A comparison of halal beef consumer preferences in majority and minority Muslim areas in Indonesia

Akhmad Mahbubi*

Department of Agribusiness Management,
Graduate School of Agriculture,
Tokyo University of Agriculture,
1 Chome-1-1 Sakuragaoka, Setagaya City,
156-8502, Tokyo, Japan
and
Department of Agribusiness,
Faculty of Science and Technology,
Syarif Hidayatullah State Islamic University,
Jakarta, Indonesia
Email: 46718001@nodai.ac.jp
*Corresponding author

Tomohiro Uchiyama

Department of Agribusiness Management,
Graduate School of Agriculture,
Tokyo University of Agriculture,
1 Chome-1-1 Sakuragaoka, Setagaya City,
156-8502, Tokyo, Japan
Email: tu205722@nodai.ac.jp

Abstract: Even though Indonesia has a majority Muslim population, there are several regions with different religious concentrations, such as the Bali region, which has a minority Muslim community. A deeper understanding of consumer preferences in several areas provides a unique value for the specific segment of consumers. This study examines halal beef consumer preferences in majority and minority Muslim areas. This study is descriptive, using quantitative data. The participants of this survey were 290 middle-class Muslim consumers. Data analysis used a chi-square (t-test). The top five beef attributes are the halal label, newness, appearance, aroma, and hygiene. However, there are additional attributes for middle-class Muslim consumers in minority Muslim areas, specifically, the beef is free of residue, has good prices, and a Muslim shop owner (p-value = 0.000). The pattern of buying and consuming beef in minority Muslim areas has the characteristics of rarely shopping for meat specifically, with less frequent meat purchases and less overall consumption of meat.

Keywords: halal beef; buying pattern; consumption pattern; majority; minority; Muslim consumers; middle-class household; consumer preferences; intrinsic; extrinsic.

Reference to this paper should be made as follows: Mahbubi, A. and Uchiyama, T. (2019) 'A comparison of halal beef consumer preferences in majority and minority Muslim areas in Indonesia', *Int. J. Islamic Marketing and Branding*, Vol. 4, Nos. 3/4, pp.195-211.

Biographical notes: Akhmad Mahbubi is currently a PhD student at the Department of Agribusiness Management, Graduate School of Agriculture, Tokyo University of Agriculture Japan. His PhD research concerning sustainable halal beef value chain. He is a Lecturer at the Department of Agribusiness, Faculty of Science and Technology, Syarif Hidayatullah State Islamic University, Jakarta, Indonesia. He obtained his Master's with a major of Strategic Management from the Magister of Management Agribusiness, IPB University. He has published a number of articles in reputable international journals, especially in halal food management topic. He has gotten awards from several institutions; MORA scholarship, UIN Jakarta research grants, the best paper from Trunojoyo University and Bogasari Nugraha.

Tomohiro Uchiyama is a Professor of Farm Management, in the Department of Agribusiness Management, Graduate School of Agriculture, Tokyo University of Agriculture Japan. His research area is agricultural science in management and economy, agricultural science in rural society and development, and management. He is a Supervisor PhD and Masters International Student come from several countries; Cambodia, China, Haiti, Indonesia, Laos, and Tanzania. For industry-academia collaboration, the collaboration study with farmers, related industries and organisations will be broadly implemented to solve the problem with food, farming, and rural issues. He is member of the Japanese Society of Regional and Agricultural Development and International Farm Management Association.

This paper is a revised and expanded version of a paper entitled 'A Comparison of halal beef consumer preferences between Muslim and Non-Muslim majority area in Indonesia' presented at 10th Global Islamic Marketing Conference, Alanya-Turkey, 23–25 April 2019.

1 Introduction

Thomson Reuters and Dinar Standard (2018) reported that Indonesia is among the top 10 of the Islamic economies worldwide. Indonesia's ranking in the global Islamic economy has increased primarily due to a rise in its halal food ranking. The high Muslim food expenditure reached US$170 billion; there was a substantial boost in events, press coverage, and exhibitions related to halal food, driving increased awareness. Yuswohady et al. (2017) demonstrated that the years 2006 to 2019 were 'the growth years' of the Indonesian halal industry, and that 2019 begins 'the harvest years', which coincides with the enactment of Indonesia's halal product law. Their report has explained that regulation and lifestyle are trigger factors in halal development in Indonesia.

The Indonesian government issued the Law of the Republic of Indonesia No. 33, year 2014 concerning halal product assurance ('the Halal Law'), which will come into force in October 2019. Consequently, all products traded in Indonesia must be halal-certified. The Halal Law mandates compulsory halal certification across all consumable products, including food and beverages, medicines, cosmetics, chemicals, and biological products, and includes the manufacturing process, packaging, distribution, sales, and serving. Additionally, non-halal products must be labelled 'non-halal'. This halal rule provides certainty about the halal status of various products according to Indonesian consumer expectation (Meat & Livestock Australia Ltd/MLA, 2017; Sukesti and Budiman, 2014).

In Indonesia, Islamic values predominantly influence mindset, attitudes, and consumer behaviour. Ali et al. (2017b) and Yuswohady et al. (2017) state that religious life in Indonesia has moved dynamically and evolved rapidly, marked by the rise of the halal food industry, halal cosmetics, halal fashion, halal tourism, sharia hotels, and Islamic banks and finance. Indonesia's Muslim consumers agreed that religion is a significant factor affecting their decision to consume halal food (Ismoyawati, 2015). Attitude, subjective norms, and perceived behaviour perception have a positive influence on consumer buying interest, especially toward halal food consumption, not only in Indonesia, but also in various countries such as Malaysia, Singapore, Korea, Australia, Germany, and France (Sherwani et al., 2018; Abu-Hussin et al., 2017; Alam and Sayuti, 2011; Seo et al., 2011; Jusmaliani and Nasution, 2009).

This consumer purchase intention creates a push-demand perspective based on consumer personality, or in the terminology of Wilson and Liu (2011), 'the halal cultural artefact approach'. This condition describes only one side of the conative cue. Wilson and Liu (2011) suggest a combination with the halal value chain approach or demand-pull paradigm. This considers every stage and component of the supply chain based on functional elements, with an understanding of consumer value preferences as the spearhead, either intrinsic or extrinsic. These preferences have three indicators: search, experience, and credence (Henchion et al., 2017).

