicken in their daily diet to remain healthy. According to the Consumers Association of Penang (CAP) [cited in Yeoh 2007], chicken meat produced to meet the demand during festive seasons had a higher risk, given that these birds were given antibiotics and growth hormones to accelerate their growth. Bernues et al. (2003) found that consumers in Europe related the methods of animal production with their concerns about health, nutrition and the safety of the red meat they consumed.

### **The Food Has a Good Taste**

Freshness and the physical appearance of the meat, which included smell/odour, flesh color and skin color, clean/no flies and leanness, were among the variables most frequently cited by respondents as leading them to believe that the meat had a good taste (Table 6).



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Although similarities existed between both meats, the discussion in the literature was found to be very different. Kennedy et al. (2004) discovered a relationship between color and taste in the purchase of chicken meat. Kennedy et al. (2004) suggested that in purchasing fresh chicken from a retail store, consumers utilised the intrinsic quality cues, which consisted of appearance, color, freshness and leanness, to reflect other functional attributes (taste and healthfulness). For fresh beef, Carpenter et al. (2001) agreed that the color of the meat, particularly bright red in color, positively affected consumers' likelihood of purchasing the product. However, whether the beef was red, purple or brown, did not affect the taste of the meat. Carpenter et al. (2001) suggested that the consumers' eating satisfaction depended on other criteria such as tenderness, juiciness and flavor.

Egan et al. (2001) found that the taste of beef was related to smell and other variables such as fat and texture or juiciness of the meat. The relationship between taste and smell was also reported by Liu et al. (2006), where consumers in China placed these two variables as among the most important attributes when purchasing beef. McCarthy et al. (2003) revealed how taste, appearance and sensory attributes contributed to the consumers' level of 'eating enjoyment'.

In relating the fat content of the meat with good taste, Glitsch (2000) found that the texture of the meat (tenderness) for beef was more important to consumers in European countries, rather than leanness. Egan et al. (2001) mentioned that the eating quality of beef may improve through marbling because of increased juiciness and flavor. Glitsch (2000) also demonstrated that leanness was more often associated with the purchase of chicken meat. Similarly, Kennedy et al. (2004) found that leanness (less fat content) was one of the main reasons why consumers chose chicken over red meats.

### **The Food Represents Value for Money**

Competitive price and value for money were strong indicators in determining that the fresh meat the respondent intended to purchase represented good value for money (Table 7).

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According to Grunert (2005), the concept of value for money is justified by relating quality and price together. Grunert (2005) found that consumers were only willing to pay the price for a piece of meat when the quality of the meat was perceived sufficient to the amount spent. Egan et al. (2001) found that the price of beef was important to Japanese consumers, given that low priced beef was often associated with lower quality. By comparing between both meat products, chicken was perceived to bring more value to consumers due to the cheaper price of the meat. In Malaysia, although the prices vary between cuts, the price of chicken meat is relatively cheaper than beef (Tey et al 2008b). McCarthy et al. (2003) demonstrated how beef was often perceived as a luxury food item. In Japan, Peterson and Chen (2005) found that consumers perceived imported beef (from the US and Australia) to be a luxury good. However, due to the higher price, beef was perceived to offer poor value for money compared to other meats such as chicken and pork. As beef was purchased less often, McCarthy et al. (2003) indicated that consumers have less experience in purchasing beef. Given that the quality of the product is also more variable, with less experience, consumers may encounter greater dissatisfaction and thus less utility. Tey et al. (2008b) demonstrated

the relationship between price and value for money in Malaysia. Higher income consumers favored hybrid or imported beef, which was more expensive than domestically raised beef, as it delivered superior taste and texture, and thus it was perceived to represent better value.

The size and the availability of individual parts was often associated with meat that represented good value for money. Although being sold at a more expensive price, younger respondents had a strong preference for chicken breast fillet because this portion was versatile and convenient (Kennedy et al. 2004). For them, buying a whole chicken was wasteful and seldom provided good value for money. In a similar case, Unnevehr and Bard (1993) explained that different cuts of beef created different outcomes. The purchase of these different cuts was highly dependent on the household size and income to provide a meal that was perceived to represent good value for money. According to Egan et al. (2001), consumers preferred lean steaks of medium size to large steaks. Steaks with more marbling were often offered at a much higher price. The intended use of the meat was also associated with meat that brought good value for money. Stefani et al. (2008) indicated that the purchase of chicken represented good value for money because of the popularity of the meat among the household and the ease with which the meat could be combined with other ingredients. Brunton (2009) agreed, mentioning that chicken meat is known to be a versatile, quick and easy to prepare and consumers are able to produce a wide variety of meals. Chicken had a good value image as the meat is appealing among children and well accepted by the whole family. In contrast, when preparing red meat, some parts may need to be trimmed due to higher fat content. As a result of this, red meat was not considered to represent good value for money (Kennedy et al. 2004).

