

Malaysian Muslim consumers' awareness, confidence, and purchase behaviour on halal meat and its products after the meat cartel scandal

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Abstract

Many issues of halal food fraud involved the misuse of halal logo and certificate, mislabeling of products, and adulteration of halal products with non-halal ingredients. The sensitivity concern pertaining to halal meat and its products, particularly regarding the incident of the meat cartel scandal that happened in Malaysia had impacted consumers' trust and confidence, particularly among the Muslim communities. This research aimed to assess the degree of confidence and purchase behaviour among Muslim consumers on halal meat and its products following the issue of the imported meat cartel scandal. The extent of consumer awareness of the issue was also asked. The survey was performed among 1,045 Muslim consumers via a structured questionnaire to measure their awareness, confidence and purchase behaviour on halal meat and its products. The results highlighted that the issue had affected the Muslim consumers' perception of their confidence and purchasing behaviour majorly on imported meat and meat products. In addition, the confidence and purchasing trend of consumers has also reduced towards meat products other than the Department of Islamic Development Malaysia (JAKIM) certified halal logo. Overall, the concern on the issue has impacted Muslim consumers' behaviours towards halal meat and its products which demanded more serious attention and action to assure the halal integrity of the products.

1. Introduction

Halal (derived from Arabic word) is defined as anything that is permissible, acceptable, lawful, or legal to be consumed by every Muslim encoded by the principles of Islamic law (sha'riah) (Bujang *et al.*, 2018). Literally, the word "halal" is commonly seen together with the word "toyyib" or "toyyiban" (halalan-toyyiban) underlining a comprehensive scope beyond their stand-alone definitions (Alzeer *et al.*, 2018). Toyyib depicts a universal connotation referring to the physical characteristics of being clean, safe, quality and pure (Ab Halim and Salleh, 2020). Halal encompasses the various scopes of halal products and services for creating a complete loop of a halal ecosystem. One of the many important segments, halal food exhibits characteristics of being halal from its sources (i.e., permissible animal, proper slaughtering method and processes), good quality, safe to consume, clean, hygienic, nutritious and healthy

(Arifin *et al.*, 2021). Notably, the halal logo on any food product signifies the real execution of halalan-toyyiban principle. A clear and correct understanding of the halal and toyyib concept shall lead people to grasp deeper into its core values, trust and integrity moving forward in developing a holistic halal food ecosystem.

According to the United Nations Food and Agriculture Organization (FAO), bovine meat including from cattle and buffalo (i.e., belong to the same subfamily of *Bovinae*) is the third most consumed meat in the world (24%) after pig (36%) and poultry (33%) (FAO, 2014). A study by Khazanah Research Institute reported that Malaysia's per capita bovine meat consumption is among the highest in Southeast Asia despite the country being among the lowest producers of bovine meat in the region (Shaharudin and Tumin, 2021). The data showed that beef consumption in Malaysia was a steady increment over the years and this

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had been contributed predominantly by Muslim consumers. Notwithstanding, the self-sufficiency ratio of beef in Malaysia has been decreasing from 30.1% to 22% over the year from 2010-2018 (Hirschmann, 2020). Malaysia indeed hugely is depending on imported bovine meat, mainly from India in frozen form, Australia as fresh meat, including from New Zealand and Brazil to support its domestic consumption. In 2018, approximately USD498 million of frozen bovine meat was imported from India (78% share in value terms), followed by Australia (12%) and New Zealand (5%). Looking into the current trend, proper and efficient management of the meat industry in Malaysia is highly warranted to meet domestic demand.

Food crime or fraud has been reported globally. The immoral conduct of food fraud is intentionally performed to gain more and instant profit. Food fraud cases related to halal issues, that have been reported, include misuse of the halal logo, adulteration of halal certificates and labels, mislabeling of products, and adulteration of halal products with non-halal ingredients (Chuah *et al.*, 2016; Ruslan *et al.*, 2018; Ariffin *et al.*, 2021). The news was first reported in November 2020, and the incident of the halal imported 'meat cartel' in Malaysia has raised significant attention throughout the nation (Rozlin and Ramli, 2020; Adam, 2021a). The frozen meat was likely smuggled from uncertified halal slaughterhouses in countries including Brazil, Bolivia, Canada, Colombia, Spain and Mexico, and at the local warehouse, repackaged and labelled with a fake halal logo (Basyir, 2020). In addition, rumours reported those products might have been adulterated with meats from kangaroos and horses and other animals. More worryingly, it was speculated that the activities had been going on for the last 40 years (Basyir, 2020). The incident was later dubbed as 'halal meat scandal' as it is characterized by an event regarded as morally or legally wrong, which resulted in public outrage.

