

Muslim consumers' behaviour towards halal nutraceutical products in Malaysia

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Abstract

Nutraceutical is defined as a food, or parts of a food, that provide medical or health benefits, including disease prevention and treatment. Although the primary source of nutraceutical products is plant-based, not all nutraceutical products can be categorized as halal. Many ingredients are involved in food processing and used as flavours, stabilizers, or colouring agents. In addition, some additives may be derived from non-halal sources, whether from pork, blood, non-slaughtered animals, genetically modified, or extracted with ethanol. Therefore, there is a need to identify the factors influencing Muslims' consumer behaviour towards halal nutraceutical products to improve their awareness of them in Malaysia. For this reason, the present study has been developed to examine the factors that affect Muslim behaviour in purchasing halal nutraceutical products. This study employed a quantitative approach, with a total of 400 Muslim consumers in Malaysia participating and selected through multi-stage random sampling. Multiple regression analysis was used to determine whether Islamic values, religiosity, the maqasid shariah principle, and trust in government influence consumer behaviour toward halal nutraceutical products. The result indicated that all four factors significantly affect the consumers' behaviour, where trust in the government was the most substantial predictive factor. This study was expected to improve halal awareness among Muslim consumers while encouraging the government to strengthen the Halal industry to protect the welfare of Muslim consumers in Malaysia.

1. Introduction

Halal is a comprehensive concept that encourages Muslims to consume nutritious and hygienically produced products (Moghaddam *et al.*, 2022). As a result, the Muslim customer market is also the world's fastest-growing market. The halal industry is one of the fastest-growing industries in the world, with Muslims accounting for a quarter of the world's population. The primary driver of the halal industry is the increasing demand from Muslim consumers and communities for products and services produced in accordance with Islamic principles. The demand for halal is not only limited to food and beverages. Muslim consumers also look for halalness in their fashion, tourism, and cosmetics, including nutraceutical products.

Nutraceuticals came from a combination of nutrition and pharmaceuticals and were introduced by Stephen

DeFelice in 1989. According to DeFelice (1997), nutraceutical was defined as "a food, or parts of a food, that provide medical or health benefits including the prevention and treatment of disease." People have consumed numerous nutraceutical products throughout recent years to improve their health. Most of these products are used to enhance body functions and mental performance, reduce weight and improve health. Khan *et al.* (2011) noticed that nutraceutical products are common among Malaysians. This statement is supported by the National Health and Morbidity Report in 2017, in which two in five adolescents in Malaysia consume vitamins, minerals, and food supplements (Institute for Public Health (IPH), 2017).

In recent times, various issues have arisen, causing nutraceutical products to be the precedence in this study. Note that the crucial issue is regarding the products' halal status (Shamsudin *et al.*, 2023). Although the

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primary source of nutraceutical products is derived from plants, many ingredients are involved in the production process and used as flavours, stabilizers, or colouring agents. Labadi (2017) claimed that some nutraceutical products are unacceptable for Muslim consumers because they use non-halal gelatin and stearates, alcoholic extracts, and porcine enzymes. Some additives may be derived from non-halal sources, whether from pork, blood, non-slaughtered animals, genetically modified, or extracted with ethanol (Alzeer and Hadeed, 2020). Hence, not all nutraceutical products can be considered halal. This issue negatively impacts consumers, especially Muslims, because they must obey Islamic principles by prohibiting non-halal consumption. Therefore, Muslim consumers must only choose halal nutraceutical products to be consumed.

Using Bandura *et al.* (1986) Social Cognitive Theory (SCT) as a theoretical framework, this study developed a new model to analyze the determinants of Muslim consumer behaviour toward halal nutraceutical products. SCT has been widely applied in consumer studies and adopted in a few research related to halal (Amanah *et al.*, 2019) and nutraceuticals (Noor *et al.*, 2014; Norsafinas and Nurul Hidayah, 2020). Based on the theory, human functioning was explained by three components: environmental, behavioural, and personal factors, through a triadic reciprocal relationship. Figure 1 illustrates the research framework used in this study.