Quality assurance labels and brands were perceived to influence perceptions of value. Walley et al. (1999) revealed how consumers valued quality assurance labels as an important indicator of meat quality. Consumers preferred to purchase meat products which were quality assured rather than meat which was not. Branding captures value by differentiating the product and by providing an assurance of quality to consumers (Kim and Boyd 2004).

### **The Food Has Been Produced in a Way That is Good for the Environment and Protects Worker Welfare**

Meat products that were organically grown, free from chemicals, growth promotants and antibiotics were perceived by respondents to be better for the environment and worker welfare (Table 8).

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Respondents associated the production method for rearing poultry and cattle with meat that had been produced in a way that was good for the environment and worker welfare.

Von Borell and Sorensen (2004, p. 3) described organic livestock production as: (1) production methods based on ecological principles (meeting all health regulations, working in harmony with the environment, building biological diversity and fostering healthy soil and growing conditions); (2) animals raised without the use of toxic persistent pesticides, antibiotics and parasiticides, and (3) organic meat produced from farms that have been inspected and met strict standards which utilise organic feed and are concerned about animal welfare (access to outdoors, fresh air and sunlight). Overall, organic livestock production is considered sustainable for the consumers, for the workers involved in the farming system, for the environment and for the animals.

Hermansen (2001) found that those consumers who preferred organic meat placed considerable importance on health aspects and ethical issues as a motive for their decision to purchase. According to the Ministry of Food, Agriculture and Fisheries of Denmark [cited in Hermansen 2001], the environmental aspects have been dominant with organic livestock production in most European countries. McEachern and Willock (2004) described the “naturalness” of organically produced meat saying that: (1) organic farming is the best method of ensuring a sustainable future for farming and (2) freedom from chemicals, because chemicals are dangerous for the farmer and the animals. Castellini et al. (2008) mentioned that the development of organic and free-range poultry production is in response to consumers’ concerns for environmental protection, animal welfare and production systems that progressively enhance the institutional environment.

Hermansen (2001) found that different consumer groups emphasized different motives when purchasing organic meat. While elderly consumers may purchase organic meat to gain a more healthy meal, younger consumers emphasize the importance of protecting the environment. O’Donovan and McCarthy (2002) found that consumers were more concerned about their health, rather than the environment or concerns about pollution when purchasing organic meat. McEachern and Schroder (2002) demonstrated similar results, reporting that consumers main motivation for buying organic food was concern about food safety, followed by concerns for animal welfare and finally the environment. According to McEachern and Schroder (2002) and Castellini et al. (2008), consumers’ preferences for intangible quality attributes such as individual health and safety, animal welfare, production aesthetics, pollution, biodiversity and rural sustainability are influenced by their knowledge, attitudes and values towards these attributes. Yiridoe et al. (2005) suggested that consumers may place a greater emphasis on their personal benefits such as health and food safety, rather than any other benefits in the purchase of organically produced food.

While consumers may demonstrate their desire to protect the environment and express their concerns for other ethical issues, they often face challenges in aligning their beliefs and their actions. According to McEachern and Schroder (2002), although some “green” consumers support organic, the environment and fair trade, because of the higher price they have to pay to purchase these products, they are often unwilling to do so. Ahmad and Juhdi (2008) confirmed that Malaysian consumers possess the knowledge and awareness of sustainability, but most consumers were unwilling to purchase environmentally produced meat. In Malaysia, concerns for animal welfare by low income earners are almost non-existent (Azhari 2010).

## CONCLUSION

This paper reports on an initial investigation of perceived quality for the purchase of fresh meat among Malaysian consumers. We have identified the many quality cues consumers consider and ranked the importance of the desired values they seek in making their decision to purchase fresh meat. The results of this study have also revealed the relationship between the quality cues and desired values. Different quality cues were associated with the different desired values that respondents sought in their decision to purchase fresh meat.

The key findings from this study reveal that a number of variables were used by respondents to evaluate a multiple number of desired values. Freshness indicates that the meat will taste good, be healthy and nutritious and deliver value for money. Respondents also associated meat that was free from chemicals/growth promotants as an indicator that was safe to eat, healthy and nutritious and had been produced in a manner that was not harmful for the environment or worker welfare.

