

## MUSLIM CUSTOMER BEHAVIOR IN HALAL FOOD ONLINE PURCHASING

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### ABSTRACT

While in general people perceive technology based on two major factors: its usefulness and ease of use (Davis, 1989), Muslim customers should consume the food and beverages allowed by the religion. Therefore, nowadays people could purchase anything online including halal food. This paper attempts to examine the Muslim customer behavior in purchasing halal food through online transaction. We modify the original TAM model to adjust to the Muslim customer. We collected the data via self-administered questionnaire, while Partial Least Square structural equation modeling (PLS-SEM) was used to estimate the data. The result shows that perceived usefulness has positive significance to purchase intention. Consequently, religious knowledge has positive significance to habit. Moreover, religious knowledge has positive significant effect to halal label, but has negative significant effect to purchase intention. Otherwise, habit has a significant effect to purchase intention. In addition, perceived ease of use has positive effect to purchase intention. In contrast, halal label has positive insignificant influence to habit. Further, perceived ease of use and perceived usefulness has negative insignificant effect to habit. Furthermore, in this study we also tested habit as mediating variable, the result shows that habit partly mediates between religious knowledge and purchase intention. However, habit failed to mediate between independent variables (perceived usefulness, perceived ease of use and halal label) and dependent variable (purchase intention). Moreover, halal label failed to mediate between religious knowledge and habit. However, further empirical investigation across generation and countries is necessary.

*Keywords:* Perceived Usefulness, Perceived Ease of Use, TAM, Religious Knowledge, Halal Label, Habit, Purchase Intention, Customer Behavior.

**JEL Classification:** D11; D12; D16; D90; D91.

#### *Article history:*

Received : December 4, 2018  
Revised : Juli 11, 2019  
Accepted : Juli 16, 2019  
Available online : November 1, 2019

<https://doi.org/10.21098/jimf.v5i3.1152>

## **I. INTRODUCTION**

### **1.1. Background**

The development of technology in the last decades cannot be ignored, as it comes in and shapes almost everything in human life as a whole including in the business sector (Narwal et. al, 2013). Generally, the evolution of technology transforms the industries and changes the shape of customer behavior (Juaneda-Ayensa et. al, 2016). In the modern world of technology, the landscape of a store in traditional has changed into a virtual store (Koufaris, 2002). Then, the consumer can purchase anything that they want through an online form. Therefore, online behavior can be traced by the numbers of transaction (Renny et. al, 2013).

In addition, people perceive technology based on two major factors: (1) usefulness and (2) ease of use (Davis, 1989). At the same time, the technology acceptance model has been used widely in various studies to analyze customer behavior. Eighty five publications that discuss the model was published (Marangunić & Granić, 2015), making the TAM model is the best predictor of online customer behavior (Mathieson, 1991). The numbers of empirical investigation was conducted to analyze the online shopping behavior by using TAM model (Tong, 2010) (Hsu, Chang, & Chuang, 2015)(Akhlaq & Ahmed, 2015)(Renny et al., 2013) (Wu & Ke, 2015)(Chi, 2018)(Natarajan, Balasubramanian, & Kasilingam, 2018) (Driediger & Bhatiasevi, 2019). However, empirical research relating to online food purchasing is limited (Murat & Hekimoglu, 2012).

On the other hand, Indonesian consumers are mostly Muslim. Perhaps, they must consume the food and beverages allowed by the religion (halal food). Therefore, the halal label is crucial in the halal food sector. The label helps convince Muslim consumers that they purchase halal food (Razzaque, Mohamed Abdur, 2016)(Rejaini & Arianfar, 2016). Ultimately, the halal label has a positive impact on food purchasing (Awan et al., 2015)(Aziz & Chok, 2013) (Ghadikolaei, 2016). Moreover, Muslim customer's behavior determined by their believe of religion (Rahim & Junos, 2012). Thus, consumption's habit and behavior have become one of believer identity toward religion (Varinli, Erdem, Mutlu, Avclar, & Avclar, 2016). In contrast, the existence of halal label on online form is questioned.