The increasing knowledge and awareness levels of halal and *toyyib* concepts have shifted the perceptions of halal food products among Muslims and a growing number of non-Muslims (Golnaz *et al.*, 2010; Chong *et al.*, 2021). The basis of confidence towards halal food products is the certainty of the source of materials and the manufacturing processes involved to produce the product. Many studies have been reported on the indicators in determining consumers' confidence level in halal food products including the use of halal logo, ingredient information, country of origin, physical product and packaging, label information, manufacturer identity and many other factors (Ishak *et al.*, 2016; Nurhazirah, *et al.*, 2020). Compromising those elements has been causing anxiety, and uncertainty and affecting

consumers' confidence, particularly among Muslim consumers, and notably, this has been noticed from the incidence of halal meat cartels that had been reported (Whitehead, 2021).

The issue of the halal meat cartel scandal has created uncertainty among the Muslim consumers which affected their confidence and purchasing behaviour due to the doubtful status of the products. The aim of this study, therefore, was to assess the degree of awareness among Malaysian Muslim consumers in regard to the controversial incidence of the halal meat cartel scandal. The study evaluated the consumers' confidence level and purchase behaviour on local and imported halal meat and its products either with the Department of Islamic Development Malaysia (JAKIM) certified halal logo or other halal logos recognized by JAKIM. In addition, several recommendations are proposed to enhance the effort to scale up local meat production to cater for increasing domestic demand and potentially the mechanisms to prevent food crime at any point in the meat supply chain. Not only is local meat production critical for national food security and economic development, but it is also more ecologically friendly (Reddy, 2020).

2. Materials and methods

A survey was conducted using convenience sampling via a structured questionnaire to assess the awareness level and gauge the level of respondents' confidence and purchase behaviour towards halal meat and its products following the incidence of the halal meat cartel scandal that happened previously (Rozlin and Ramli, 2020; Adam, 2021a). The respondents were made up of Muslim consumers only between the age of 16 to 60 and above. The respondents were reached by several online platforms including e-mail and WhatsApp, as well as face-to-face. The questionnaire was divided into four sections. In the first section, the respondents' socio-economic/demographic characteristics namely gender, age, marital status, residence, education, employment, gross salary, commitment, and levels of religiosity towards Islamic teaching were asked. The second section evaluated the respondents' awareness level on the issue of the halal meat cartel scandal. In the third section, the respondents were measured on their confidence (the feeling or belief) in halal meat and its products with the halal logo from JAKIM and other halal logos recognized by JAKIM. The selection responses were on a 5-point-Likert scale, ranging from 1 (no confidence), 2 (slightly confidence), 3 (somewhat confidence), 4 (moderately confidence) and 5 (highly confidence). Lastly, the purchase behaviour of halal meat and its products was assessed with three selection options, 'increased',

‘reduced’ or ‘the same’. The results were statistically analyzed by Statistical Package for Social Science (SPSS), Version 26.0.

3. Results

Responses from 1,045 Muslim respondents were evaluated to determine their levels of awareness, confidence and purchase behaviour towards halal meat and its products following the issue of the halal meat cartel scandal. There were three variables studied in this research, namely the level of awareness, confidence and purchase behaviour on halal meat and its products among the Muslim consumers. Awareness, which is knowledge or consciousness of Muslim consumers on meat scandal was assessed based on one statement. The measures of Muslim consumers’ confidence (the feeling or belief) and purchase behaviour towards halal meat and its products were assessed via five and six statements, respectively. For the confidence variable, the result of the reliability test generated an Alpha value of 0.87 (i.e., an acceptable range of Cronbach’s Alpha value ≥ 0.70) indicating that the variable used was reliable and internally consistent. The analysis output of the convergent validity test shows that the correlation value between the items is significant at 0.01 level (data not shown). The normality test indicated that the histogram shows a symmetrical curve and the normal probability plot exhibits the dots lying along the diagonal line and spread from 0 to 1.0 (data not shown). According to the classic assumption test, it is justified to conclude that the data is normally distributed. The assessment of consumers’ confidence was measured based on the average scores to describe the findings. Whereas the percentage of responses was calculated to measure consumers’ awareness and purchase behaviour.