Mohayidin and Kamarulzaman (2014) explored halal food consumer preferences in Malaysia, a Muslim majority country, while Meixner et al. (2018) and Verbeke et al. (2013) surveyed halal meat consumer preferences in Austria and Belgium, respectively, both Muslim minority countries. Their results show that halal certificates are an essential attribute for Muslim consumers both in the majority and minority areas. Halal food consumer preferences in Indonesia have not been explored optimally. There is an urgent need to capture consumer value, especially for beef products, by comparing the Muslim and non-Muslim majority areas in Indonesia.

2 Literature review

Food is considered one of the most critical factors for interaction among various social, ethnic, and religious communities. Muslims are concerned about halal food, Jews that their food is kosher; Buddhist, Hindus, and certain other groups that their diet is vegetarian. Religion influences consumer attitude and behaviour (Abalkhail, 2018). In many societies, religion plays one of the most influential roles in food choice (Macau et al., 2016). The effect of religion on food consumption depends on the religiosity of individuals, and on the extent to which they implement their religion and their religion influences their eating habits, even within a new cultural environment, as is the case for Muslim migrants (Bonne and Verbeke, 2008). Ali et al. (2017a), Eid (2018), and Sherwani et al. (2018) found that a positive attitude determines halal food consumption in minority Muslim countries such as China, Japan, and Germany, as do subjective norms, and personal conviction. Muslim consumers usually ask about the authenticity and integrity of the halal foods that they consume, especially if they visit to the majority non-Muslim countries (Zulfakar et al., 2012).

2.1 Halal meat

Generally, non-Muslims have a misperception regarding halal products (Wahab, 2019). They think that the only product which is prohibited for Muslims is pork, along with its derivatives. Furthermore, Tieman (2011) has clarified that halal is going through an evolution over four phases: a Muslim-owned company, a halal product and its manufacturing process, a halal supply chain, and a halal value chain. With a Muslim company, the halal assurance system is purely based on trust. With a halal product, the halal assurance system is based on a product certification by an independent halal certification body. In the halal supply chain, halal assurance is extended upstream (addressing transportation, storage requirements of purchased ingredients), and downstream (addressing transportation, storage, and value-added needs of the supply chain. In the halal value chain, the company applies Islamic values to their entire business value chain. Amongst others, this covers the adoption of Islamic financing and takaful (Islamic assurance), the use of Islamic branding, and marketing concepts to position products and creating a value for the community, and the earth, for example through minimisation of waste along the meat chain.

If the meat is halal in substance, it indicated that the food (meat) itself is originally halal. Almost all types of food (meat) are lawful and can be consumed, except those that are forbidden in the Qur'an and Hadith. Carrion, blood, and pork are expressly forbidden by Allah (God). Furthermore, all animals that die outside the halal slaughtering process are *haram* (prohibited), and are equated with a dead animal. This includes animals that die in transport; even though only briefly dead, they are not to be slaughtered and consumed by humans. However, with advanced technology, many of the materials considered unlawful in food processing are used as raw materials, additives, or supporting materials in a variety of processed meats and products (Riaz and Chaudry, 2004).

Halal meat, if it is processed in a way that is not halal, will be *haram* (prohibited). Ways of processing that are considered unlawful include the slaughter not being carried out by a Muslim; not mentioning the name of Allah; and not using a sharp knife. Also, halal meat contaminated with prohibited material renders that meat *haram*. 'Contamination' is defined as being mixed with materials that violate the law, in the form of raw materials, spices, or other additives; it also includes the use of places and tools that process non-halal materials in the meat supply chain.

A halal meat supply chain is a system of quality assurance in the halal meat chain (Bonne and Verbekke, 2008). The halal meat supply chain involves the process of managing halal meat products from different suppliers to various consumers who are located at different places (Zulfakar et al., 2012). Today's halal supply chains are complex for various reasons. First, there is a different halal market requirement, which is based on the Islamic school of thought, a local fatwa (religious rulings) and local customs. There are various interpretations of the slaughtering requirements regarding stunning and machine slaughter. Second, even though supply chain partners are based in different halal environments, there is a single supply chain (involving both Muslim and non-Muslim countries). Third, there is a poor understanding of halal, and the requirement of halal logistics, in particular in non-Muslim countries, demanding much educational efforts in their supply chains (Tieman, 2011).

2.2 Muslim consumer preferences

The needs and desires of consumers never remain constants; they are always changing and developing in line with the increasingly rapid globalisation that is spreading to all sectors of life. Changes in needs and desires often lead to changes in consumer purchasing decisions. These changes require every company to always be able to position its products appropriately so they do not lose in competition. One aspect of business for a company or manufacturer is to maintain and improve its products by understanding consumers' purchasing decisions. The consumer purchasing decision process begins with an awareness or recognition of the problem. People's awareness about buying goods is called their purchase intention (Rossanti and Nasution, 2018). Following this, consumers will start looking for information about the existence of the product they want; they will collect all information related to the desired product and select the available alternatives based on this information. This selection process is called the information evaluation stage. It uses various criteria that exist in their minds or minds of other consumers, and one brand of product is chosen for purchase.

Lavidge and Steiner's hierarchy of effect model explains the purchasing decision process in six steps: awareness, knowledge, liking, preference, conviction or intention to buy, and purchase (Gakii and Murigi, 2019; Duffet, 2015). In this model, purchasing is categorised as a stage of behaviour. At the practical level, economic behaviour is mostly determined by the level of confidence or faith of a person or group of people, who then shape the tendency for consumer behaviour in the market. Muslim consumer behaviour is a behaviour carried out by a Muslim consumer in fulfilling not only his or her individual needs (material) but also the social and spiritual needs of Muslim consumers. As reported by Fauzi et al. (2016) and Abu-Hussin et al. (2017), Muslim consumers prefer the halal lifestyle, which reflects Islamic values.