The findings of this study which linked a group of variables with a number of desired values has significant implications for the marketing of fresh meat in Malaysia. For instance, freshness signified that the meat purchased should taste good, be healthy and nutritious and bring value for money. However, freshness means different things to different people, depending on the place of purchase. Some consumers perceived freshness to mean that the meat had been freshly killed, was still 'warm' and not chilled or frozen (Goldman and Hino 2005). Other consumers determine freshness by touching or smelling the product (Zikhan et al. 1999). Bonne and Verbeke (2006) added that the freshness of the meat purchased from supermarkets was determined by the label attached to the product, which provided information such as the slaughter date, the date the meat was processed and the origin of the meat. At the same time, shoppers who purchased meat from supermarkets described that the meat as fresh when the product was chilled and displayed in temperature controlled shelves (Hsu and Chang 2002).

Respondents constantly linked meat that was free from chemicals and growth promotants to food safety, health and nutrition, and good for the environment and worker welfare. However, consumers cannot determine that the meat they intend to purchase is free from chemicals/growth promotants by visual inspection. Because of its high price, the purchase of meat is often considered to be a high involvement purchase, which requires consumers to access information about the product and to evaluate the product attributes carefully prior to purchase (Verbeke et al. 2005). To reduce the perceived risk in purchasing meat from a retail outlet, quality assurance labelling is a common approach. McEachern and Schroder (2002) suggested that a label verifies the intangible characteristics of meat such as the concern for animal welfare or the adoption of good agricultural practice (GAP). However, in the absence of any legitimate third party certification for meat sold in traditional markets, the personal trust developed between customers and their preferred butcher provides the only possible means of verification.

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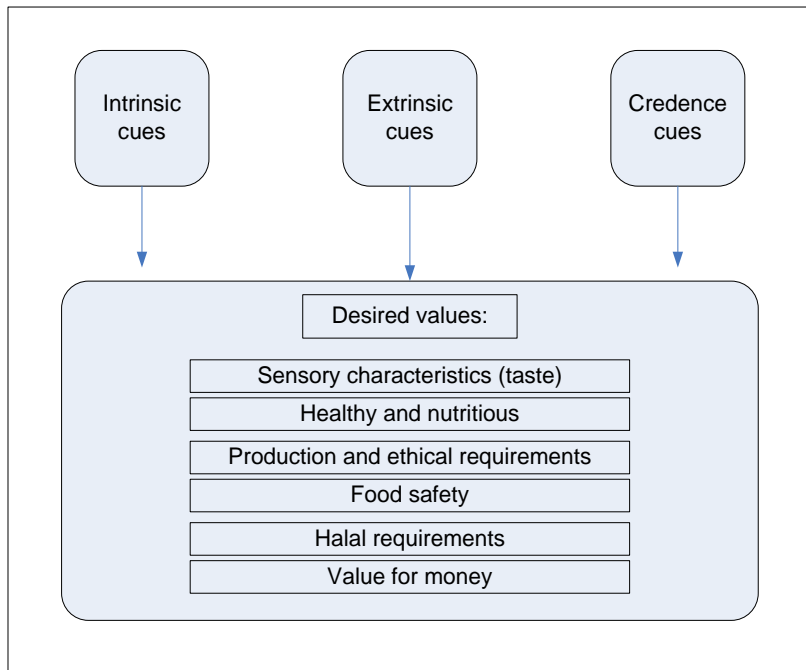
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**Fig. 1.** A model of perceived quality