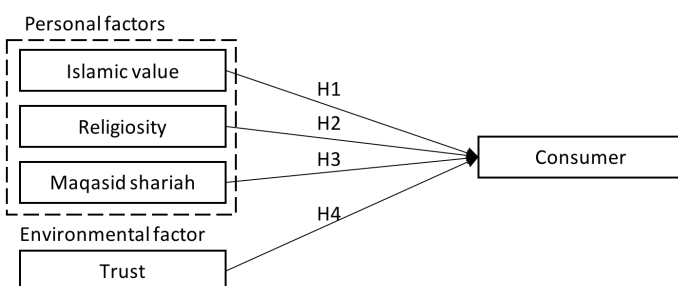


Figure 1. Conceptual framework.

There were several components in the personal factors explored in this study: Islamic values, religiosity and maqasid shariah. Islamic values are a set of moral principles that distinguish right and wrong (Rafiki and Wahab, 2014; Omar *et al.*, 2019). A previous study by Hassan (2014) and Fauzi *et al.* (2016) determined that Islamic value was the predominant criterion for Muslim consumers in their purchase decisions. In the meantime, consumers' behaviours can also be predicted by their religious commitments (Ramzy *et al.*, 2021). Zakaria *et al.* (2018) reported that religion dominates its followers' behaviour through various rules and regulations. A large volume of previous studies regarding religiosity present a significant determinant of behaviour toward halal products (Mutmainah, 2018; Ahmed *et al.*, 2019; Basri and Kurniawati, 2019; Muslichah *et al.*, 2019).

Another personal factor that may influence Muslim consumer behaviour is maqasid shariah. Maqasid shariah is interpreted through the five pillars of *Dharuriyah* (primary needs) of humankind, namely preserving religion, life, wealth, mind, and lineage (Reza Adnan *et al.*, 2021). The primary objective of maqasid shariah is to protect human health and the body, where food and beverages must be safe for consumption, and any harmful products are prohibited, even if there is no legal evidence prohibiting them (Azlan *et al.*, 2022). A study by Khatijah *et al.* (2018) described that understanding the maqasid shariah philosophy should lead to Muslim food consumption that seeks *halalan tayyiban* products. Therefore, Islamic values, religiosity and maqasid shariah play a vital role for Muslims and significantly impact their behaviour in daily life.

The environmental factor that affected Muslim consumer behaviour explored in this study was trust in the government. In Malaysia, the official government agencies responsible for examining, certifying and enforcing halal products are the Department of Islamic Development Malaysia (JAKIM), State Islamic Religious Department (JAIN), State Islamic Religious Council (MAIN) and Ministry of Domestic Trade and Consumer Affairs (KPDNHEP). The authorities' role in regulating and monitoring halal products is vital to inculcate trust among Muslim consumers (Maisarah *et al.*, 2013). Furthermore, according to Elistina *et al.* (2017), consumers will rely on these authorities without additional inquiry. Hence, trust in the government plays an important role in consumer decision-making and may influence the consumers' behaviour towards halal nutraceutical products. Hence, the hypotheses for this study were as follows: H1: Islamic values have a positive influence on consumer behaviour toward halal nutraceutical products, H2: Religiosity has a positive influence on consumer behaviour toward halal nutraceutical products, H3: Maqasid Shariah principle has a positive influence on consumer behaviour towards halal nutraceutical products, and H4: Trust in government has a positive influence on consumer behaviour toward halal nutraceutical products.

Thus, based on the proposed framework and hypotheses, this study aimed to analyze the determining factors of Muslim consumer behaviour towards halal nutraceutical products in Malaysia, including personal and environmental factors, using multiple regression analysis.