Consumer preference reflects consumer fondness for a variety of product choices. Understanding customers' preferences in purchasing and consuming products is crucial for stakeholders in such a competitive industry. A good understanding of the real motives behind the customers' preferences will help producers and retailers to understand customers better (Kontot et al., 2016). For example, Kassim and Zain's (2016) study showed that affluent Muslim consumers prefer the 'basic necessity quality of lifestyle' over the 'materialistic quality of lifestyle'. Their interests in buying luxury products and services are somewhat guided by their religious convictions, through preferences towards specific attributes.

Consumer preferences towards a product refer to its intrinsic and extrinsic dimensions (Holbrook, 1999), in which each dimension consists of three indicators with several attributes. Intrinsic dimensions are physical characteristics of a product such as a shape, size, aroma, and colour, while extrinsic dimensions are non-physical characteristics of a product such as its price, brand, and warranty. According to Asioli et al. (2017), the interaction of various dimensions affects consumer preferences. Both intrinsic and extrinsic dimensions consist of search, experience, and credence indicators (Henchion et al., 2017).

According to Nakayama and Wan (2017), search indicators can be evaluated through direct examination before purchase, and experience indicators can be examined after consumption, whereas credence indicators cannot be evaluated in regular use even long after their purchase. The role of the credence attributes depends on consumers' expenditure on foods (Lee and Hwang, 2016). For genetically modified food and organic food, credence aspects are likely to be more important than other types (Boccia et al., 2018; Ingrassia et al., 2017). However, for fresh food, such as fruit and beef, search and experience aspects are prioritised (Ardeshiri and Rose, 2018; Ranasingha et al., 2019).

These indicators have various attributes, which are different for each commodity. Ranasingha et al. (2019) have identified fruit based on the search aspect (colour, size, shape, price, and firmness), experience aspect (sweetness, crispness, and hardness), and credence aspect (safety assurance and shelf life). However, Verbeke et al. (2013) found that beef consists of the search aspect (freshness, Muslim shop owner, appearance, availability, price, visible fat, and colour), the experience aspect (taste, tenderness, smell, juiciness, and ease of preparation), and the credence aspect (hygiene, Islamic production method, halal label, animal friendly production, freedom from residue, nutritional value, and production region).

Various attributes attached to the product can determine consumer preferences. The stage of consumer preference towards a product is the beginning of the stage of consumer loyalty to the product. Thus, companies must learn how to generate consumer preference for their own products. According to Kotler and Keller (2009), several steps must be passed before consumers form preferences:

1. It is assumed that consumers see the product as a set of attributes, and different consumers have a different set of attributes for the same product.
2. The level of importance of the attributes varies according to the needs and desires of individual.
3. Consumers develop several beliefs about the position of the product in relation to each attribute.
4. The level of consumer satisfaction with the product will vary according to differences in attributes.
5. Consumers will arrive at attitudes towards different brands through evaluation procedures.

Consumers base their expectations on the information they receive about the product. If it turns out to be different from what is expected, they will feel dissatisfied. If the product meets their expectations, they will feel satisfied.

3 Method

3.1 Design of research

This research design is descriptive type, and reveals the importance level of halal beef attributes for Indonesian Muslim consumers. There are 21 items from three indicators. These indicators are search, experience, and credence, both intrinsic and extrinsic. Intrinsic value is an attribute that is inherent in the physical product. In contrast, extrinsic value is not directly related to the physical product.

3.2 Data collection

The present study uses quantitative data that describes the opinion or attitude of the respondent. The data collection method used interviews through structured questionnaires with a five-point Likert scale, where five is very important, four is important, three is neutral, two is not important, and one is not at all important. The five-point Likert scale is frequently applied in consumer surveys, for example in the research of Giacomazzi et al. (2017).

3.3 The sampling technique

This consumer survey involved 290 middle-class Muslim households consisting of 180 consumers in Muslim majority cities (Jakarta, Makassar, and Medan) and 110 respondents in Muslim minority cities (Denpasar and Kupang). The Survey participants were selected through multistage random sampling. The sampling technique was constructed using a simple random sampling method that passed multiple stages of random sampling.

3.4 Statistical analysis

Finally, this study utilised a chi-square (t-test), implemented to determine whether there is a difference between the means of two groups. The purpose of this statistical method is to compare the average of two groups that are not related to each other. The question that was investigated was whether the two groups had the same average values, or whether they were significantly different.

4 Results and discussion

4.1 Demographic and socioeconomic characteristics

Halal products are an essential element for Muslim consumers; not only related to the supply side specifically, how to take advantage of business opportunities and become a key player in this industry but also to the demand side, which includes efforts to fulfil consumer demands through halal standards. Observing the behaviour of consumers of halal products is a significant part of market assessment, and one of the essential factors in achieving success in the halal industry. Apart from industrial structure and competition, the economic situation, trade policy, and consumer response determines the potential and trends of the halal industry.

Based on purchasing behaviour in Indonesia, the respondents were predominantly composed of females, with composition in the Muslim majority area higher than in the Muslim minority area. This shows that beef shopping is mainly done by female members of the family, as males rarely venture out for beef purchases. Marandure et al. (2016) found that a consumer decision to buy beef was influenced by gender. Chang and Yeh (2016) determined that gender is an essential factor that affects the goods purchased in the modern markets, while Colella and Ortega (2017) found that females dominate in the purchase of beef in families. In Indonesia, young females, in particular, care about the fulfilment of their family’s nutrition.

Almost 40% of consumers are between 40 and 49 years old, both in the Muslim majority and minority area (Table 1). Only 21% of the respondents aged over 50 years consume beef in Muslim majority area. Bonny et al. (2017) reported that consumer age had a negative relationship with willingness to pay for beef. As homemakers get older, they reduce their consumption of beef. Consequently, they reduce expenditure on beef consumption for their family.

In Indonesia, most middle-class households consist of families with three or four members. This condition is consistent with the Indonesian Bureau of Statistics (or BPS) (2017) data that the average Indonesian household has small families. Small families find it easier to access protein sources such as meat. The findings of Islam et al. (2018) suggested that beef is the meat item which shows significant differences in consumption frequency, because it is dependent on the number of family members in the home. Additionally, small families can afford better educations for their children.