3.1 Descriptive analysis

3.1.1 Demographic profile

The demographic profile of the respondents is shown in Table 1. About 70.6% of the respondents were female and 29.4% were male. The majority of survey respondents were between 20 to 29 years (62.1%) of age, followed by 30 to 39 (12.6%), while 60 and above were the least (1.2%). The respondents were 70% single compared to married which was about 29%. The respondents were 67.6% from the urban area while 32.4% were from the rural area. The educational background of the majority of the respondents was at least a diploma holder and above (81%). The respondents were about 40% working people and 50% were students. The monthly earnings identified majority was less than RM1000 (51.9%) well reflected the students. There were 92% of respondents claimed that they committed to Islamic teaching with 40% being

moderately religious and 54% being very religious.

Table 1. Demographic profile of respondent

Characteristic	Number (n = 1045)	Percentage (%)
Gender		
Male	307	29.4
Female	738	70.6
Age		
15 – 19	81	7.8
20 – 29	649	62.1
30 – 39	132	12.6
40 – 49	93	8.9
50 – 59	77	7.4
60 and above	13	1.2
Status		
Single	730	69.9
Married	307	29.4
Divorce	8	0.8
Residential area		
Urban	706	67.6
Rural	339	32.4
Level of education		
Primary school	8	0.8
Secondary school	136	13
Diploma	317	30.3
Degree	476	45.6
Masters/PhD	59	5.6
Others	49	4.7
Occupation		
Government sector	121	11.6
Private sector	196	18.8
Self-employed	101	9.7
Unemployed	76	7.3
Student	529	50.6
Others	22	2.1
Salary		
Below RM1000	542	51.9
RM1001 to RM2,000	231	22.1
RM2,001 to RM3,500	136	13
RM3,501 to RM5,000	74	7.1
RM5,000 to RM10,000	48	4.6
RM10,000 and above	14	1.3
Do you consider yourself to be committed to the Islamic teachings?		
Yes	961	92
No	8	0.8
Not sure	76	7.3
To what level, do you consider yourself to be religious?		
Not religious	4	0.4
Slightly religious	6	0.6
Moderately religious	420	40.2
Very religious	567	54.3
Don’t know	48	4.6

3.1.2 Consumers’ awareness

The results revealed that most of the respondents were aware of the issue in regard to the incidence of the

halal meat cartel scandal that happened in Malaysia. We identified that among the respondents 18.7% were extremely aware, 32.3% were moderately aware, 29.1% were somewhat aware, and 11.5% were slightly aware. Despite the overwhelming disputes throughout the country in response to the incident, there were a slight number of respondents (8.4%) that were not aware at all of the issue.

3.1.3 Consumers' confidence

The analysis of the level of consumers' confidence is shown in Table 2. It has been notified that the consumers tend to move towards "no confidence" with the "halal status of imported meat and its products with other than JAKIM halal logo" (statement 2) and the "halal status of imported meat and its products with any halal logo (recognized by JAKIM) from non-Muslim countries" (statement 4) with the mean scores below 3.0 (Table 2). Whereas the mean scores of the remaining three items (i.e., statements 1, 3 and 5) are between 3.0 to less than 4.0. Such results indicate that the confidence levels of the consumers were neither "moderately confident" nor "highly confident" but just above the average confidence level. The highest mean value of 3.54 for item 1 highlights the consumer's confidence in the halal status of local meat and its products with the JAKIM logo.

3.1.4 Consumers' purchase behaviours

Overall results indicate that the purchase behaviours of the respondents on halal meat and its products were reduced between 15% to 57% after the incidence of the meat cartel scandal (Table 3). The consumers' responses highlighted that the purchasing trend of JAKIM halal-certified local meat and its products somewhat remained the same (55.6%) after the incidence of the meat cartel scandal. The results notably showed that the consumers tend to reduce their purchase of imported meat and its products from a non-Muslim country with halal-certified by JAKIM (57.2%) or other authorities than JAKIM (55.7), respectively, compared to imported meat derived from Muslim countries (37 - 40%). The purchasing behaviour of Muslim consumers from local butchers

somewhat increased (29%) and remained the same (54.5%).

4. Discussion

The consumers' confidence in the halal logo was attributed to factors including food safety, government participation, level of awareness, trustworthiness and processes involved in manufacturing (Mohamed, 2008). Previous studies indicated that consumers have confidence and trust in the JAKIM halal logo (i.e., 68% - 88%) strongly reflected by their high purchasing behaviours of products with the JAKIM certified halal logo (Mohamed, 2008; Zaimah *et al.*, 2018). This highlights that consumers have high levels of awareness and sensitivity towards the confirmation of halal status, despite the status of the manufacturer either Muslim or non-Muslim (Zaimah *et al.*, 2018).