2. Materials and methods

This study utilized the quantitative approach and the cross-sectional survey to collect and analyze the data. According to Ishtiaq (2019), the survey research method

is the best method to study the behaviour of a population. This study involved a sampling frame of Muslims who lived in Malaysia. According to the Department of Statistics Malaysia (2021), the total Muslim population in Malaysia is 63.5% (20.6 million). Hence, based on the Muslim population, the minimum sample size required for this study was 384 (Krejcie and Morgan, 1970). This study was conducted using probability sampling because the result will not be biased and can generalize the whole population of the study. Using a multi-stage sampling design, all states in Malaysia were divided into five zones: Northern (Perlis, Kedah, Penang, Perak), Central (Selangor, Kuala Lumpur, Putrajaya), Southern (Negeri Sembilan, Melaka, Johor), East coast (Pahang, Terengganu, Kelantan) and Borneo (Sabah, Sarawak, Labuan). The total 384 samples needed for this study were distributed proportionally for each zone based on the Muslim proportion. One district was randomly picked from each zone, and the respondents who lived in those selected residential areas were chosen randomly. In total, 400 respondents participated in this study.

Five variables were studied: Islamic values, religiosity, maqasid shariah principle, trust in government and consumer behaviour. The variable of Islamic values has been measured using ten items adapted from Haron *et al.* (2020). The religiosity variable was adapted from Mohd Dali *et al.* (2019) with five items, and the Maqasid shariah principle variable was newly developed in this study. The trust in government and consumer behaviour was adapted from Elistina *et al.* (2017), with five items for trust and six items for consumer behaviour. A five-point Likert-type scale ranging from 1 (Strongly disagree) to 5 (Strongly agree) was applied to anchor each item in the questions. Table 1 presents the coefficient alpha for the reliability test for each variable. All the reliability scores were above the minimum value of 0.7, which indicates that all the variables were reliable. Statistical Package for Social Science (SPSS) version 27 was used for descriptive and multiple regression analysis in order to identify the most significant predictors of consumer behaviour toward halal nutraceutical products.

Table 1. Reliability of variables.

Variables	Number of items	Cronbach's alpha
Islamic values	10	0.920
Religiosity	5	0.877
Maqasid Shariah	5	0.895
Trust in government	5	0.835
Consumer behaviour	9	0.899

3. Results

3.1 Sample characteristics

Table 2 shows the demographic profiles of the 400 respondents. About 81.8% of the respondents were female, and only 18.3% were male. The high number of female respondents indicates that female consumers tend to use nutraceutical products more than male consumers. Most of the respondents were below 36 years old (77.8%), and this group of respondents may represent the perception of young Muslim consumers in Malaysia. About 54.5% of the respondents were married, 44.3% were single, and only 1.3% were widows or widowers.

Table 2. Demographic profiles of respondents.

Socio-demographic Characteristics	Frequency (n = 400)	Percentage (%)
Gender		
Male	73	18.3
Female	327	81.8
Age		
18 – 25	139	34.8
26 – 35	172	43.0
36 – 45	52	13.0
46 – 55	28	7.0
56 – 66	9	2.3
Marital Status		
Single	177	44.3
Married	218	54.5
Widow/widower	5	1.3

3.2 Determinants of consumer behaviour towards nutraceutical products

Multiple regression analysis was employed to identify the most significant factor contributing to consumer behaviour, which is presented in Table 3. The analysis reveals that the four hypotheses were accepted and significant, that is, the relationship between Islamic values ($\beta = 0.461$, $t = 6.023$: $p < 0.001$), religiosity ($\beta = 0.183$, $t = 3.455$: $p < 0.001$), maqasid shariah principle ($\beta = 0.101$, $t = 2.021$: $p = 0.044$) and trust towards government ($\beta = 0.292$, $t = 6.327$: $p < 0.001$). This study indicated that the entered variables can explain a 46.3% variance in the behaviour of the consumers. Generally, consumer behaviour towards halal nutraceutical products

Table 3. Multiple regression analysis.