Generally, respondents were graduates from secondary school. This indicates that education in Indonesia is still gender-biased. World Economic Forum (2018) released the Global Gender Gap Index, which found that Indonesia succeeded in narrowing the gender gap in the economic sector last year, but expanding the gap in the education sector, which is ranked 108 out of the 149 surveyed countries. According to Bhurosy and Jeewon (2014), educational background affects food purchasing and consumption patterns.

Table 1 Profiles of respondents (%)

Characteristics	*Category*	*Majority*	*Minority*	*Chi-square value*	*p-value*
Gender	Male	10	29	17.44	0.00*
	Female	90	71		
Age	<30	3	6	5.60	0.13
	30–39	38	29		
	40–49	38	35		
	50–59	21	31		
Education	Primary school	6	6	2.54	0.47
	Junior high school	20	14		
	Senior high school	57	66		
	College	17	15		
Family size	1–2	3	1	4.33	0.23
	3–4	53	58		
	5–6	38	39		
	>6	6	2		

Note: *p-value = 0.000 (<0.01 significance level).

4.2 Halal beef purchasing and consumption patterns

The act of finding, buying, using, evaluating, and acting on the consumption of products and services carried out by the consumer, as well as the ideas that are expected to meet a person's needs, are collectively called 'consumer behaviour'. The point of entry for investigating consumer behaviour is through exploring their buying and consumption patterns. This consists of consumption frequency, quantity, consumption level, expenditure, and purchasing location. These variables have a p-value of 0.00 (< 0.01 significance level). These variables are significantly different between majority and minority Muslim regions.

In majority Muslim cities, respondents purchase halal beef weighing between 1 kg and 1.9 kg in one shopping trip, while consumers in minority Muslim areas prefer to purchase less than one kilogram of beef per trip (Table 2). According to Putra et al. (2017), the patterns of the Indonesian consumer's behaviour are diverse because they are very heterogeneous, both based on ethnically and regionally. This difference affects habits and lifestyle, especially shopping and food consumption habits.

The majority of consumers in Muslim area spent between US$8.5 and 17 on beef per month, whereas the majority of consumers in non-Muslim area spent less than US$8.5 per month on beef (Table 2). In Indonesian families, the proportion of food and non-food expenditures is relatively balanced at 50%. The expenditure on high-value food such as meat was more than 40% of the total food expenditure 20 years ago. This has decreased slightly for the past ten years and has been approximately 36% on average in the past two years (Widarjono and Ruchbha, 2016).

Table 2 Buying and consumption patterns (%)

Characteristics	*Category*	*Majority*	*Minority*	*Chi-square value*	*p-value*
Consumption frequency	Once or more every week	17	0	25.37	0.00*
	Once every two weeks	28	6		
	Once every three weeks	11	10		
	Once every month	37	85		
	Once every two months	7	0		
Quantity (Kg)	<1	38	81	73.13	0.00*
	1–1.9	59	19		
	2–2.9	2	0		
Consumption level (Kg/capita/year)	<2.5	43	76	28.53	0.00*
	>2.5	57	25		
Expenditure/month (US$)	<8.5	22	64	50.35	0.00*
	8.5–17	44	32		
	>17	34	3		
Market	Super market	24	2	51.71	0.00*
	Wet market	76	98		

Note: *p-value = 0.000 (<0.01 significance level).

In both majority and minority Muslim areas, 76% and 98%, of consumers, respectively, buy meat in traditional markets. Consumers prefer to purchase food in traditional market because of guaranteed freshness, easy accessibility, and opportunities for bargaining (Maruyama et al., 2016). Besides, traditional markets allow flexibility through food commodity specification, customer segmentation, and changing operating hours (Purnomo et al., 2018). This level of flexibility allows consumers to consume more beef.

In a majority Muslim area, the frequency of beef consumption was studied, and consumers were divided into four categories as follows: consumers who eat beef once a week (17%), once every two weeks (28%), once every three weeks (11%), once every month (37%), and once every two months (7%). On the other hand, in the Minority Muslim area, approximately 85% of respondents consume beef once a month, and the rest, once every two or three weeks. This difference is due to different socioeconomic factors. In Denpasar, they rarely consume beef out of respect for the Hindu majority, who venerate cattle. The average food expenditure of Denpasar Municipality amounted to US$52 per capita per month or 38% of monthly spending in Denpasar, while the average food expenditure of Kupang city amounted to US$36 per capita per month or 40% of monthly expenditures in Kupang (Indonesian Bureau of Statistics-BPS, 2017). Kupang citizens belong to the lower-middle-class, as characterised by their daily expenditure of US$2.7 per capita.

In a majority Muslim area, the level of beef consumed is above the national average consumption of 2.5 kg per capita per year. Moreover, citizens of Jakarta consume beef at 9 kilograms per capita per year or equivalent to the average global beef consumption. Besides, the residents of Makassar eat offal as a traditional food called coto Makassar. Furthermore, in the minority Muslim area, the level of beef consumption is less than 2.5 kg per capita per year. The low consumption of beef per capita in Indonesia is partly due to the high price of beef. Respatiadi and Nabila (2017) found that the price of beef in Indonesia is twice as high as in the international market.

4.3 Halal beef consumer preferences

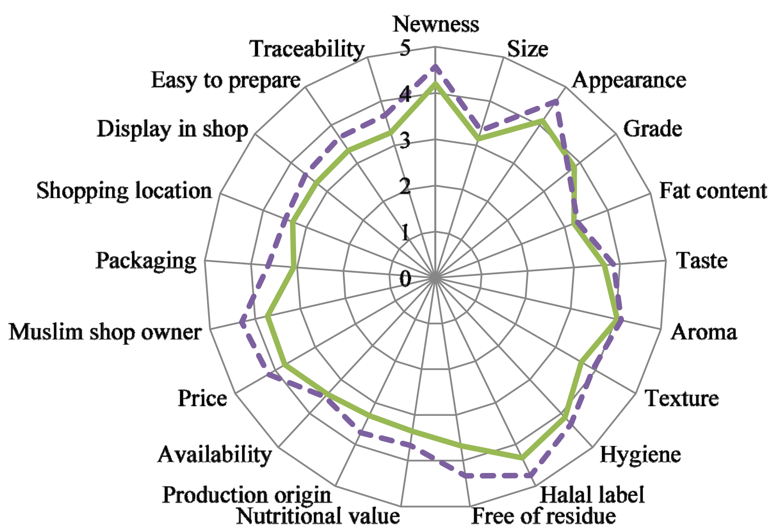
Consumers in majority and minority Muslim areas consider the five most important attributes to be the halal label, newness, appearance, hygiene, and aroma; while consumers in majority non-Muslim areas consider three additional attributes: a Muslim shop owner, the beef is free of residues, and halal beef price (Figure 1). This situation illustrates that Muslim consumers in minority Muslim areas are more stringent in their beef shopping requirements. Not only must there be halal labels, but the meat traders must also be Muslim.

