

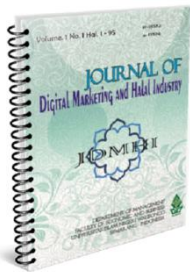


Gen Z's Knowledge of Halal Foods and Products on Purchase Behaviour

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ABSTRACT

Consuming or utilizing products derived from the pig is forbidden for Muslims. This study describes Islamic university students' understanding of pig derivative products of food and non-food products. This research was conducted by using a questionnaire to collect data. The indicators used in this data are information about various types of products, forms in pig terms, and indicators of product purchasing decisions. The sample used in this study amounted to 350 respondents. Overall, Islamic University students stated that the status of pig derivative products, both food and non-food, is haram. This study shows a relationship between organizations students follow and their knowledge of pig derivative products. However, this is unfollowed by their behavior when buying non-food products. They do not consider the halal status of non-food products except cosmetics products. This result can be valuable information in further halal awareness studies. Gen Z has to increase their knowledge about pig products and their derivatives daily. This result implies that halal knowledge will lead consumers to be more selective in choosing products and suggest institutions or governments socialize halal awareness and education through halal courses or halal training.

Introduction

Islam promotes zero tolerance for all products containing illegitimate derivatives. Non-halal food is forbidden for every Muslim except under exceptional circumstances. Halal is an Arabic term meaning "permitted, allowed, or lawful." When used to food and drink, halal can be understood as any food or drink permissible to be consumed by Muslims (Eliasi & Dwyer, 2002). The question about halal

products is increasing as consumers become more religious through information and also knowledge about halal (Sriminarti & Nora, 2018). Therefore, halal is limited to halal products and lifestyle (Yusoff et al., 2015). With a total score of 78, Indonesia and Malaysia were ranked first and second, respectively, in the 2019 Mastercard-Crescent Global Muslim Travel Index (GMTI). Turkey, Saudi Arabia, and the United Arab Emirates come next. One hundred thirty OIC member nations and non-OIC member nations are

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included in the GMTI report (Sudarsono et al., 2021). This development is supported by the increasing market segment among young Muslim consumers (Khaliqi & Pane, 2021).

Building halal or halal food products is essential, especially about the price, cleanliness, and quality of products used daily. Muslims' development significantly increases the demand for global and non-food products. In 2017, the global halal economy reached USD 2.1 trillion, with 1.8 billion Muslims worldwide beginning to charm the halal lifestyle (GIFR, 2015a). Nowadays, consumers across the globe have an ever-increasing demand for halal items (Awan et al., 2015b). As a Muslim population (> 80%), Indonesia represents a potential market for halal products. Halal status remains a sensitive issue for spiritual relationships where consumers need a halal solution. The increasing number of Muslims worldwide and the rise of awareness among their recent generations are two crucial reasons behind the new trend in changing behavior among Muslim consumers (Ahmad et al., 2015). Research conducted by (Salehudin and Luthfi, 2013) explains a beneficial relationship with the level of behavior. The more religious a person is, the consumption behavior of food and non-food products will be based on religious rules. (S Soesilowati, 2018) Explained that consumers in the Muslim majority (Banten) place halal status as the essential criterion in choosing food. However, awareness to check the Halal label on the packaging is still low. Consumers' awareness is undoubtedly crucial if the product in question is a non-food product. The more advanced the food processing process and the more advanced technology make the products produced different from the original ingredients. The difference is a deception of unobservant and

uneducated consumers about the illegitimate derivative products. Halal has become a universal concept that is no longer confined to the slaughtering of animals but also encompasses products and services of the highest quality. The past study acknowledges that people have become aware of the food they consume, health, hygiene, and animal welfare and quality, as studies regarding non-Muslim consumers' behavior regarding halal product acceptance have revealed positive responses related to health, food safety, hygiene, and food quality (Golnaz et al., 2010); (Aziz & Chok, 2013); (Abdul et al., 2016)).