Variable	B	β	T-value	p-value
Islamic value	0.350	0.274	6.023	<0.001
Religiosity	0.194	0.183	3.455	<0.001
Maqasid Shariah principle	0.077	0.101	2.021	0.044
Trust in government	0.241	0.292	6.327	<0.001

$R = 0.685$, $R^2 = 0.469$, Adjusted $R^2 = 0.463$, $F = 87.095$, Sig. $F = <0.001$

could be determined by a positive Islamic value, religiosity, maqasid shariah principles, and trust in government. The model used in this study was also established to be statistically significant.

4. Discussion

The study was conducted on Muslim consumers in Malaysia to identify the role of Islamic values, religiosity, maqasid shariah principle and trust in government in influencing consumer behaviour towards halal nutraceutical products. The present study demonstrated the vital role of trust towards the government in influencing consumer behaviour as the relationships were significant with the highest t-values. These findings emphasize the critical role of government authorities like JAKIM, the Ministry of Health and KPDNHEP in ensuring halal nutraceutical products in the market. In Malaysia, no specific standards or regulations govern halal nutraceutical products (Safuan *et al.*, 2020). Therefore, the government should take the initiative to establish appropriate rules and regulations to preserve and protect the consumer's interests from issues on halal and product safety.

Other than that, this study also determined a significant relationship between Islamic values and consumer behaviour. This positive relationship signifies that Islamic values influence consumer behaviour in purchasing halal nutraceutical products. This finding was consistent with previous studies by Ahmad (2020), who established that Muslim core values significantly affect all aspects of human behaviour. Meanwhile, Elistina *et al.* (2018) analyzed a weak relationship between consumer values and consumer behaviour. According to Mohammadi *et al.* (2020), Islamic values are dominant and highly influential on human behaviour compared to others' personal values. Therefore, as values play a vital role in creating an individual's behaviour, educational institutions should assist in instilling the correct values in all Malaysians. Educational systems should function as *tazkiyah* (purification) agents to cultivate ethically enlightened citizens. Consumers must not only be introduced to good or bad behaviour but also be familiarized with the constant practice of what is truly beneficial in daily life (Haron *et al.*, 2020).

Religion is an essential consideration when deciding on nutraceutical items. Halal status is a requirement that must be fulfilled. Maison *et al.* (2019) described that Muslims' decision to choose halal-certified products was frequently influenced by their level of religiosity. Therefore, practising Muslims are more likely to look for the product's halal status as a critical consideration when buying, as they feel more obliged to follow Islamic principles. The result supports previous findings by

Tuhin *et al.* (2020), presenting that religiosity positively influences consumer behaviour to purchase halal products. Hence, the higher the religiosity level of the consumers, the more positive behaviour they display towards halal nutraceutical products.

Interestingly, the consumers' behaviour was also significantly influenced by the maqasid shariah principle, implying that the greater the extent of the maqasid shariah principle, the better the consumer behaviour. This finding suggests that the respondents had adequate knowledge of maqasid shariah, particularly the five principles: life, religion, intellect, property, and leniency. Our findings support Amin's (2021) assertion in another context (vehicle financing) that maqasid shariah contributes to consumer behaviour.

These three determinants (Islamic values, religiosity and maqasid shariah principle) indicate that Islamic personal factors significantly affect Muslim behaviour. This result concurred with a study by Alam *et al.* (2011), who reported that the Islamic religion greatly influences Muslim consumers' purchase decisions. Thus, as halal is compulsory for Muslims, those with a high level of Islamic values, religiosity and maqasid shariah principle will always choose halal products as their life priority.