The halal label on beef is the highest priority attribute for Muslim households, both in majority and minority Muslim areas. The meat must be halal certified as a guarantee of the product's 'halalness' in all processes, such as slaughtering, storing, and packaging. The halal label is a pull factor on the product to be purchased and consumed by Muslim consumers. This factor has influenced not only Muslim consumers, but also non-Muslim consumers (Chupong et al., 2015). Furthermore, Ariffin and Wahid (2017) and Ariffin (2017) revealed that the attitude towards the halal logo mediates the relationship between the consumer value-expressive function and the purchase intention. For Muslim consumers in minority Muslim areas, the halal label is a priority because there are fewer Muslims in the area, while for Muslim consumers in majority Muslim areas, it is because of the rise of imported meat from non-Muslim countries. Imported beef is risky, not only in relation to its 'halalness', but also regardingits freshness.

Beef is classified as fresh food, which is a product preferably consumed in new conditions. The beef's freshness is marked by recently cut meat. Both types of consumers care about the freshness of beef. Therefore, they prefer beef shopping in traditional markets, which provide recently sliced beef. Consumers go to wet markets as early as possible to get freshly slaughtered meat from abattoirs. Fenko et al. (2015) found that food product freshness significantly influenced purchase intentions. Besides asking the merchant, the consumers check the freshness of beef based on texture, appearance, and aroma.

Appearance is a sensory attribute: how moist the beef looks, the evenness of the red colour with no stains or different spot; whereas low-quality meat looks musty, lethargic, and dull. Some ugly beef also has black or greenish-white spots a sign of bacteria in the flesh. Consumers judge the appearance of beef based on the colour, and a strong red colour indicates good quality. Abdalhai et al. (2014) and Stella et al. (2018) reveal that colour is the primary factor in determining the quality of beef because consumers judge the red colour of beef as indicative of freshness and healthiness. They explained that the amount of water affects the apparent colour, thus the juiciness of beef negatively impacts the appearance of the meat and the odour.

Figure 1 The most important attribute of beef in the Muslim majority and minority area (see online version for colours)



Notes: ——— majority; ------- minority.
*Pearson's R correlation = 0.977 and p-value = 0.000 (<0.05 significance level).

Aroma is the odour arising from beef. It represents the quality of the carcass. If it smells stung, the meat is of low quality. These consumers consider beef aroma as a priority attribute for beef purchases in their family. One of the most popular Indonesian traditional dishes is beef meatballs, which is difficult to replace with other meat because of its distinctive aroma. The type of meat that has this unique smell is ground beef with fat brisket (Kerth et al., 2015). According to Motoyama et al. (2016), the species of cattle determines the aroma; for example, wagyu beef has a sweet and fatty aroma. From an Indonesian consumer perspective, fresh meat emits a fresh aroma, or has a distinctive 'cattle' odour that does not offend the nose. Meanwhile, rotten beef smells fishy, rancid, and dirty.

Beef hygiene depends on the processing of meat, such as the cleanliness of cutting tools, abattoirs, and place of storage. Processing hygienically ensures beef safety (Blagojevic and Antic, 2014) and beef quality (Ramayo-Calda et al., 2016). For consumers both in the majority and minority Muslim area, the cleanliness aspect is the weakest element for beef traded in traditional markets. The hygiene factor of beef in traditional markets is a big issue not only in Indonesia, but also in other countries. Adzitey et al. (2014) explained that the meat in wet markets is placed on tables in poor condition, with poor ventilation, with houseflies hovering around the beef. The butchers themselves pay little attention to hygiene and serve the meats with dirty hands. Consumers choose meat by touching it, which invites further contamination.

Especially for consumers in minority Muslim areas, the concern is beef that is free of residues. Biological and chemical pollutants, and other undesirable residues can endanger human health. Furthermore, the residue in meat comes from livestock feed and animal drugs. According to Suyanto et al. (2010), grazing of cattle in garbage disposal sites has caused the contamination of beef with heavy metals cadmium (Cd) and zinc (Zn). Besides, Bayene (2016) explained that the nature of the drug and its pharmacokinetic characteristics, the physicochemical processes or biological properties of animals and their products are factors that influence the occurrence of residues in beef. Contaminated beef will not be sold even though the price is very cheap.

The price of beef is crucial for middle-class Muslim consumers in non-majority areas. They are sensitive to rising beef prices, and if the price rises they switch to buying chicken, fish, or lamb. This behaviour is contrary to the majority of middle-class consumers in Indonesia, who are inelastic towards rising beef prices (Dewi et al., 2017). Price sensitivity causes a decrease in the quantity of beef purchase and consumption in minority Muslim area. Lower middle-class consumers place chicken as the primary substitute for beef. While consumers with higher income choose tempe and eggs as substitutes (Rahayu et al., 2014). These commodities can be obtained easily from the nearest merchant or store.

Muslim consumers in Muslim minority areas tend to be more selective in choosing a butcher shop. They prioritise shopping at beef outlets owned by Muslim traders. They worry that beef sold at non-Muslim merchant outlets is mixed with non-halal meat such as pork. In addition, they are hesitant about the halalness of the meat, because the hand of the trader touches both halal and non-halal meat. Consumers consider the seller's profile to be a priority, gauged through their daily appearance, for example, wearing a hijab. Yuwono (2017) elaborates that this is natural, given that they are a minority living in a community with different religious norms. It has aroused public awareness about the importance of halal products.

