



Consumer Preferences for Imported Beef Meat Purchasing in Johor Bahru

Aiman Asyraf Jamaluddin and Nurul Aisyah Mohd Suhaimi*

School of Agriculture Science and Biotechnology, Faculty of Bioresources and Food Industry,
Universiti Sultan Zainal Abidin, Besut Campus, 22200 Besut,
Terengganu Darul Iman, Malaysia

***Corresponding author: nurulaisyah@unisza.edu.my**

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ABSTRACT

Meat consumption in Malaysia is increasing in the past decades. While local beef meat cannot meet the local demand, Malaysia government has to import beef meat in order to fulfil the local consumption. When it comes to imported beef meat for consumption, there are many factors that are involved before consumers decide to purchase, hence it is important to understand the relevance of customers preferences in imported beef meat purchase. This study aims to identify the level of consumers preferences for imported beef meat purchasing and to determine the most influential factors for the consumers when purchasing imported beef meat in Johor Bahru. This study adopts a conceptual framework, which includes perceived quality and quality cue among Johor Bahru consumers. 100 respondents participated in this study through convenience sampling. A self-administered questionnaire was distributed through an online platform which is Google form. Descriptive analysis and factor analysis were used to analyse the data. Results showed that consumers preferred to buy imported beef meat with Halal logo. The other factors that influence imported beef meat preference are freshness and cleanliness. The outcomes of this study might help marketers to have a better understanding on consumers preferences when it comes to purchasing imported beef meat from retail outlets.

Keywords: Consumer preferences, imported meat, factor analysis, Johor Bahru

INTRODUCTION

Beef is a significant part of a huge amount of the population's daily diet and is recognised as a nutritionally good item. In Malaysia, cattle beef and buffalo meats are the primary source of red meat for animal protein intake. According to Livestock Statistics 2019/2020 (DVS, 2021), Malaysia produced 44,024 metric tons of beef (combination of cattle beef and buffalo meat) from a population of 659,317 beef cattle and 100,242 buffalo. Malaysia is a country that imports a lot of its food. Domestic beef output from cattle and buffalo are unable to keep up with demand for fresh meat and processed beef products (Arshad, 2018). Malaysia was self-sufficient in poultry (98.2%) and eggs (113.6%) in 2019 (Department of Statistics Malaysia, 2019). On the other hand,

Malaysia government needs to import rice, fresh vegetables, fish and fish products, dairy goods, beef, and mutton to meet local demand. Malaysian beef consumption has grown from 2.4 kilogrammes per capita in 1985 to 5.4 kilogrammes per capita in 2019 (Department of Statistics Malaysia, 2019). Despite the increased demand, beef self-sufficiency was just only 23.7 percent in 2019. Many beef importers are making up more than 76.6 percent of the shortage in local supply by bringing in beef from India, Australia, and New Zealand of various prices and quality. Consumers' views of a meat product must be favourable in order for them to buy and consume it.

The demand for high-quality food has continuously increased in recent decades, thanks to knowledgeable customers and other reasons. Nevertheless, consumers' choices are influenced by many factors that ultimately shape their purchasing decisions. Kiran et al. (2018) claimed that regional development differences, socioeconomic and demographic factors, seasons, food safety and quality, personal tastes and habits, product price, and opinions regarding human health are the major factors that have an effect on the demand for meat. While, Font-i-Furnols and Guerrero (2014) identified consumer behaviour as depending on interrelated factors that include psychological (attitude, risk, expectation, sociocultural variables, lifestyle, and values), sensory (visual appearance, texture, flavour, and odour), and marketing aspects (price, label, brand, and availability). These preferences are impacted by environment, culture, and knowledge, in addition to quality and consumer-related considerations (Kanerva, 2013). Van Wezemael et al. (2010) also reported that labels, brands, freshness, and leanness of beef were used as quality indicators by customers. As a result, it is vital to understand customer behaviour, because how customers' needs are addressed has a big influence on their purchasing decisions. Some study also identified that many consumers, including non-Muslims, perceive the Halal label as a credence quality attribute (Verbeke et al., 2013; Golnaz et al., 2010).

Therefore, the main objective of this study was to determine the most influential factors that consumers consider when purchasing imported beef meat in Johor Bahru. For this study, it focused on imported beef meat and how consumers prefer their imported meat before making decision to buy.