In Indonesia, with the enactment of the Halal Product Guarantee Law no 33 of 2014, the first step in altering Indonesia's halal system, the Indonesian government has started to pay attention to trends of halal consumption. Prior to the Halal Product Guarantee Law, no 33 of 2014, the food industry in Indonesia only implemented halal food processing in a small percentage of its total food industry. As a result, halal certification was previously voluntary. This legislation reflects Indonesia's obligation to guarantee safety and comfort to Muslims when utilizing and consuming goods, especially food products that adhere to Islamic law. The technology of the food industry is increasing rapidly. Technology is needed to optimize the benefits of the food and improve product quality. This condition implies that the raw material of the food could change into various food products. This means that the raw material could be from halal or haram products. Consumers' knowledge about the difference between the raw materials of the food and food products is essential. In addition, food processing, including packaging and servings that contain non-halal material contamination, needs to be reviewed in terms of its halal status. However, food

derived from any product cannot be immediately consumed by Muslims because this product contains a critical point of haram in the processing process. This study aims to describe Islamic university students' understanding of pig derivative products of food and non-food products.

Literature Review

Pigs, as one of the forbidden items for Muslims, can be processed into various types of derivative products, both in the food and non-food sectors. The problem arises because not all consumers understand that a variety of pig derivative products is not only limited to food products, in this case, processed meat, but also non-food products, including cosmetic products and household necessities. Meindertma (2008), in her research, mentions that derivative products from each part of the pig can be processed into 185 different products. The derivative products made the public because all our daily needs, from shampoo, conditioners, soaps, lotions, and toothpaste, could come from pig derivatives. Even in further research, the derivative of pig gelatin (lard) is almost used in many food products, from butter and jelly to melted chocolate. Likewise, derivative products from other parts of the pig's body are also widely used for everyday purposes. This shows that none of the pig's body parts is wasted because all parts are used for derivative products. The ignorance of consumers of pig derivative (PG) products makes them insensitive in choosing and sorting products, even though the presence of pig components is small, making the product unclean.

The role of the government in issuing a Law on Guaranteeing Halal Products is expected to be able to answer the needs of Muslim

consumers for the products that are their daily needs. The community must support the role of government as consumers. Consumers should seek knowledge related to derivative products that are potentially harmful. However, the extent to which consumer knowledge about pig derivative (PD) products affects buying products. Buying behavior results from the process of cognition; as stated in the Theory of Planned Behaviour behaviors, perceptions of behavioral control and subjective norms influence consumers' decisions to buy a product (Alam & Sayuti, 2011). Subjective norms are briefly an individual's perception of essential people to themselves, towards an object, meaning that the closest people, such as parents and college friends, will influence consumer knowledge of the product. Quality, safety, health, and after-sales service of products are also things that consumers use to evaluate products.

The change of paradigm regarding health and healthy living encourages shifting patterns of needs to foods. This means that consuming food that is functional for the body is a necessity for Muslims, but consuming halal food is an obligation. Attributes in the form of prices and distribution will determine whether consumers feel able or not to buy halal cosmetics (Ansari & Mohammed, 2015). This paper focuses on Gen Z because Gen Z Muslim consumers will determine the future of the Halal industry in the country. The growth of the younger Muslim population and the more educated Muslims with higher incomes also increases their tendency to travel abroad; as a consequence, the future of a halal lifestyle shall take advantage of this (Sudarsono et al., 2021). As far as the study is concerned, the Halal system can be applied to foods and beverages and businesses based on Islamic principles. This is the basis for

researching by conducting case studies in the Islamic University student environment. Understanding, awareness, and knowledge of young consumers of halal products are the key points of the sustainability of halal product development in Indonesia and also Muslim global (Khaliqi & Pane, 2021). This study aims to determine the correlation of knowledge of PD products among Islamic University students towards product purchasing decisions.

Method, Data, and Analysis

The study was designed using a quantitative survey method. The population in this study was Gen Z students at the Islamic University in Surakarta. Gen Z's students were chosen because they are academics and are the closest group to knowledge and the ability to access knowledge independently. Islamic university was chosen because it was a higher education that was considered to have provided basic religious knowledge to its students. The total number of respondents is 350 students, and their grades and majors vary. The descriptions of the respondents are in Table 1. Show that dominantly a female (72%), and educational background in Senior High school (43,1%)

The data was collected using a questionnaire (Google Forms) with open- and closed-type questions. The number of questions is 19, with ten closed-type questions. Food purchase behavior, cosmetic purchase behavior, household appliances, and clothes purchase were two options given Gen Z's behavior in this study, i.e., buy without considering halal (0) and buy with considering halal (1). Gender is coded with 0 as a female student and one as a male student.