The consumers in minority Muslim areas are more careful while buying and consuming halal meat compared to consumers who live in the majority Muslim areas. Attitude and perception of behaviour control were the most dominant aspects of their decision to consume halal food (Soesilawati and Yuliana, 2013). Their study shows that Muslim consumers in minority Muslim areas have a higher awareness and perception of behavioural control in consuming halal food than in Banten, for example. Consumers in both majority and minority Muslim areas consume halal food for individual reasons, or because they like it (attitude), rather than out of a fear of negative judgments from the community or external parties. The concern of Muslim consumers regarding the 'halalness' of food products that they consume is also influenced by their level of religiousness (Ahmad et al., 2015). It indicates that there is an evolution in the commitment of Muslim consumers and their understanding of the halal status of products.

5 Conclusions and implications

The five main attributes of beef are: the halal label, newness, appearance, aroma, and hygiene. However, there are additional attributes for Middle-class Muslim consumers in majority non-Muslim areas, specifically, the beef is free of residue, have good price, and have a Muslim shop owner. The pattern of purchase and consumption of beef in this area has the characteristic of rarely shopping for beef, and less buying and consuming of beef. The implications are that all stakeholders along the beef supply chain in Denpasar and Kupang should pay attention to the additional attributes for this specific segment.

References

Abalkhail, T.S. (2018) 'Traditional cultural values vs. religiosity: Saudi female purchase intention of Turkish Islamic fashion', *International Journal of Islamic Marketing and Branding*, Vol. 3, No. 3, pp.196–208.

Abdalhai, M.H., Bashari, M., Lagnika, C., He, Q. and Sun, X. (2014) 'Effect of ultrasound treatment prior to vacuum and modified atmosphere packaging on microbial and physical characteristics of fresh beef', *Journal of Food and Nutrition Research*, Vol. 2, No. 6, pp.312–320.

Abu-Hussin, M.F., Johari, F., Hehsan, A. and MohdNawawi, M.S.A.B. (2017) 'Halal purchase intention among the Singaporean Muslim minority', *Journal of Product Food Marketing*, Vol. 23, No. 7, pp.769–782.

Adzitey, F., Abdul-Aziz, A. and Moses, O. (2014) 'Microbial quality of beef in the Yendi Municipality of Ghana', *Global Journal of Animal Scientific Research*, Vol. 2, No. 1, pp.10–17.

Ahmad, A.N., Rahman, A.A. and Rahman, S.A. (2015) 'Assessing knowledge and religiosity on consumer behavior towards halal food and cosmetic products', *International Journal of Social Science and Humanity*, Vol. 5, No. 1, pp.10–14.

Alam, S.S. and Sayuti, N.M. (2011) 'Applying the theory of planned behavior (TPB) in halal food purchasing', *International Journal of Commerce and Management*, Vol. 21, No. 1, pp.8–20.

Ali, A., Xiaoling, G., Sherwani, M. and Ali, A. (2017a) 'Factors affecting halal meat purchase intention', *British Food Journal*, Vol. 119, No. 3, pp.527–541.

Ali, H., Purwandi, L., Nugroho, H., Ekoputri, A.W. and Halim, T. (2017b) *Indonesia Middle-Class Muslim*, Alvara Research Center, Jakarta.

Ardeshiri, A. and Rose, J.M. (2018) 'How Australian consumers value intrinsic and extrinsix attributes off beef products', *Food Quality and Preference*, Vol. 65, No. 4, pp.146–163.

Ariffin, S.K. (2017) 'The effect of attitude toward advertising in the relationship between value-expressive function and purchase intention toward Kopitiam (coffee shop)', *International Journal of Economic Research*, Vol. 14, No. 5, pp.285–297.

Ariffin, S.K. and Wahid, N.A. (2017) 'Confidence in the halal logo strengthens the relationship between the consumer's value-expressive function and attitude toward Kopitiam (coffee shop)', *Advanced Science Letters*, Vol. 23, No. 11, pp.10672–10675.

Asioli, D., Varela, P., Harsleth, M., Almli, V.L., Olsen, N.V. and Naes, T. (2017) 'A discussion of recent methodologies for combining sensory and extrinsic product properties in consumer studies', *Food Quality and Preferences*, Vol. 56, No. 3, pp.266–273.

Bayene, T. (2016) 'Veterinary drug residues in food-animal products: its risk factors and potential effects on public health', *Veterinary Science & Technology*, Vol. 7, No. 1, pp.1–7.

Bhurosy, T. and Jeewon, R. (2014) 'Overweight and obesity epidemic in developing countries: A problem with diet, physical activity, or socioeconomic status?', *The Scientific World Journal*, Vol. 2014, No. 10, pp.1–7.

Blagojevic, B. and Antic, D. (2014) 'Assessment of the potential contribution of official meat inspection and abattoir process hygiene to biological safety assurance of final beef and pork carcasses', *Food Control*, Vol. 36, No. 1, pp.174–182.

Boccia, F., Covino, D. and Sarnacchiaro, P. (2018) 'Genetically modified food versus knowledge and fear: a noumenic approach for consumer behaviour', *Food Research International*, Vol. 111, No. 9, pp.682–688.

Bonne, K. and Verbeke, W. (2008) 'Religious values informing halal meat production and the control and delivery of halal credence quality', *Agriculture and Human Values*, Vol. 25, No. 1, pp.35–47.

Bonny, S., Gardner, G., Pethick, D., Allen, P., Legrand, I., Wierzbicki, J., Farmer, J., Polkinghorne, R. and Hocquette, J. (2017) 'Untrained consumer assessment of the eating quality of European beef: 2. Demographic factors have only minor effects on consumer scores and willingness to pay', *Animal*, Vol. 11, No. 8, pp.1399–1411.

Chang, T.S. and Yeh, H. (2016) 'Gender differences in Taiwan's hypermarkets: investigating shopping times and product categories', *Asia Pacific Journal of Marketing and Logistics*, Vol. 28, No. 4, pp.650–662.

Chupong, D., Kasuma, J., Panie, R. and Yacob, Y. (2015) 'Purchase intention of halal products: a study among non-Muslim member of co-operatives', *Malaysian Journal of Co-operative Studies*, Vol. 11, No. 1, pp.63–78.