5. Conclusion

Nutraceutical products play an essential role as supplementary food to most Malaysians. Muslim consumers must be aware that not all nutraceutical products are halal and should consider that everything used or consumed must be lawful under the Islamic code. Islamic personal factors such as religiosity, Islamic values and the maqasid shariah principle significantly impact Muslim consumers' behaviour in purchasing halal nutraceutical products. The efforts to inculcate religious values among the Muslim community in Malaysia should be enhanced to ensure that they will always consume halal products. As a Muslim-majority country, government agencies should play a vital role in protecting Muslim consumers by enhancing the rules and regulations related to halal nutraceuticals. In addition, the enforcement and monitoring of halal nutraceutical products should also be improved to ensure the safety and quality of the product in the market. If the agencies that govern halal nutraceuticals in the market have high credibility, the consumers will have trust and confidence in purchasing and consuming those products. The manufacturers should also consider applying for halal certification for their products because the existence of a halal logo will help consumers in making a decision when purchasing halal products.

Conflict of interest

The authors declare no conflicts of interest.

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References

- Ahmad, S. (2020). Introjecting Core Islamic Values for Raising the Employee's Behaviour. *International Journal of Islamic Management and Business*, 8(1), 342-354.
- Ahmed, W., Najmi, A., Faizan, H.M. and Ahmed, S. (2019). Consumer behaviour towards willingness to pay for Halal products: An assessment of demand for Halal certification in a Muslim country. *British Food Journal*, 121(2), 492-504. <https://doi.org/10.1108/BFJ-02-2018-0085>
- Alam, S.S., Mohd, R. and Hisham, B. (2011). Is religiosity an important determinant on Muslim consumer behaviour in Malaysia? *Journal of Islamic Marketing*, 2(1), 83-96. <https://doi.org/10.1108/17590831111115268>
- Alzeer, J. and Hadeed, K.A. (2020). Halal Certification of Food, Nutraceuticals, and Pharmaceuticals in the Arab World. In Laher, I. (Ed.) *Handbook of Healthcare in the Arab World*, p. 756-787. Cham, Netherlands: Springer. https://doi.org/10.1007/978-3-319-74365-3_36-1
- Amanah, F.H., Ridzuan, A.R. and Baharudin, N.A.A. (2019). The trustworthiness of Halal Logo on imported food in Malaysia. *E-Journal of Media and Society*, 2, 131-143.
- Amin, H. (2021). Choosing murabahah to the purchase orderer (MPO) vehicle financing: an Islamic theory of consumer behaviour perspective. *Management Research Review*, 44(4), 588-606. <https://doi.org/10.1108/MRR-03-2020-0118>