Knowledge of students products that may

contain pig derivatives was assessed with student recognition of their knowledge of various products that may contain pig and its derivatives, such as foods, cosmetics, beverages, medicines, brushes, toiletry, household appliances, coats, and jackets, military appliances, clothes, shoes, and bags. Knowledge of pig content in foods, beverages, and cosmetics was scored 1, while the other was scored higher, i.e., 2. The total knowledge of students is the sum of the scores. The more the students recognized the product content of pig and its derivatives, the higher the scores they got.

The capability of the student to recognize bags and brushes that contain pigs and their derivatives was measured through yes and no answers. Zero and one were given to the no and yes answers. Chi-square analysis and Binary Logistic Regression were applied in this study. Logistic regression has been applied for more than 25 years for modeling opinions and behavior decisions (Scott et al., 2013). The equation for logistic regression is as follows:

$$\text{logit}[\pi(x)] = \log \frac{\pi(x)}{1 - \pi(x)} = \alpha + \beta x$$

Result and Discussion

This study aims to determine the correlation of knowledge of PD products among Islamic University students as Gen Z towards product purchasing decisions. Table 1 shows descriptive statistics from respondents; it can be seen from the characteristics of respondents (n=350) who are students in Islamic universities. Based on gender, it was seen that respondents were dominated by women (72%) and men (28%).

Table 1.

Descriptive Statistics of Respondents

Descriptive	Percent (%)
<i>Gender</i>	
Men	28%
Women	72%
<i>Education</i>	
Vocational High School	26,3%
Senior High School	43,1 %
Aliyah High School	25,7%
Boarding School	4,9%
N = 350	

Most respondents graduated from Senior High School (43.1%), which shows that most respondents were educated in a non-Islamic curriculum. This data supported the fact that more than 54% of Islamic University students came from non-Islamic High Schools. Table 2 shows the purchase behavior towards halal considerations. It can be seen that in food purchase behavior and cosmetics purchase behavior, more than 50% of respondents consider halal status.

Table 2.

Purchase behavior toward halal considerations

Behavior	Gender	Halal Consideration	
		W/O	W
Food purchase behavior	F	1%	71%
	M	4%	25%
Cosmetic purchase behavior	F	11%	61%
	M	5%	23%
Household appliance purchase behavior	F	35%	37%
	M	15%	13%
Clothes purchase behavior	F	43%	29%
	M	16%	12%

behavior	59%	41%
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Regarding household appliance and clothing purchase behavior, respondents tend not to consider halal status (less than 50%). This may be based on their knowledge that PD products are limited to food and cosmetics. Even though in the last five years, the industry growth that carries the concept of halal in Indonesia has reached 40%, which consists of clothing, food, cosmetics, and financial sharia (GIFR, 2015b). Therefore, good knowledge will produce logical thinking patterns in behavior toward halal status, especially their consideration. For this reason, the adequacy of knowledge and experience can bring up rational reasons for considering, choosing, and making decisions on product purchases, especially halal products (Aziz & Chok, 2013b). Besides the knowledge and experience possessed by a person, Alam & Sayuti (2011) found that attitudes and intentions to buy halal products have a significant and positive relationship. Their Theory of Planned Behavior (TPB) model shows a 29.1 percent variance in intentions to purchase halal products. Attitudes are considered very influential on consumer intentions to buy halal products because consumers with a highly positive attitude have a greater intention to buy halal products.

When further analyzed related to the understanding of PD products, respondents were asked to choose a questionnaire related to the PD products they knew. PD refers to any substances or compounds resulting from or derived from a pig, such as lard obtained from pig fat, pork as a synonym for pig meat, and any gelatin produced from the bone and skin of the pig. Among the 12 types of products (Table 3), the average respondent chose food

products as products that most likely contained PD (94.86%). 73.71% of respondents mentioned cosmetic products as one of the PD products, toiletry products (5.1%), clothes (8.00%), drinks (42%), Brushes (26.3%), household appliances(10.0 %), coats and jackets (14.00%), shoes (15.43%), and bag (20.29%). Only 0.86% of respondents mentioned PD products on product medicine. So far, vaccines and medicines are some of the products that may be contaminated with PD products.

Table 3.