METHODOLOGY

Study area

The study was conducted in Johor Bahru, Malaysia. Johor Bahru is the capital city of the Johor state, Malaysia. This city has a population of 1.7 million people within an area of 220 km square. Johor Bahru is chosen as the study area because consumers from all walks of life can do their shopping and most shopping malls and supermarkets are located within the Johor Bahru area. A study from Mascarello (2015) stated that urban or city areas were selected because of the level of economic and technology development among the consumers were increasing.

Research design and data collection

Consumer data was collected using convenience sampling method. Due to the pandemic disease which is Coronavirus 19 (Covid-19), the government implemented Movement Control Order (MCO), thus face to face interview was restricted from being conducted. Therefore, consumer data was collected using online survey approach. Respondents were given a link to the survey, which was designed in Google form. Then the link of the Google form was distributed using WhatsApp, email and other form of social media. A total of hundred consumers participated in this survey. Participants had to be imported meat eaters. The questionnaire contained three parts which were socio-economic demographic, perceived quality factors and quality cues (Fig. 1). The respondents were asked to rank the importance of these factors on their purchasing decisions by using a five-point Likert scale (totally disagree = 1, disagree = 2, neither disagree or agree = 3, agree = 4 and to totally agree

= 5). The practicability of this questionnaire was tested in pre-test with 10 participants. The results from the pre-test led to a small change in the questionnaire design. Data collection took place from June to August 2021.

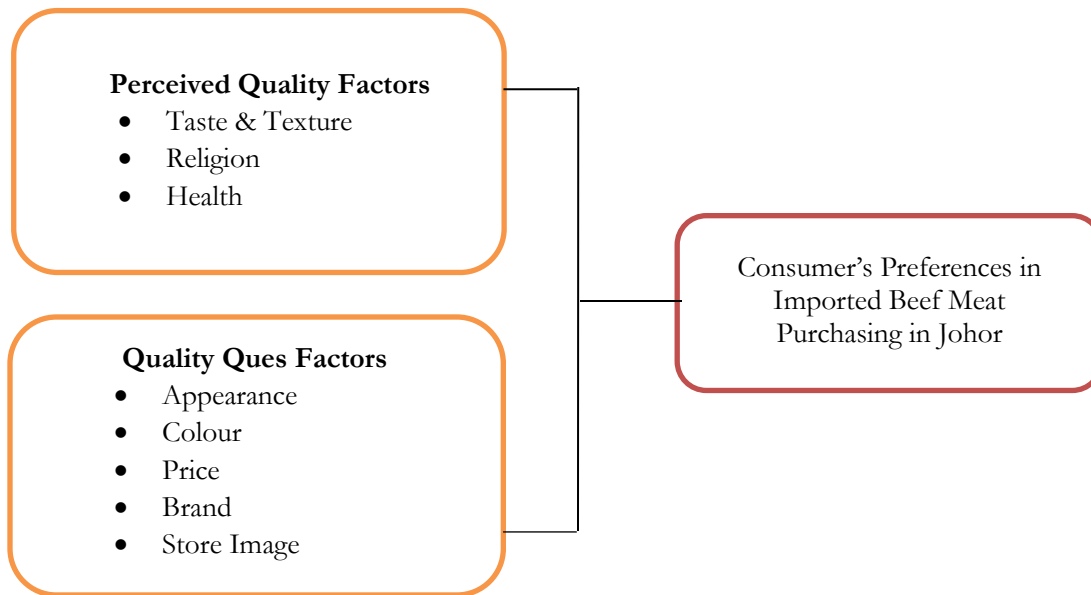


Fig. 1. Research framework.

Data analysis

Two types of analysis were carried out in this study. First, descriptive analysis was used to describe the level of socio demographics respondents and to identify the level of consumer preference on imported beef meat based on perceived quality and quality ques. Second, factor analysis was employed to determine the most influential factors that consumers consider when purchasing imported beef meat in Johor Bahru. The data was analysed using Statistical Package for Social Science (SPSS) software version 20. Data recorded at the nominal level of measurement are represented as labels or names. For instance, with respect to the variable of gender, respondents can be grouped into two categories. Likert-like scales are designed to examine how strongly respondents agree with statements such as “I usually look at the meat's appearance before choosing beef meat”, “Halal logo is important when purchasing imported beef meat” and “The product safety level of imported beef meat influence my choice when buying a meat”.