### **1.2. Objective**

The existing literature attempts to implement TAM model to predict the online shopping behavior (Tong, 2010) (Lingyun & Dong, 2008) (Renny et al., 2013) (Ashraf, Thongpapanl, & Auh, 2014) (Wu & Ke, 2015) (Jin, Osman, Nizam, & Rahim, 2016) (Law, Kwok, & Mark, 2016) (Driediger & Bhatiasevi, 2019), mobile shopping(Shang, Dawei, Wu, 2017) (Wu & Wang, 2005) (Chen, Hsu, & Lu, 2017) (Sohn, 2017) (Natarajan et al., 2018)(Chi, 2018), social media transaction (Hansen, Saridakis, & Benson, 2018). Further research is necessary in order to apply the model to the Muslim customer in purchasing online halal food. However, empirical investigation relating to purchasing online halal food is limited (Shang, Dawei, Wu, 2017) (Murat & Hekimoglu, 2012). Therefore, this research addresses the following objectives: (1) to depict the Muslim behavior in purchasing online halal food by using TAM model, (2) to determine the factors with the highest influence of Muslim behavior, (3) to investigate whether it is habitual for Muslim

customers in purchasing halal food online. Therefore, this research is divided into five sections. In section one, we explore the background of the research. In section two, we review relevant literatures. In section three, we describe empirical methods. In section four, we analyze the empirical findings. In section five, we conclude and recommend.

## **II. LITERATURE REVIEW**

In accordance with customer behavior of the Muslim consumer in the digital era, even the emergence of technology has given easy access and use to the human activity, the Muslim consumer should not cross the line of sharia conduct in their behavior in purchasing halal food. Therefore, the religious knowledge of Muslim consumer will be the decision to purchase halal food. However, the Muslim consumer with religious background has been embedded religious value since childhood. Therefore, to behave as permitted as the religion rules is considered as the habit for Muslim consumer (Rahim & Junos, 2012).

### **2.1. Background Theory**

#### **2.1.1. TAM (Technology Acceptance Model)**

TAM (Technology Acceptance Model) established by (Davis, 1989)(Davis, 1993) was derived from the theory reasoned action (TRA) and theory of planned behavior (TPB) (Marangunić & Granić, 2015). TAM describes that people behavior depends on how often people use technology (Lee et al., 2003). Therefore, TAM's perceived of usefulness and perceived ease of use determine the decision.

Perceived of usefulness (PU) is the phase to which a person accepts that using technology would enhance their performance. In contrast, perceived of ease of use (PEOU) is the phase to which a person accepts that using technology will be full of easiness (Davis, 1989). In addition, TAM has been used in many fields of study relating to the behavior of consumer in using technology. 85 publications have used the TAM model since it was launched (Marangunić & Granić, 2015). In essence, compared to theory planned behavior (TPB), TAM model is slightly better in predicting behavioral intention (Mathieson, 1991), not only in predicting behavioral intention, but also intention in smartphone use (Kim, 2014).

Nonetheless, numerous studies revealed that Perceived usefulness (PU) and perceived ease of use (PEOU) have positive effect to consumer's intention to conduct online shopping (Ashraf et al., 2014)(D. L. Amoroso & Hunsinger, 2009) (Koufaris, 2002)(Driediger & Bhatiasevi, 2019). Meanwhile, perceived of usefulness directly influences the consumer's intention. In addition, perceived usefulness indirectly influences the consumer's intention through the mediation of attitude. In contrast, perceived ease of use insignificantly influenced the customer's intention, neither indirectly through the mediation of attitude nor directly to customer's intention to shop online (Wu & Ke, 2015). On the other hand, (Renny et al., 2013) (Ashraf, Thongpapanl, & Spyropoulou, 2016) found that perceived ease of use and perceived usefulness influence the purchase intention as mediating variable. Then, (Wu & Wang, 2005)(Natarajan et al., 2018) revealed that only perceived of usefulness which has a positive effect on consumer's intention to use mobile

commerce. Meanwhile, (Khalifa & Liu, 2007) stated that perceived usefulness influences the repurchase intention of mobile shopping. Moreover, perceived usefulness also influences the consumer's behavioral intention to purchase halal food (Jamal & Sharifuddin, 2015). However, in using technology acceptance, men and women differ. While men are influenced by perceived of usefulness, women are influenced by perceived ease of use (Venkatesh, et.al, 2000)(Pascual-miguel, Agudo-peregrina, & Chaparro-peláez, 2015).

### 2.1.2. Religious Knowledge

Religiosity is referred to the person who believes in their value of religion and applies it in the daily life (Razzaque, Mohamed Abdur, 2016). Therefore, the value of religion and religiosity influences in all aspects of religious people including in their economic activity, such as consumption of food, cosmetics, insurance, and banking (Abd Rahman, Asrarhaghighi, & Ab Rahman, 2015) (Delener, 1990) (Sukesti, Fatmasari & Mamdukh, 2014) (Ni. Souiden, 2014) (Souiden & Rani, 2015).