Knowledge of PD products

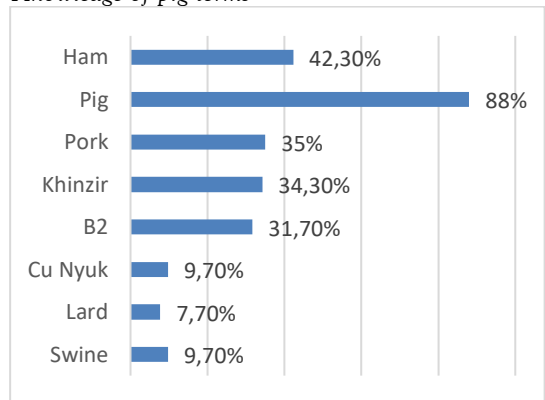
Products	Percent (%)
Foods	94.86
Cosmetics	73.71
Beverages	42.00
Medical	0.86
Brushes	26.3
Toiletry	5.71
Household appliances	10.00
Coats and jackets	14.00
Military appliances	1.43
Clothes	8.00
Shoes	15.43
Bag	20.29

This result showed that most consumers (94%) only knew about PD in the food product, even though PD was used as a component in many products, not just food products. They are also influenced by the fact that PD is cheaper than lamb or beef. Surprisingly, 1.43% of customers knew that PD could also be used in military appliances. Meindersma (2007) explained that pork bones are processed into collagen and gelatine, whereas in bullet production, pork gelatin is used to help transport propellants. Such fuels are gunpowder or cordite into bullets.

On the other hand, only 0.86% of customers knew PD in medical products. Only a few buyers know that pork-derived products in medical pawns, even though pork-derived products are widely used in the medical field, such as Pig's gelatine is one of the supporting ingredients used in the manufacture of soft gelatine capsules in medicine and is used to hold ingredients suspended in oil or oil itself (Rohman & Che Man, 2012). In addition, other products are a mixture of medicinal tablets as an emulsifier, surgical gelatin sponge, and surgical gelatin antibiotic; these products contain pork in their manufacture (Meindersma, 2008).

Figure 1.

Knowledge of pig terms



When respondents were asked to choose another term from the pig they knew (Figure 1), 42.3% chose ham, 35% pork, 34.3% khinzir, 31.7% B2, 88% pig; while cu nyuk, lard, and swine were below 10%, each was 9.7%, 7.7%, and 9.7%. Although most of the respondents knew about pork derivatives and pig terms, when asked to identify pig products from non-pork products, most respondents said they could not. When respondents were asked about their ability to differentiate PD products from leather products, only 11.4%

said they could, while the rest (88.6%) said they could not. Likewise, when respondents were asked to identify PD products from fur products such as brushes, only 17.7% said they could, while 82.3% said they could not. The respondents should be educated about halal food so they know about it. In the food and cosmetics industry, there were many analytical techniques to ensure food's halalness, kosherness, and wholesomeness (Rohman & Che Man, 2012), but none of the households' appliances and clothes. Dissemination of halal information is vital in helping Muslim consumers understand halal principles. Halal labeling on food products could affect the purchase interest. Halal labeling showed that the food was halal, making it more attractive to consume. Although halal is related to Muslims, it does not mean that the consumers and also producers of halal products only come from Muslims.

Moreover, in today's global market, halal can no longer be restricted to simply meaning food that is 'pork-free.' It covers many forms, such as emulsifiers and other food substances such as gelatine, enzymes, lecithin, and glycerine, as well as additives such as stabilizers, flavoring, coloring, breadcrumbs, and many more (Zakaria, 2008). This result showed a lack of halal awareness among Gen Z. This finding was agreed by Krishnan et al. (2017)); the study explained that Gen Z is unaware of the halal logo on the products and halal labels in restaurants. Nowadays, Muslim awareness of halal products is increasing, not only in food but also fashion. Halal products guarantee the cleanliness and quality of the food consumed, so every product that has passed the halal certification can be considered clean, safe, and high-quality. Product knowledge has a significant effect on the purchase intentions of halal products (Nasution et al., 2020).