Overall, our present study indicated that Muslim consumers were less confident with imported meat and its product, certified by halal certification bodies other than JAKIM (Table 2). Consumers also showed less trust towards meat and its product with a halal logo originating from non-Muslim countries. Despite the issue, Muslim consumers remained confident about the halal status of local meat and its products with JAKIM certified halal logo as shown by consumers' purchasing behaviour which is somewhat similar to before the incident. The impact from the incident has also reduced the purchasing trend of imported meat products originating from non-Muslim countries and with other than JAKIM halal logo (Table 3). The study highlighted that only reliable foreign halal logos only recognized by JAKIM will ensure trustworthiness and assurance of the halal status of food products.

Following the incident of the imported meat cartel scandal, the immediate impact was seen in the reduced level of confidence among consumers reflected by a drop in the sale of red meat by approximately 30 to 40% (Adam, 2021b). The same trend was also reflected in our findings as we observed an overall reduction in the trend of purchasing among Muslim consumers of imported meat and products from non-Muslim countries (halal-

Table 2. Consumers' confidence

Statement on consumers' confidence	Mean	Standard Deviation
1. After knowing the issue, how confident you are with the halal status of local meat and its products with the JAKIM logo?	3.54	1.044
2. After knowing the issue, how confident you are with the halal status of imported meat and its products other than the JAKIM logo?	2.72	1.159
3. After knowing the issue, how confident you are with the halal status of imported meat and its products with any halal logo from Muslim countries?	3.32	1.029
4. After knowing the issue, how confident you are with the halal status of imported meat and its products with any halal logo from non-Muslim countries?	2.80	1.146
5. After knowing the issue, how confident you are with the integrity of JAKIM (as the authoritative body) in handling halal-related matters?	3.42	1.012
Total mean	3.16	

Table 3. Purchase behaviour of the consumers

Statement on consumers' purchase behaviour	N = 1045	Percentage (%)
1. After knowing the issue, how would you describe your purchase of local meat and its products (certified by JAKIM)?		
Reduce	270	25.8
Same	581	55.6
Increase	194	18.6
2. After knowing the issue, how would you describe your purchase of imported meat and its products from Muslim countries		
Reduce	393	37.6
Same	530	50.7
Increase	122	11.7
3. After knowing the issue, how would you describe your purchase of imported meat and its products from non-Muslim countries		
Reduce	598	57.2
Same	359	34.4
Increase	88	8.4
4. After knowing the issue, how would you describe your purchase of imported meat and its products from Muslim countries		
Reduce	422	40.4
Same	519	49.6
Increase	104	10.0
5. After knowing the issue, how would you describe your purchase of imported meat and its products from non-Muslim countries		
Reduce	582	55.7
Same	371	35.5
Increase	92	8.8
6. After knowing the issue, how would you describe your purchase of meat from local butchers?		
Reduce	165	15.8
Same	570	54.5
Increase	310	29.7

certified by JAKIM or other authorities) (Table 3). In addition, the report also indicated that there was a notable shift in consumers' purchasing trend from imported meat to local meat. This is also shown in our findings, as more consumers were more confident in local supplies compared to imported supplies (Table 2). Furthermore, improper management of the issue could hugely compromise consumers' perception and trust towards the integrity of local halal certification authority under the decree of JAKIM, Malaysian Quarantine and Inspection Services (MAQIS) and Royal Malaysian Customs Department.

The study findings highlight that the demand for local meat supply remained the same despite the incidence of halal meat cartels. This may indicate the opportunities for local producers of meat and its products to boost their market shares. Notably, due to some limitations and to the extent to meet domestic demand, the government needs to obtain supplies of meats from other countries including India, Australia, New Zealand, and Brazil (Shaharudin and Tumin, 2021). Many efforts to increase the local supply of meat were markedly hampered due to low animal productivity, high cost of production and inefficient practices in small farms (Jamaludin *et al.*, 2014). The current scenario implies that the demand for halal meat is far greater than the

capacity of supply from domestic sources (Ruzulan *et al.*, 2021). The data recorded that in 2018, the self-sufficiency level for meat stood at 22% with an import value of RM 3.8 billion and an export value of RM 1.2 billion (Arshad, 2021). Therefore, to overcome the challenges, a more feasible and sustainable action plan is warranted to cater to and ensure the local supply of halal meat is sufficient for domestic usage.