- Azlan, A., Zalbahr, N., Sultana, S., Daud, S.M.M. and Yuniastuti, A. (2022). Students' perception, knowledge, attitude and behaviour towards halal food products in Malaysia. *Food Research*, 6(2), 99-109. [https://doi.org/10.26656/fr.2017.6\(2\).186](https://doi.org/10.26656/fr.2017.6(2).186)
- Bandura, A. and National Institute of Mental Health. (Eds.) (1986). *Social foundations of thought and action: A social cognitive theory*. Hoboken, New Jersey, USA: Prentice-Hall, Inc.
- Basri, Y.Z. and Kurniawati, F. (2019). Effect of Religiosity and Halal Awareness on Purchase Intention Moderated by Halal Certification. *KnE Social Sciences*, 3(26), 592-607. [https://doi.org/10.26656/fr.2017.8\(3\).634](https://doi.org/10.26656/fr.2017.8(3).634)
- doi.org/10.18502/kss.v3i26.5403
- Ishtiaq, M. (2019). Book Review. Creswell, J.W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). Thousand Oaks, California: SAGE Publications. *English Language Teaching*, 12, 40-41. <https://doi.org/10.5539/elt.v12n5p40>
- DeFelice, S.L. (1997). The nutraceutical revolution: What is it? In *Clinical Research and Regulatory Affairs*, 14 (1), 1-4. <https://doi.org/10.3109/10601339709019434>
- Department of Statistics Malaysia. (2021). *Key Findings Population and Housing Census of Malaysia*. Retrieved from Department of Statistics Malaysia website: <https://www.mycensus.gov.my/index.php/census-product/publication/175-census-2020/1816-key-findings-of-census-2020>
- Elistina, A.B., Nur Jannah, D. and Aznan Zuhid, S. (2018). Value, religiosity and behaviour in social media, presented at the 2018 International Conference on Information and Communication Technology for the Muslim World (ICT4M), p. 42-46. Kuala Lumpur, Malaysia. <https://doi.org/10.1109/ICT4M.2018.00017>
- Elistina, A.B., Nashaqilla Norlee, R., Afida Mastura, M.A., Mohhidin, O. and Puziah, H. (2017). Consumers' trust and values towards halal cosmetics and personal care products. *Malaysian Journal of Consumer and Family Economics*, 20(2), 21-35.
- 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*, 6(7 Special Issue), 199-203.
- Haron, H., Jamil, N.N. and Ramli, N.M. (2020). Western and Islamic values and ethics: Are they different? *Journal of Governance and Integrity*, 4(1), 12-28. <https://doi.org/10.15282/jgi.4.1.2020.5609>
- Hassan, S.H. (2014). The role of Islamic values on green purchase intention. *Journal of Islamic Marketing*, 5 (3), 379-395. <https://doi.org/10.1108/JIMA-11-2013-0080>
- Institute for Public Health (IPH). (2017). *National Health and Morbidity Survey Report 2017: Adolescent Nutrition Survey*. Retrieved from website: <https://iku.moh.gov.my/images/IKU/Document/REPORT/NHMS2017/NHMS2017Infographic.pdf>
- Khan, T.M., Hassali, M.A. and Al-Haddad, M.S.M. (2011). Nutraceuticals use among the inhabitants of Penang, Malaysia. *International Journal of Collaborative Research on Internal Medicine and Public Health*, 3(5), 402-414.
- Khatijah, O., Suhailiza, M.H., Mashitah, S., Marina Munira, M. and Roslizawati, R. (2018). A philosophy of maqasid shariah underpinned Muslim food