Purchase behavior of Gen Z to food products toward gender. Purchase behavior of Gen Z to food products towards gender as follows:

$$\pi(x) = \frac{e^{4.41-2.54x_{gender}}}{1+e^{4.41-2.54x_{gender}}} \quad (2)$$

The high level of religiosity of people would make them more selective in choosing the products; in other words, the more religious the people, the more selective they would be. This condition shaped consumer purchase behavior (Sriminarti & Nora, 2018). In this study, food purchase behavior increases exp (-2.54) or 0.079 for each type of gender. In this study, the female code is 0, and the male is 1. This indicates that female Gen Z university students tend to consider halal content more when purchasing food. However, gender does not influence Gen Z's behavior in buying cosmetics, household appliances, and clothes. Many studies have stated that men and women have different buying behaviors (Hawkins et al., 2007); (Larson et al., 2019); (Slyke et al., 2010); (Weiser, 2004). Women are more thorough when purchasing products and choosing halal food products. Based on knowledge, food products contain chemicals. Different results when buying cosmetics, household appliances, and clothing, women are not too considerate of the halal content of these products. Besides that, halal product marketing is still struggling with food products due to their understanding of pork derivative products on non-food products. Information from Table 1 shows that male and female university students have a similar probability of considering halal and without halal content on household appliances and clothes products. The halal industry is expanding in importance due to the growing demand for halal products. Halal knowledge acts as a

moderator to strengthen the relationship between the religious level and purchase intention (Mostafa, 2020). The effectiveness of implementing a halal lifestyle can be increased with knowledge and also best ethical practices (Nuratifah et al., 2019).

Purchase behavior of university students on cosmetics

Y = knowledge of pig content on the product and capability to identify pig content of the bag and brush products

The purchase behavior of Gen Z in cosmetics was influenced by knowledge of pigs and their derivative content on the product. The capability to identify pig contents on the bag and brush is summarised in Table 4. It is apparent in Table 5 that models 1, 2, and 3 show that the behavior of university students in purchasing cosmetics was influenced by knowledge of pig contents on products and the capability to identify pig’s derivatives on bag and brush products.

It is also shown that knowledge of the pig content of products and the capability to identify pig content on brush significantly influences cosmetics purchase behavior (model 5). This is because cosmetics may contain brushes that contain pig and its derivatives. Also, cosmetics such as lotions and moisturizers may contain pigs and their derivatives. On the other hand, consumers can identify pig leather products and other leather. This is because pig leather has specific appearance characteristics that differ from other leather products, so consumers can identify. Moreover, the demand for halal cosmetics is now rising worldwide (Rahman et al., 2015). This study implies that the cosmetic industry needs to consider religiosity as an

account of promoting their cosmetic products.

Table 4.
Logistic regression model and its parameters

	Parameter	p-value
Model 1		
Knowledge	0.124	0.030**
Model 2		
Capability to identify the bag	1.454	0.049**
Model 3		
Capability to identify the brush	1.558	0.011**
Model 4		
Knowledge	0.113	0.051*
Capability to identify the bag	1.337	0.072*
Model 5		
Knowledge	0.104	0.068*
Capability to identify the brush	1.449	0.018**
Model 6		
Knowledge	0.100	0.082*
Capability to identify the bag	0.883	0.252
Capability to identify the brush	1.229	0.052*

* is significant at $\alpha = 0.1$,

** is significant at $\alpha = 0.05$

Purchase behavior of university students on household appliances

The purchase behavior of the students in this study on household appliances is also influenced by knowledge of the pig content of products and the capability to identify pig content on bags. The logistic regression model is as follows:

$$\pi(x) = \frac{e^{-0.531+0.104xKnowledge+0.851xCap_bag}}{1+e^{-0.531+0.104xKnowledge+0.851xCap_bag}} \quad (3)$$

Both parameters in the model are significant at $\alpha = 5\%$

Household appliance products may be produced from leather or sea urchin products. Consumers can identify between household appliances containing pig's derivatives or not from their appearance. The same is true for a household appliance made from raw materials, quickly identifying it from other leather products, making it easier for consumers to choose halal products that are free from pig's derivatives. Some household appliance products even have halal certification, such as refrigerators, frying pans, sanitary napkins, laundry soap, and food storage, due to the possibility of contamination of these products with raw materials derived from pigs. Product knowledge significantly affects attitudes and purchase intentions of halal products (Bon & Hussain, 2010). This study's results demonstrated that most respondents had solid knowledge and behaviors. The outcome showed that attitudes and product knowledge significantly and favorably influenced consumers' purchase intentions (Yusoff et al., 2015).