RESULTS AND DISCUSSION

Socioeconomic description of respondents

Table 1 shows the socioeconomic description profile of the respondents. 71 % of the respondents were women and 29% were men. Age ranges of the respondents were 21-30 years, with participation rates of 43%, 31% of participation rates were from age ranges 31-40 years and 22% participants were from age range 41-50 years old respectively. In term of education level, 60% of the participants had completed their degree or diploma level. 34% of the respondents went to secondary school and 6% of them went to primary school only. For ethnicity, the highest category of the respondents was Malay (92%) followed by Chinese (4%) and Indian (4%). In terms of employment sector, most of the respondents were from government sector with 43% of participation rate and followed by private sector (30%). While, from self-employed sector, participation rate was 21%.

Most respondents had an income between RM1001 – 2000 (32%). While, 31% of them had an income between RM2001 – 3000, followed by category of income RM0 – 1000 with 19%. The least respondents recorded from this category was an income above RM3001 with 18 respondents. In terms of household size, 58% of respondents had 4 – 6 persons in their household, 37% had 1 – 3 persons in their household and only 5% had 7-10 persons in their household.

Table 1. Socioeconomic description.

Demographic Profile	Category	Frequency	%
Gender	Men	29	29.0
	Women	71	71.0
Age (years)	21 – 30	43	43.0
	31 – 40	31	31.0
	41 – 50	22	22.0
	51 – 60	4	4.0
	> 61	0	0.0
Highest Educational Level	University	60	60.0
	Secondary school	34	34.0
	Primary school	6	6.0
	Others	0	0.0
Race	Malay	92	92.0
	Chinese	4	4.0
	Indian	4	4.0
	Others	0	0.0
Sector of Employment	Government	43	43.0
	Private	30	30.0
	Self-employed	21	21.0
	Others	6	6.0
Income (RM)	0 – 1000	19	19.0
	1001 – 2000	32	32.0
	2001 – 3000	31	31.0
	> 3001	18	18.0
Household size	1 – 3	37	37.0
	4 – 6	58	58.0
	7 – 10	5	5.0
	> 11	0	0.0

Level of consumer preferences in imported beef meat purchasing in Johor Bahru

This section was designed to emphasize the level and characteristic of consumers behaviour before purchasing imported beef meat. Table 2 shows consumers preferences on perceived quality factors. Most of the respondents agreed that these statements; 'Is the Halal logo important to you when purchasing?', 'Does the taste & texture affect your purchase?' and 'Does the slaughtering method affect your purchase?' were the most preferred perceived quality factors by the consumers. The statement of Halal logo recorded the highest mean of 4.25. This finding is acceptable because majority of the respondents were Muslim. Halal not only describe on what animals that are 'haram' or forbidden to eat by Islamic law but also in term of hygiene, whether the butcher is Muslim or not, the production process and many more. With the Halal logo, Muslim people are guaranteed that the food is permissible to eat.

The second most preferred is the taste and texture of meat with mean of 4.08. This finding is in agreement with Torrico et al. (2018) which specified that sensory characteristics include taste, flavour, tenderness, leanness, juiciness, and texture. Khan (2020) stated that sensory characteristics such as taste influence the consumer's level of 'eating enjoyment.' However, consumers rarely have the opportunity to taste the meat prior to consumption during the purchasing process, particularly for fresh meat. In such cases, search quality cues such as colour, marbling, leanness, purchase location, price, and country of origin may allow the consumers to assess the eating quality of the meat while shopping. Statement on slaughtering method is the least preferred with mean of 4.05. Food safety is also linked to the appropriate method of slaughter, which determines the Halal status of fresh meat. According to the Halal food guideline, the slaughtering act must sever the trachea, oesophagus, carotid arteries, and jugular veins to hasten the animal's bleeding and death (Department of Islamic Development Malaysia, 2013). According to Islamic law, the slaughter method produces meat with less blood and thus a lower risk of bacterial contamination (Bonne and Verbeke, 2006). The concept of Halal itself ensures that the food is handled in a safe and sanitary manner (Department of Islamic Development Malaysia, 2013).

Table 2: Perceived quality factors.