**Table 1: Importance of variables influencing respondents' decision to purchase fresh chicken and fresh beef**

|  | Chicken           |      | Beef              |      |
|--|-------------------|------|-------------------|------|
|  | Mean              | SD   | Mean              | SD   |
| Appropriately slaughtered (Halal)        | 5.90 <sup>a</sup> | 0.57 | 5.90 <sup>a</sup> | 0.44 |
| Freshness                                | 5.89 <sup>a</sup> | 0.36 | 5.87 <sup>a</sup> | 0.37 |
| Halal certificate                        | 5.83 <sup>a</sup> | 0.63 | 5.88 <sup>a</sup> | 0.43 |
| Smell/Odour                              | 5.79 <sup>a</sup> | 0.53 | 5.76 <sup>a</sup> | 0.57 |
| Clean/no flies                           | 5.77 <sup>a</sup> | 0.49 | 5.79 <sup>a</sup> | 0.47 |
| Flesh colour                             | 5.75 <sup>a</sup> | 0.53 | 5.74 <sup>a</sup> | 0.59 |
| Skin colour                              | 5.69 <sup>a</sup> | 0.61 | 4.58 <sup>g</sup> | 1.75 |
| Quality assurance label                  | 5.58 <sup>a</sup> | 0.82 | 5.54 <sup>a</sup> | 0.75 |
| Value for money                          | 5.52 <sup>a</sup> | 0.69 | 5.44 <sup>a</sup> | 0.81 |
| Competitive price                        | 5.47 <sup>a</sup> | 0.78 | 5.46 <sup>a</sup> | 0.79 |
| Freedom from chemicals/growth promotants | 5.40 <sup>a</sup> | 0.94 | 5.40 <sup>a</sup> | 0.87 |
| Freedom from antibiotics                 | 5.37 <sup>b</sup> | 0.94 | 5.38 <sup>a</sup> | 0.92 |
| Country-of-origin                        | 5.34 <sup>b</sup> | 0.99 | 5.29 <sup>b</sup> | 0.99 |
| Intended use                             | 5.09 <sup>c</sup> | 0.95 | 5.18 <sup>c</sup> | 1.01 |
| Size                                     | 5.08 <sup>c</sup> | 1.04 | 4.89 <sup>e</sup> | 1.15 |
| Grown on local farms                     | 5.01 <sup>d</sup> | 1.16 | 5.16 <sup>d</sup> | 1.07 |
| Fat content                              | 4.97 <sup>e</sup> | 1.17 |                   |      |
| Available as individual parts            | 4.88 <sup>f</sup> | 1.17 | 5.17 <sup>d</sup> | 1.12 |
| Raised in a humane way                   | 4.81 <sup>g</sup> | 1.16 | 4.97 <sup>d</sup> | 1.11 |
| Organically grown                        | 4.76 <sup>g</sup> | 1.21 | 5.08 <sup>d</sup> | 1.04 |
| Leanness                                 | 4.64 <sup>g</sup> | 1.28 | 5.28 <sup>b</sup> | 0.92 |
| Label/brand                              | 4.35 <sup>h</sup> | 1.42 | 4.66 <sup>f</sup> | 1.28 |
| Marbling                                 | 4.35 <sup>h</sup> | 1.37 | 5.24 <sup>b</sup> | 0.91 |
| Pre-packed                               | 4.01 <sup>i</sup> | 1.41 | 4.39 <sup>h</sup> | 1.32 |

where 1 is “not at all important” and 6 is “very important”

those items with the same superscript are not significantly different at  $p = 0.05$

**Table 2: Importance of desired values respondents use in their decision to purchase fresh chicken and fresh beef in a retail store**

| Desired values   | Chicken           |      | Beef              |      |
|--|-------------------|------|-------------------|------|
|  | Mean              | SD   | Mean              | SD   |
| The food is guaranteed Halal   | 5.87 <sup>a</sup> | 0.62 | 5.93 <sup>a</sup> | 0.37 |
| The food is safe to eat  | 5.85 <sup>a</sup> | 0.39 | 5.86 <sup>a</sup> | 0.41 |
| The food is healthy and nutritious                                   | 5.80 <sup>a</sup> | 0.49 | 5.78 <sup>a</sup> | 0.48 |
| The food has a good taste  | 5.58 <sup>b</sup> | 0.74 | 5.67 <sup>a</sup> | 0.60 |
| The food represents value for money                                  | 5.44 <sup>c</sup> | 0.82 | 5.48 <sup>b</sup> | 0.87 |
| The food has been produced in a way that is good for the environment | 5.16 <sup>d</sup> | 1.00 | 5.21 <sup>c</sup> | 0.98 |
| The food has been produced in a way that protects worker welfare     | 5.01 <sup>d</sup> | 1.09 | 5.03 <sup>d</sup> | 1.11 |

where 1 is “not at all important” and 6 is “very important”

those items with the same superscript are not significantly different at  $p = 0.05$

**Table 3: The association between criteria utilised in the decision to purchase fresh meat that is guaranteed Halal**

| <b>The food is guaranteed Halal</b> | <b>Chicken</b> | <b>Beef</b> | <b>N</b> |
|-------------------------------------|----------------|-------------|----------|
| Halal certificate                   | 182            | 129         | 311      |
| Appropriately slaughtered (Halal)   | 165            | 117         | 282      |
| Quality assurance label             | 68             | 46          | 114      |
| Country-of-origin                   | 29             | 29          | 58       |
| Freshness                           | 8              | 4           | 12       |
| Colour                              | 2              | 3           | 5        |
| Price                               | 2              | 1           | 3        |