- consumption and the halal toyyiban concept. *Journal of Islamic Social Sciences and Humanities*, 13, 75-86. <https://doi.org/10.33102/abqari.vol13no1.69>
- Krejcie, R.V and Morgan, D.W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607-610. <https://doi.org/10.1177/001316447003000308>
- Labadi, S. (2017). Pursuing health through nutraceuticals but halal consumers beware. Retrieved on August 13, 2020 from website: <https://www.salaamgateway.com/story/pursuing-health-through-nutraceuticals-but-halal-consumers-beware#>
- Maisarah, A., Suhaila, A.K. and Nurul Azida, S. (2013). Perceptions and Behaviour's of Muslims and Non-Muslims towards Halal Products. *Journal of Social and Development Sciences*, 4(6), 249-257. <https://doi.org/10.22610/jsds.v4i6.759>
- Maison, D., Marchlewska, M., Zein, R.A., Syarifah, D. and Purba, H. (2019). Religiously permissible consumption: The influence of the halal label on product perceptions depending on the centrality of religiosity. *Journal of Islamic Marketing*, 10(3), 948-960. <https://doi.org/10.1108/JIMA-07-2018-0119>
- Moghaddam, H.K., Khan, N., Tan, B.C. and Khan, S. (2022). Consumer attitude toward Halal food in the case of the United Kingdom: the role of product attributes and marketing stimuli. *Food Research*, 6(6), 136-142. [https://doi.org/10.26656/fr.2017.6\(6\).861](https://doi.org/10.26656/fr.2017.6(6).861)
- Mohammadi, P., Kamarudin, S. and Omar, R. (2020). Do Islamic Values Impact Social Entrepreneurial Intention of University Students in Malaysia? An Empirical Investigation Into The Mediating Role of Empathy. *International Journal of Economics and Management*, 14(3), 365-378.
- Mohd Dali, N.R.S., Yousafzai, S. and Abdul Hamid, H. (2019). Religiosity scale development. *Journal of Islamic Marketing*, 10(1), 227-248. <https://doi.org/10.1108/JIMA-11-2016-0087>
- Muslichah, M., Abdullah, R. and Abdul Razak, L. (2019). The effect of halal foods awareness on purchase decision with religiosity as a moderating variable: A study among university students in Brunei Darussalam. *Journal of Islamic Marketing*, 11(5), 1091-1104. <https://doi.org/10.1108/JIMA-09-2017-0102>
- Mutmainah, L. (2018). The Role of Religiosity, Halal Awareness, Halal Certification, and Food Ingredients on Purchase Intention of Halal Food. *Ihtifaz: Journal of Islamic Economics, Finance, and Banking*, 1(1), 33-50. <https://doi.org/10.12928/ijiefb.v1i1.284>
- Noor, N.A.M., Yap, S.F., Liew, K.H. and Rajah, E. (2014). Consumer attitudes toward dietary supplements consumption: Implications for pharmaceutical marketing. *International Journal of Pharmaceutical and Healthcare Marketing*, 8(1), 6-26. <https://doi.org/10.1108/IJPHM-04-2013-0019>
- Norsafinas, M.S. and Nurul Hidayah, M.P. (2020). An Investigation of Self-Related Factors Associated with Consumer Purchase of Natural Health Products, presented at the 8th International Conference on International Studies (ICIS), p. 298-311. Malaysia: Universiti Utara Malaysia.
- Omar, E.N., Jaafar, H.S. and Osman, M.R. (2019). Halal supply chain: Assessing the Islamic values of the poultry industry. *International Journal of Supply Chain Management*, 8(2), 1191-1199.
- Rafiki, A. and Wahab, K.A. (2014). Islamic values and principles in the organization: A review of literature. *Asian Social Science*, 10, 9. <https://doi.org/10.5539/ass.v10n9p1>
- Ramzy, M.I., Irfan, P.M.M. and Hussin, Z. (2021). Religiosity as a mechanism to control delinquent behaviour of school students. *Religions*, 12(10), 823. <https://doi.org/10.3390/rel12100823>
- Reza Adnan, M.R.A., Mohd Fadzil, S.D.N., Baharuddin, A.S. and Wan Harun, M.A. (2021). Cultured meat as halal toyyiban food: A maqasid review in the preservation of life (hifz an-nafs). *Food Research*, 5 (5), 174-178. [https://doi.org/10.26656/fr.2017.5\(5\).161](https://doi.org/10.26656/fr.2017.5(5).161)
- Safuan, S., Ismail, S.F., Abdul Ghani Azmi, I.M. and Daud, M. (2020). Penetapan standard bagi industri nutraceutikal: Melindungi hak pengguna. *Kanun: Jurnal Undang-Undang Malaysia*, 32(2), 177-194. [https://doi.org/10.37052/kanun.32\(2\)no1](https://doi.org/10.37052/kanun.32(2)no1) [In Bahasa Malaysia].
- Shamsudin, S.N., Bakar, E.A., Osman, S. and Mohd Dali, N.R.S. (2023). Konsep halal toyyiban bagi produk nutraceutikal. *Journal of Fatwa Management and Research*, 28(1), 69-84. <https://doi.org/10.33102/jfatwa.vol28no1.460>
- Tuhin, M.K.W., Miraz, M.H., Habib, M.M. and Alam, M.M. (2020). Strengthening consumers' halal buying behaviour: role of attitude, religiosity and personal norm. *Journal of Islamic Marketing*, 13(3), 671-687. <https://doi.org/10.1108/JIMA-07-2020-0220>
- Zakaria, Z., Abdul Majid, M.D., Ahmad, Z., Jusoh, Z. and Zakaria, N.Z. (2018). Influence of Halal certification on customers' purchase intention. *Journal of Fundamental and Applied Sciences*, 9(5S), 772-787. <https://doi.org/10.4314/jfas.v9i5s.55>