Statement	Likert-like Scale (%)					M	SD
	1	2	3	4	5		
1) Do the taste & texture affect your purchase?	-	1.0	10.0	69.0	20.0	4.08	0.6
2) Do your religious/belief affect your purchase?	3.0	9.0	14.0	56.0	18.0	3.77	1.0
3) Do you buy imported beef meat for health reasons?	1.0	17.0	53.0	21.0	8.0	3.18	0.8
4) Does the product safety level of imported beef meat influence your choice?	-	2.0	51.0	30.0	17.0	3.62	0.8
5) Does your income influence you to buy imported beef meat?	1.0	27.0	21.0	33.0	18.0	3.40	1.1
6) Does the slaughtering method affect your purchase?	-	10.0	6.0	53.0	31.0	4.05	0.9

7) Is the Halal logo important to you when purchasing?	-	9.0	1.0	46.0	44.0	4.25	0.9
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Note: Likert-like Scale Levels of Importance: 1-Totally Disagree, 2-Disagree, 3-Natural 4-Agree, 5-Totally Agree; Descriptive Statistics: M =Summated Mean; SD = Standard Deviation, SD value was calculated using Summated Mean; N = 100

Table 3 shows consumer preferences on quality cues factors. Most of the respondents agreed that these statements; ‘Will the freshness of the meat affect your choice to buy imported beef meat?’, ‘Does the colour of imported beef meat influence your choice?’ and ‘Is the appearance/cleanliness of the store for you to buy meat important to you?’ were the most preferred factors by the consumers. The highest mean with 4.34 which is the freshness of imported meat. This finding indicates that buyers will focus on the freshness of the meat when buying the imported meat. According to Orou Seko et al. (2020), consumers believe that freshness shows the healthfulness of the meat.

The second preferred factor is colour of meat (‘Does the colour of imported beef meat influence your choice?’) with mean of 4.27. Carpenter (2017) agreed that the colour of the meat, particularly a bright red colour, influenced consumers likelihood of purchasing fresh beef. The colour of the beef, whether red, purple, or brown, had no effect on the taste of the meat. Third preferred factor is appearance or cleanliness with mean of 4.19. Cleanliness was judged by the hygiene of the staff or butchers and the premises cleaning the processing equipment, washing the meat with clean water (Uys & Bisschoff, 2016), and follow the hygienic practises which will help to improve the microbiological quality of meat (Nawi et al., 2018).

Table 3. Quality cues factors.

Statement	Likert-like Scale (%)					M	SD
	1	2	3	4	5		
1) Is the appearance of imported beef meat important to you?	-	1.0	15.0	64.0	20.0	4.03	0.6
2) Will the freshness of the meat affect your choice to buy imported beef meat?	-	1.0	2.0	59.0	38.0	4.34	0.6
3) Does the colour of imported beef meat influence your choice?	1.0	-	10.0	49.0	40.0	4.27	0.7
4) Does the price of imported beef meat influence your choice?	1.0	29.0	17.0	33.0	20.0	3.42	1.1
5) Is imported beef meat brand important to you?	-	26.0	33.0	31.0	9.0	3.24	0.9
6) Do outside influences influence your choice to buy imported beef meat?	-	20.0	50.0	20.0	10.0	3.20	0.9
7) Is the appearance/cleanliness of the store for you to buy meat important to you?	-	-	13.0	55.0	32.0	4.19	0.6

8) Does the quality of packaging and labeling on imported beef affect your purchase?	-	1.0	44.0	37.0	18.0	3.72	0.8
9) Do you take into account the beef importing country when making a purchase?	-	29.0	42.0	18.0	11.0	3.11	1.0

Note: Likert-like Scale Levels of Importance: 1-Totally Disagree, 2-Disagree, 3-Natural 4-Agree, 5-Totally Agree; Descriptive Statistics: M =Summated Mean; SD = Standard Deviation, SD value was calculated using Summated Mean; n = number of respondents

Most influential factors that consumers consider when purchasing imported beef meat in Johor Bahru

Factor analysis

Measure of sampling adequacy

Table 4 shows the Kaiser-Meyer-Olkin (KMO) test and the Bartlett's test of sphericity which were initially performed on the data and confirmed the appropriateness of conducting factor analysis. The KMO of sample adequacy is 0.765, which is good. The hypothesis is rejected since the p-value of the test is 0.000, which is less than 0.05. As a result, the Bartlett's test of sphericity was significant, and the factorability of the correlation matrix can be determined, indicating that the study dataset is suitable for factor analysis. Lau et al. (2019) reported that Bartlett's test of sphericity was utilised to evaluate a correlation matrix for factor analysis, and that $p < 0.05$ was considered as suitable for structure detection.

Table 4. KMO and Bartlett's test.