**Table 4: The association between criteria utilised in the decision to purchase fresh meat which is safe to eat**

| <b>The food is safe to eat</b>           | <b>Chicken</b> | <b>Beef</b> | <b>N</b> |
|--|----------------|-------------|----------|
| Freedom from chemicals/growth promotants | 117            | 61          | 178      |
| Appropriately slaughtered (Halal)        | 95             | 63          | 158      |
| Freedom from antibiotics                 | 77             | 47          | 124      |
| Clean/no flies                           | 58             | 52          | 110      |
| Halal certificate                        | 64             | 43          | 107      |
| Freshness                                | 36             | 33          | 69       |
| Quality assurance label                  | 36             | 24          | 60       |
| Smell/odour                              | 27             | 21          | 48       |
| Organically grown                        | 28             | 19          | 47       |

**Table 5: The association between criteria utilised in the decision to purchase fresh meat that is healthy and nutritious**

| <b>The food is healthy and nutritious</b> | <b>Chicken</b> | <b>Beef</b> | <b>N</b> |
|---|----------------|-------------|----------|
| Freshness                                 | 82             | 67          | 149      |
| Freedom from chemicals/growth promotants  | 76             | 45          | 121      |
| Organically grown                         | 60             | 34          | 94       |
| Clean/no flies                            | 55             | 36          | 91       |
| Flesh colour                              | 43             | 38          | 81       |
| Freedom from antibiotics                  | 42             | 35          | 77       |
| Leanness                                  | 41             | 34          | 75       |
| Fat content                               | 36             | 22          | 58       |
| Smell/odour                               | 34             | 23          | 57       |
| Appropriately slaughtered (Halal)         | 31             | 19          | 50       |
| Quality assurance label                   | 18             | 17          | 35       |
| Skin colour                               | 23             | 10          | 33       |

**Table 6: The association between criteria utilised in the decision to purchase fresh meat with a good taste**

| <b>The food has a good taste</b>  | <b>Chicken</b> | <b>Beef</b> | <b>N</b> |
|-----------------------------------|----------------|-------------|----------|
| Freshness                         | 172            | 112         | 284      |
| Smell/odour                       | 99             | 75          | 174      |
| Flesh colour                      | 84             | 81          | 165      |
| Skin colour                       | 49             | 24          | 73       |
| Clean/no flies                    | 38             | 24          | 62       |
| Appropriately slaughtered (Halal) | 31             | 18          | 49       |
| Leanness                          | 13             | 23          | 36       |
| Organically grown                 | 26             | 8           | 34       |

**Table 7: The association between criteria utilised in the decision to purchase fresh meat that represents good value for money**

| <b>The food represents value for money</b> | <b>Chicken</b> | <b>Beef</b> | <b>N</b> |
|--|----------------|-------------|----------|
| Competitive price                          | 144            | 101         | 245      |
| Value for money                            | 63             | 35          | 98       |
| Freshness                                  | 57             | 41          | 98       |
| Size                                       | 55             | 30          | 85       |
| Quality assurance label                    | 33             | 32          | 65       |
| Available as individual parts              | 24             | 11          | 35       |
| Intended use                               | 15             | 10          | 35       |

**Table 8: The association between criteria utilised in the decision to purchase fresh meat that was good for the environment and protects worker welfare**

| <b>The food has been produced in a way that is good for the environment</b> | <b>Chicken</b> | <b>Beef</b> | <b>N</b> |
|---|----------------|-------------|----------|
| Organically grown   | 142            | 83          | 225      |
| Freedom from chemicals/growth promotants                                    | 101            | 76          | 177      |
| Freedom from antibiotics  | 74             | 47          | 121      |
| Grown on local farms  | 52             | 39          | 91       |
| Raised in a humane way  | 50             | 32          | 82       |
| <b>The food has been produced in a way that protects worker welfare</b>     | <b>Chicken</b> | <b>Beef</b> | <b>N</b> |
| Grown on local farms  | 90             | 64          | 154      |
| Raised in a humane way  | 72             | 58          | 130      |
| Freedom from chemicals/growth promotants                                    | 70             | 44          | 114      |
| Organically grown   | 56             | 33          | 89       |
| Freedom from antibiotics  | 38             | 18          | 56       |
| Appropriately slaughtered (Halal)   | 20             | 20          | 40       |
| Country-of-origin   | 9              | 16          | 25       |
| Quality assurance label   | 10             | 11          | 21       |