Purchase behavior of university students on clothes

Purchase behavior on clothes of the student in this study is influenced by their capability to identify pig content on bags and brushes. The logistic regression model is as follows:

$$\pi(x) = \frac{1}{1+e^{-0.590+1.1xCap_bag+0.59xCap_brush}} \quad (4)$$

Both parameters in the model are significant at $\alpha = 10\%$.

The fashion industry has progressed a lot, especially in using raw materials. Pig leather can be one of the raw materials used to make clothes like jackets. A consumer can identify the use of pig leather and sea urchins by their appearance. When consumers can identify pig products, they will be more careful when buying clothes. This is a concern for consumers who already know about pig content and its derivatives.

However, some clothing products cannot be easily identified using PD. The derivative products used can be black pigment from pigs as a fabric dye or pig's pancreatic enzymes as starch solvents when used to make batik in some batik industries in Indonesia.

On the other hand, clothes free from PD products are a must for a Muslim. For example, the availability of maternity wear that makes Muslimah feel comfortable and satisfied with their appearance will contribute to a positive pregnancy body image associated with upbeat pre and postnatal infant attachment by the mother, as stated by Krisjanous et al. (2022).

Logistic regression students' purchase behavior towards halal training intention.

This study investigates the intention of students to take halal training. This study confirms that purchase behavior may influence the students to take halal training significantly, except for food purchase intention (see Table 5). This may be because halal food is commonly known for them. Besides, there have not been many campaigns for halal or non-food products. As shown in Table 5, respondents who buy cosmetics, household appliances, and clothing products

are the parties that need halal training the most. Halal training not only helps to increase knowledge about PD products but also helps to differentiate PD products from non-food products. Not so many cosmetic products, household appliance products, and clothes appliance products have received halal certificates.

Table 5.

Purchase behavior toward halal training intention

	Parameter	p-value
Model 1		
Food purchase behavior	0.084	0.870
Model 2		
Cosmetic purchase behavior	0.634	0.030**
Model 3		
Household appliance purchase behavior	0.391	0.069*
Model 4		
Clothes appliance purchase behavior	0.386	0.078*

* is significant at $\alpha = 0.1$,

** is significant at $\alpha = 0.05$

Furthermore, this university student also felt that knowledge regarding halal products was necessary. Consumers need to be educated to understand the importance of halal products, and they should actively give feedback to halal manufacturers to improve the quality of their products. Seminars and classes can increase awareness of halal (Aslan, 2016). This Muslim generation follows the development of the digital era and likes visuals, so social media is suitable for obtaining the latest information (Adriani & Ma'ruf, 2020). The Muslim Generation is a rapidly growing industry market (Rizky, 2019). This is especially

important among the Gen Z generation as they provide potential markets for halal products.

Conclusion

This study aims to determine the correlation of knowledge of PD products among Islamic University students as Gen Z towards product purchasing decisions. This research shows that the purchase behavior of Gen Z foods is influenced by gender. The purchase behavior of Gen Z in cosmetics is influenced by knowledge of pigs and their derivative content on products and the capability to identify pig contents on the bag. The purchase behavior of the students in this study on household appliances is also influenced by knowledge of the pig content of products and the capability to identify pig content on bags. Purchase behavior on clothes of the student in this study is influenced by their capability to identify pig content on bags and brushes. It is also known that purchase behavior may influence the student from taking halal training except for food purchase intention. This result can be valuable information in further halal awareness studies. Various psychosocial aspects and governmental regulations on halal products influence consumer product choices. Gen Z has to increase their knowledge about pig products and their derivatives daily. This result implies that halal knowledge will make consumers more selective in choosing products. On the other hand, this result also suggests that the government or halal institutions should hold halal education conferences or training.

Suggestion

The result showed Islamic university students' understanding of pig derivative products. This

article contributes to the discipline of Islamic marketing by introducing and characterizing a potentially new field of Muslim consumer domain, i.e., halal non-food consumables. This study also showed that Muslims became more intelligent and selective in choosing products. The main limitation of this study is that the respondents were limited to one area in Islamic State University. For this reason, the following study can elaborate on more universities or areas to observe more comprehensively. The addition of the determinant factors of purchase intention, such as customer satisfaction and halal awareness, can be considered in the following research.

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