Kaiser-Meyer-Olkin measure of sampling adequacy	0.765
Bartlett's test of sphericity	303.298
Approx. Chi-square	
Degree of freedom	92
Significance	0.000

A factor analysis was performed in order to reduce the factors and identify the group of responses for the questions addressed to respondents. This enabled the questions to be grouped into three main factors as in Table 5. The factor analysis of the 16 statements was conducted using principal component method. The criterion for the number of factors to be extracted was that the eigenvalue of each factor had to be equal or higher than one. The factor loadings were subsequently subjected to the varimax rotation. The resultant factor loadings are reported in Table 5. The factor analysis uncovered three broad reasons for contracting. These are described and interpreted in turn below.

Table 5. Factor analysis.

Factors & Sub Variables	Sub Variables Loading	Variance (% of explained) Eigenvalues
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Halal			
1)	Is the halal logo important to you when purchasing imported beef meat?	0.891	
2)	Does the slaughtering method affect your purchase?	0.882	
3)	Do your religious/belief affect your purchase?	0.791	4.018
Physical Appearance & Taste			
1)	Does the colour of imported beef meat influence your choice?	0.825	
2)	Is the appearance of imported beef meat important to you?	0.682	
3)	Does the quality of packaging and labelling on imported beef affect your purchase?	0.669	
4)	Is imported beef meat brand important to you?	0.584	2.676
Safety of the Meat			
1)	Will the freshness of the meat affect your choice to buy imported beef meat?	0.816	
2)	Is the appearance/cleanliness of the store for you to buy meat important to you?	0.597	
3)	Does the product safety level of imported beef meat influence your choice?	0.549	1.270

Factor one - Halal

With an Eigenvalue of 4.08, it captured three items. The Cronbach's alpha for this factor was 0.891. These three items were collectively described as "halal production,". It included how worried respondents were about processing hygiene, how meat was slaughtered, and who butchered the cattle. In the respondents' evaluation of imported beef meat, Factor One was the most highly rated factor.

Factor two - Physical appearance and taste

With an Eigenvalue of 2.676, it had four items. The Cronbach's alpha for this factor was 0.825. Factor Two items described the utility of the meat product; nice appearance, well-packaged, and lengthy shelf life. While looking for imported beef meat, most of the respondents were concerned about the quality of meat. The perception of meat quality is based on intrinsic identifiers such as the colour of meat, the cut and the percentage of fat (Grunert, 2006). Therefore, physical appearance and taste ranked as the second most important factor.

Factor three - Safety of the meat

With an Eigenvalue of 1.270, it captured three items. The Cronbach's alpha for this factor was 0.816. This factor was labelled "safe" because the respondents' concern on food safety and freshness were captured in the survey. When it came to the quality of imported beef meat, the respondents rated this as the least important factor.

Reliability analysis

Information cannot be validated without being reliable. Therefore, reliability analysis was conducted on the three new extracted factors from the factor analysis. In practice, the reliability of a test score must be estimated from the data of a study. According to Gliem & Gliem (2003), Cronbach's alpha reliability coefficient normally ranges between 0 and 1. However, there is no lower limit to the coefficient. The closer Cronbach's alpha coefficient to 1 the greater the internal consistency of the items in the scale. The reliability analysis for the factor

shows that the final range for alpha score is more than 0.7 to 0.9. It meets the Peter (1979) and Churchill and Peter (1984) criterion, where those reliability levels that are lower than 0.5 might be acceptable in social science which means that those statements should be retained in the scale (Arumugam, 2010).

Table 6. Reliability analysis for three components.

Factors	Cronbach's alpha scores	Number of items
Halal	0.891	3
Physical appearance and taste	0.825	4
Safety of the meat	0.816	3

CONCLUSION

The perceived quality and quality cues were the most commonly stated criteria by respondents when thinking about imported beef meat, according to the research. When asked what factors influence their decision to buy imported beef meat, the most frequently mentioned variable was the Halal logo. The respondents were usually choosing the ones with the Halal logo when buying imported meat. Other variables mentioned by the respondents to describe the quality of imported beef meat were freshness and cleanliness. Since meat is a generic food product, respondents were asked to utilise and evaluate the freshness and cleanliness of the retail outlet to judge the quality of the fresh food. Several groups will benefit from the findings of this study. To begin, this study helps marketers to better understand Malaysian customers' behaviour when it comes to evaluating consumers' preferences for purchasing imported beef meat from retail stores. There was a consistent trend in which respondents prioritised identical factors (freshness, cleanliness and Halal) while deciding whether or not to buy imported beef meat of high quality. The findings of this study may also assist the government in formulating new strategies to strengthen Malaysia's food industries.

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