Scaling up local meat production gives more control over the entire supply chain to prevent any possible transgressions that can lead to food fraud issues at any critical point. Digitalization and technology adoption such as artificial intelligence (AI) and robotics could be employed to enhance management and security throughout all the processes involved. Proper planning is necessary for the importation of animals for breeding, at the same time minimizing mortality and increasing the fertility of livestock (Abdulla *et al.*, 2016). Integrated efforts including religious authorities, regulatory agencies, manufacturers, local suppliers and distributors, retailers and consumers are highly demanded more efficient coordination to meet the domestic demand. Rigorous regulations including periodic inspection or audits, mandatory laboratory sampling for authentication and stringent penalty would be necessary to maintain the integrity of the processes involved and to increase the

consumers' confidence and trust.

There are several limitations in the present study. These include the application of single-item variables for consumers' awareness, self-reported questionnaires on intended behaviours and convenient sampling which limit the generalizability of the study. The descriptive analysis used also limits the depth of the discussion. Future studies may extend the research by testing the relationship between variables using established theory and a well-grounded framework.

4. Conclusion

Consumers' awareness about a particular issue pertaining to halal food fraud is highly essential in determining their responses (confidence) and purchase behaviours towards the product. Overall, the study highlights that the demand for local meat supply and the integrity of the JAKIM halal logo remained the same despite the incidence of halal meat cartels. This may indicate the opportunities for local producers of meat and its products to boost their market shares. However, a reduction in the confidence level and purchase behaviour on imported meat and its products other than the halal-certified JAKIM logo was noticed. It shows that diminished confidence among Muslim consumers was overwhelmingly a great concern. In conclusion, to trust or not to trust is significantly dependent on the integrity of the halal status of the product that brings its core value to consumers.

Conflict of interest

The authors declare no conflict of interest.

References

- Ab Halim, M.A. and Salleh, M.M.M. (2020). Consumer rights in halal products: a study based on legal and syariah perspectives. *Food Research*, 4(Suppl. 1), 281-290. [https://doi.org/10.26656/fr.2017.4\(S1\).S31](https://doi.org/10.26656/fr.2017.4(S1).S31)
- Abdulla, I., Arshad, F.M., Bala, B.K., Bach, N.L. and Mohammadi, S. (2016). Management of beef cattle production in Malaysia: a step forward to sustainability. *American Journal of Applied Sciences*, 13(9), 976-983. <https://doi.org/10.3844/ajassp.2016.976.983>
- Adam, A. (2021a). How Malaysia's 'meat cartel' scandal unfolded: A timeline. Retrieved on September 1, 2021 from the Malay Mail website: <https://www.malaymail.com/news/malaysia/2021/01/04/how-malaysias-meat-cartel-scandal-unfolded-a-timeline/1937007>
- Adam, A. (2021b). Aeon sees sales of red meat plunge after 'cartel' scandal; Mydin MD calls for swift action ahead of April fasting month. Retrieved on September 1, 2021 from the Malay Mail website: <https://www.malaymail.com/news/malaysia/2021/01/06/aeon-sees-sales-of-red-meat-plunge-after-cartel-scandal-mydin-md-calls-for/1937762>
- Alzeer, J., Rieder, U. and Hadeed, K.A. (2018). Rational and practical aspects of halal and Tayyib in the context of food safety. *Trends in Food Science and Technology*, 71, 264-267. <https://doi.org/10.1016/j.tifs.2017.10.020>
- Ariffin, M.F.M.D., Riza, N.S.M., Hamid, M.F.A., Awae, F. and Nasir, B.M. (2021). Halal food crime in Malaysia: an analysis on illegal meat cartel issues. *Journal of Contemporary Issues in Business and Government*, 27(2), 1407-1412. <https://doi.org/10.47750/cibg.2021.27.02.152>
- Arshad, F.M. (2021). My Say: Halal meat fiasco begs a system overhaul. Retrieved on September 1, 2021 from The Edge Markets website: <https://www.theedgemarkets.com/article/my-say-halal-meat-fiasco-begs-system-overhaul>
- Basyir, M. (2020). Meat cartel 'bribing government officers'. Retrieved on September 1, 2021 from the New Straits Times website: <https://www.nst.com.my/news/nation/2020/12/651038/meat-cartel-bribing-government-officers>
- Bujang, A., Noor, Z.M. and Abdullah, N. (2018). An overview of toyib aspect of halal food production in meat and meat products. In Hashim, N.M., Shariff, N.N.M., Mahamood S.F., Harun, H.M.F., Shahrudin M.S. and Bhari, A. (Eds.). Proceedings of the 3rd International Halal Conference (INHAC 2016). Singapore: Springer. https://doi.org/10.1007/978-981-10-7257-4_41
- Chong, S.C., Yeow, C.C., Low, C.W., Mah, P.Y. and Tung, D.T. (2021). Non-Muslim Malaysians' purchase intention towards halal products. *Journal of Islamic Marketing*, 13(8), 1751-1762. <https://doi.org/10.1108/JIMA-10-2020-0326>
- Chuah, L.O., He, X.B., Effarizah, M.E., Syahariza, Z.A., Shamila-Syuhada, A.K. and Rusul, G., (2016). Mislabelling of beef and poultry products sold in Malaysia. *Food Control*, 62, 157-164. <https://doi.org/10.1016/j.foodcont.2015.10.030>
- FAO (Food and Agricultural Organization). (2014). Sources of Meat. Retrieved on September 1, 2021 from FAO website: http://www.fao.org/ag/againfo/themes/en/meat/backgr_sources.html
- Golnaz, R., Zainalabidin, M., Mad Nasir, S. and Eddie Chiew, F.C. (2010). Non-muslims' awareness of