Colella, F. and Ortega, D.L. (2017) 'Where's the beef? Retail channel choice and beef preferences in Argentina', *Meat Science*, Vol. 133, No. 11, pp.86–94.

Dewi, I., Nurmalina, R., Adhi, A.K. and Brummer, B. (2017) 'Price volatility analysis in Indonesian beef market', *ICSAFS Conference Proceedings, 2nd International Conference on Sustainable Agriculture and Food Security: A Comprehensive Approach*, pp.403–420.

Duffet, R.G. (2015) 'Facebook advertising's influence on intention-to-purchase and purchase amongst millennials', *Internet Research*, Vol. 25, No. 4, pp.498–526.

Eid, W. (2018) 'Integrating the theory of planned behavior to identify determinants of halal food consumption in Japan', *International Journal of Islamic Marketing and Branding*, Vol. 3, No. 3, pp.232–244.

Fauzi, W.I.M., Muhammad, N., Mokhtar, S.S.M. and Yusoff, R.Z. (2016) 'What motivate Muslim consumer to patronage Islamic based – retail store?', *International Review of Management and Marketing*, Vol. 6, No. 7s, pp.199–203.

Fenko, A., Leufkens, J. and Hoof, J.J.V. (2015) 'New product, familiar taste: effects of slogans on cognitive and affective responses to an unknown food product among food neophobic and neophilics', *Food Quality and Preference*, Vol. 39, No. 1, pp.268–276.

Gakii, A. and Murigi, E.M. (2019) 'Advertising and service quality in the mobile phone industry in Kenya', *European Journal of Business and Strategic Management*, Vol. 4, No. 1, pp.39–50.

Giacomazzi, C.M., Talamini, E. and Kindlein, L. (2017) 'Relevance of brands and beef quality differentials for the consumer at the time of purchase Revista Brasileira de Zootecnia', *Brazilian Journal of Animal Science*, Vol. 46, No. 4, pp.354–365.

Henchion, M., McCarthy, M. and Resconi, V.C. (2017) 'Beef quality attributes a systematic review of consumer perspectives', *Meat Science*, Vol. 128, No. 6, Nos. 1–7.

Holbrook, M.B. (1999) *Consumer Value: A Framework for Analysis and Research*, Routledge Taylor and Francis Group, London and New York, UK and USA.

Indonesian Bureau of Statistics-BPS (2017) *Statistical Yearbook of Indonesia 2017*, BPS-Statistics, Jakarta, Indonesia.

Ingrassia, M., Bacarella, S., Columba, P., Altamore, L. and Chironi, S. (2017) 'Traceability and labelling of food products from the consumer perspective', *Chemical Engineering Transactions*, Vol. 58, No. 7, pp.865–870.

Islam, M.J., Sayeed, M.A., Akhtar, S., Hossain, M.S. and Liza, A.A. (2018) 'Consumers profile analysis towards chicken, beef, mutton, fish and egg consumption in Bangladesh', *British Food Journal*, Vol. 120, No. 12, pp.2818–2831.

Ismoyawati, D. (2015) 'Halal food marketing: a case study on consumer behavior of chicken-based processed food consumption in central part of Java, Indonesia', *Agriculture and Agricultural Science Procedia*, Vol. 3, pp.169–172.

Jusmaliani, J. and Nasution, H. (2009) 'Religiosity aspect in consumer behavior: determinants of halal meat consumption', *ASEAN Marketing Journal*, Vol. 1, No. 1, pp.1–124.

Kassim, N.M and Zain, M.M. (2016) 'Quality of lifestyle and luxury purchase inclinations from the perspectives of affluent Muslim consumers', *Journal of Islamic Marketing*, Vol. 7, No. 1, pp.95–119.

Kerth, C.R., Harbison, A.L., Smith, S.B. and Miller, R.K. (2015) 'Consumer sensory evaluation, fatty acid composition, and shelf-life of ground beef with subcutaneous fat trimmings from different carcass locations', *Meat Science*, Vol. 104, No. 6, pp.30–36.

Kontot, K., Hamali, J. and Abdullah, F. (2016) 'Determining factors of customers' preferences: a case of deposit products in Islamic banking', *Social and Behavioral Sciences*, Vol. 224, No. 6, pp.167–175.

Kotler, P. and Keller, K.L. (2009) *Marketing Management*, 13th ed., Prentice-Hall, New Jersey, NJ.

Lee, H.J. and Hwang, J. (2016) 'The driving role of consumers' perceived credence attributes in organic food purchase decisions: a comparison of two groups of consumers', *Food Quality and Preferences*, Vol. 54, No. 12, pp.141–151.

Macau, F.R., Cunha, J.A.C.D., Alssbak, N.A.M. and Souza, L.J. (2016) 'Food value chain; social networks and knowledge transfer in Brazillian halal poultry network', *International Food and Agribusiness Management Review*, Vol. 19, No. 3, pp.211–224.

Marandure, T., Mapiye, C., Makombe, G., Nengovhela, B., Strydom, P., Mochenje, V. and Dzama, K. (2016) 'Beef traders' and consumers' perceptions on the development of a natural pasture-fed beef brand by smallholder cattle producers in South Africa', *African Journal of Range & Forage Science*, Vol. 33, No. 3, pp.207–2014.

Maruyama, M., Wu, L. and Huang, L. (2016) 'The modernization of fresh food retailing in China: the role of consumers', *Journal of Retailing and Consumer Services*, Vol. 30, No. 5, pp.33–39.

Meat & Livestock Australia Ltd/MLA (2017) *The Opportunities for Premium Australian Beef* [online] http://www.mla.com.au/industry-news/the-oppurtunities-forpremium-Australian-beef (accessed 1 June 2018).

Meixner, O., Friedl, E. and Hartl, B. (2018) 'Preferences for attributes of halal meat: empirical evidence from the Muslim community in Vienna, Austria', *International Journal on Food System Dynamics*, Vol. 9, No. 3, pp.265–278.

Mohayidin, M.G. and Kamurlzaman, N.H. (2014) 'Consumer's preferences toward attributes of manufactured halal food products', *Journal of International Food & Agribusiness Marketing*, Vol. 26, No. 2, pp.125–139.

Motoyama, M., Sasaki, K. and Watanabi, A. (2016) 'Wagyu and the factors contributing to its beef quality: a Japanese industry overview', *Meat Science*, Vol. 120, No. 10, pp.10–18.

Nakayama, M. and Wan, Y. (2017) 'Exploratory study on anchoring: fake vote counts in consumer reviews affect judgments of information quality', *Journal of Theoretical and Applied Electronic Commerce Research*, Vol. 12, No. 1, pp.1–20.

Purnomo, M., Otten, F. and Faust, H. (2018) 'Indonesian traditional market flexibility amidst state promoted market competition', *Social Sciences*, Vol. 7, No. 238, pp.1–17.

Putra, A.H.P.K., Said, S. and Hasan, S. (2017) 'Implication of external and internal factors of mall consumers in Indonesia to Impulsive buying behaviour', *International Journal of Business Accounting and Management*, Vol. 2, No. 4, pp.1–10.

Rahayu, S., Srihadi, E., Mahardika, H., Subroto, A., Cholid, D.A., Cholid, S. and Rumantir, V.W. (2014) *The Study Identifies Food Security and Consumer Preferences for the Consumption of Staple Food Ingredients (Indonesian Edition)*, Ministry of National Development Planning/ National Development Planning Agency (BAPPENAS) and Japan International Cooperation Agency (JICA), Jakarta, Indonesia.

Ramayo-Calda, Y., Renand, G., Ballester, M., Saintilan, R. and Rocha, D. (2016) 'Multi-breed and multi-trait co-association analysis of meat tenderness and other meat quality traits in three French beef cattle breeds', *Genetic Selection Solution*, Vol. 48, No. 37, pp.1–9.

Ranasingha, R.G.S.M., Edirisinghe, J.C. and Ratnayake, R.H.M.K. (2019) 'Willingness to pay for fruit attributes: a conjoint analysis', *The Journal of Agricultural Sciences – Sri Lanka*, Vol. 14, No. 2, pp.102–110.

Respatiadi, H and Nabila, H. (2017) *Beefing up the Stock: Policy Reform to Lower Beef Prices in Indonesia*, Center for Indonesian Policy Studies (CIPS), Jakarta, Indonesia.

Riaz, M.N. and Chaudry, M.M. (2004) *Halal Food Production*, Boca Raton, CRC Press, Louisiana.

Rossanti, Y. and Nasution, M.D.T.P. (2018) 'Information search and intentions to purchase: the role of country of origin image, product knowledge, and product involvement', *Journal of Theoretical and Applied Information Technology*, Vol. 96, No. 10, pp.3075–3085.

Seo, H., Lee, S. and Nam, S. (2011) 'Factors influencing fast food consumption behaviors of middle-school students in Seoul: an application of theory of planned behaviors', *Nutrition Research and Practice*, Vol. 5, No. 2, pp.169–178.

Sherwani, M., Ali, A., Ali, A., Hussain, S. and Zadran, H.G. (2018) 'Determinants of Muslim consumers' halal meat consumption: applying and extending the theory of planned behavior', *Journal of Food Product Marketing*, Vol. 24, No. 8, pp.960–981.

Soesilawati, E.S. and Yuliana, C.I. (2013) 'A comparison of consumer's behaviour in Muslim majority and minority areas', *Jurnal Ekonomi dan Pembangunan*, Vol. 21, No. 2, pp.167–178.

Stella, S., Bernardi, C. and Tirloni, E. (2018) 'Influence of skin packaging on raw beef quality: a review', *Journal of Food Quality*, Vol. 2018, No. 3, pp.1–9.

Sukesti, F. and Budiman, M. (2014) 'The influence halal label and personal religiosity on purchase decision on food products in Indonesia', *International Journal of Business, Economics, and Law*, Vol. 4, No. 1, pp.150–153.

Suyanto, A., Kusmiyati, S. and Retnaningsih, C. (2010) 'Heavy metal residues that reared cows in final disposal facility', *Jurnal Pangan dan Gizi*, Vol. 1, No. 1, pp.1–9.

Thomson Reuters and Dinar Standard (2018) *State of the Global Islamic Economy*, Dinar Standard, UAE.

Tieman, M. (2011) 'The application of halal in supply chain management: in-depth interviews', *Journal of Islamic Marketing*, Vol. 2, No. 2, pp.186–195.

Verbeke, W., Rutsaert, P., Bonne, K. and Vermier, I. (2013) 'Credence quality coordination and consumers' willingness-to-pay for certified halal labeled meat', *Meat Science*, Vol. 95, No. 4, pp.790–797.

Wahab, M.A. (2019) 'Analysing the relationship between misconceptions about hala among non-Muslims and their intention to boycott halal products', *International Journal of Islamic Marketing and Branding*, Vol. 4, No. 1, pp.1–26.

Widarjono, A. and Ruchbha, S.M. (2016) 'Household food demand in Indonesia: a two-stage budgeting approach', *Journal of Indonesian Economy and Business*, Vol. 31, No. 2, pp.163–177.

Wilson, J.A.J. and Liu, J. (2011) 'The challenges of Islamic branding: navigating emotions and halal', *Journal of Islamic Marketing*, Vol. 2, No. 1, pp.28–42.

World Economic Forum (2018) *The Global Gender Gap Reports 2018*, World Economic Forum, Switzerland.

Yuswohady, Herdiansyah, I., Fatahillah, F. and Ali, H. (2017) *Gen M: Generation Muslim*, Bentang Pustaka, Yogyakarta.

Yuwono, D.B. (2017) 'Urban Muslim concerns against honor small micro-enterprises food products', *Panangkaran, Jurnal Penelitian Agama dan Masyarakat*, Vol. 1, No. 1, pp.111–137.

Zulfakar, M.H., Jie, F. and Chan, C. (2012) 'Halal food supply chain integrity: from a literature review to a conceptual framework', in Sohal, A., Singh, P. and Prajogo, D. (Eds.): *Proceedings of the 10th ANZAM Operations, Supply Chain and Services Management Symposium*, Australia and New Zealand Academy of Management, Melbourne, Australia, pp.1–23.