- halal principles and related food products in Malaysia. *International Food Research Journal*, 17 (3), 667-674.
- Hirschmann, R. (2020). Self-sufficiency ratio of beef in Malaysia from 2010 to 2018. Retrieved on September 1, 2021 from website: <https://www.statista.com/statistics/1081195/malaysia-self-sufficiency-ratio-beef/>
- Ishak, S., Awang, A.H., Hussain, M.Y., Ramli, Z., Md Sum, S., Saad, S. and Abd Manaf, A. (2016). A study on the mediating role of halal perception: determinants and consequence reflections. *Journal of Islamic Marketing*, 7(3), 288-302.
- Jamaludin, M.H., Hassan, M.H., Amin, M.R. and Kari, Z.A.K. (2014). The future of the Malaysian beef industry. *Journal of Tropical Resources and Sustainable Science*, 2(1), 23-29.
- Mohamed, Z., Rezai, G., Shamsudin, M.N. and Chiew, F.C.E. (2008). Halal logo and consumers' confidence: what are the important factors? *Economic and Technology Management Review*, 3, 37-45.
- Nurhazirah, A., Mohd Nasir, M.N. and Kamaruzaman, N.Z. (2020). To trust or not to trust: public confidence in halal logo. *Journal of Critical Reviews. Journal of Critical Reviews*, 7(17), 1198-1204.
- Reddy, I. (2020). 7 Ways in Which Youth Can Protect the Environment | Voices of Youth. Retrieved on September 1, 2021 from <https://www.voicesofyouth.org/blog/7-ways-which-youth-can-protect-environment>
- Rozlin, I. and Ramli, M.A. (2020, Nov 23). Awas, aktiviti seludup masuk daging lembu tidak halal. Retrieved on September 1, 2021 from the Sinar Harian website: <https://www.sinarharian.com.my/article/111459/LAPORAN-KHAS/Awas-aktiviti-seludup-masuk-daging-lembu-tidak-halal> [In Bahasa Malaysia].
- Ruslan, A.A.A., Kamaruzaman, N.H. and Sanny, M. (2018). Muslim consumers' awareness and perception of halal food fraud. *International Food Research Journal*, 25(Suppl.1), S87-S96.
- Ruzulan, Z., Jamaludin, M.A. and Ishak, A.H. (2021). Meat and meat-based products: challenges and opportunities in halal food security. *IOP Conference Series: Earth and Environmental Science*, 756, 012017. <https://doi.org/10.1088/1755-1315/756/1/012017>
- Shaharudin, A.A.A. and Tumin, S.A. (2019). A Brief on 'Beef'. Kuala Lumpur: Khazanah Research Institute.
- Whitehead, R. (2021). Silence brings uncertainty for Malaysia's food industry amid fake halal meat scandal. Retrieved on September 1, 2021 from the Salaam Gateway website: <https://www.salaamgateway.com/story/silence-brings-uncertainty-for-malysias-food-industry-amid-fake-halal-meat-scandal>
- Zaimah, R., Awang, A.H., Sarmila, M.S., Ishak, S., Azima, A.M., Saad, S. and Hussain, M.Y. (2018). Consumer's perceptions and behaviors towards halal food products in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 8(13 Special Issue: Community Development and Social Mobility), 151-158.