Empirical investigation showed that religion, religiosity, and the knowledge of it influence the purchase intention. Indeed, religiosity will affect in purchasing decision of religious people (Sukesti, Fatmasari & Mamdukh, 2014) (Butt, Rose, Stephen, 2015). Then, (Alam, Janor, Zanariah, Wel, & Ahsan, 2012) (Amin, Abdul-Rahman, & Razak, 2014) revealed that religiosity influence the purchase intention to undertake the home financing. Meanwhile, (Minton, Johnson, & Liu, 2018) (Mohd Suki & Mohd Suki, 2015) found that religiosity affect the consumption of selecting food. In addition, religious knowledge leads the consumer to select pro-environmental consumer behavior (Bhuian, Shahid Nakib, sujeet, Kumar Sharma, Irfan Butt, Zafar, 2017). Nonetheless, the influence of the value of religion also affects customer loyalty (Swimberghe, Sharma, & Flurry, 2009). Even though, Muslim consumers have no difference from the western consumer in purchasing luxury goods and conventional finance (Newaz, Farhana, Fam, Kim-Shyan, Revti, 2016) (Nwankwo, Hamelin, & Khaled, 2014).

### 2.1.3. Halal Label

The term "halal" is based on the Arabic word that refers to Islamic value. Halal means permitted or lawful by the religion to consume the goods (Latif, Mohamed, Sharifuddin, Abdullah, & Ismail, 2014) (Rejaini & Arianfar, 2016). In addition, Islam has ordered their belief to consume halal products, it was written in the Quran "*Oye people! Eat the lawful and good things out of what is in the earth, and do not follow the footsteps of the Shaitan; surely he is your open enemy*" (QS: Al-Baqarah: 168). Therefore, the Muslim consumer should purchase everything corresponds to the value of religion (halal) (Alzeer, Rieder, & Hadeed, 2018). Thus, halal is something important to the Muslim consumer to make a decision whether to purchase it or not (Awan et al., 2015). Moreover, in order to convince the Muslim consumer that the products are "halal" based on the Islamic value, the restaurant should declare the halal label/logo on the product. Nevertheless, the appearance of halal label/logo on products can help Muslim consumers to be convinced that they buy halal products (Rejaini & Arianfar, 2016) (Razzaque, Mohamed Abdur, 2016). Therefore,

the halal label is not only about the lawful food, but also about the hygiene and safety of the food (Shariff & Lah, 2014) (Razzaque, Mohamed Abdur, 2016).

On the other hand, the halal label determines the Muslim purchase intention toward the halal product (Majid, Sabir, & Ashraf, 2015) (Aziz & Chok, 2013). Even though most producers of food are non-Muslim, as long as the packaging has the halal label, Muslim consumers will purchase it (Azam, 2016). As a result, halal label/logo becomes the consideration of Muslim consumers to make a decision (Muhamad, Nazlida, Vai Shiem, Leong, 2017). In contrast, the absence of the halal logo/label could affect the business performance (Shariff & Lah, 2014).

#### **2.1.4. Habit**

Habit is a psychology construct. Habit is defined as the repeated activity in stable behavior (Ouellette & Wood, 1998) (Beatty & Kahle, 1988). The strength of individual habit contains the history of repetition of behavior, the effort to control the behavior, the absence of awareness, the identity element, and efficiency (Verplanken & Orbell, 2003). In addition, habitual behavior appears ineffective way, effortlessly, and automatically (Aarts, Verplanken, & Van Knippenberg, 1998). However, (C. F. Chen & Chao, 2011) assumed that habit is reasoned action, as opposed to something that appears automatically. However, the habit may be developed under the frequency of past behavior and is considered indicative of future behavior (Ouellette & Wood, 1998). Therefore, the history of activity in the past constructs the habit in the present activity, as the habit has an important role in correlation with behavior (Beatty & Kahle, 1988).

In the context of technology acceptance, habit plays a significant role. It influences the use of technology and mediates the influence of intention in technology use (Limayem, Hirt, & Cheung, 2007) (Venkatesh, Viswanath, James Y.L Thong, 2012). Meanwhile, the intention to use the technology based on the level of the habit (Limayem, Hirt, & Chin, 2001). Furthermore, the use of technology is not only mediated by the habit, but also the satisfaction of the technology use (Aarts et al., 1998) (Verplanken & Orbell, 2003) (Lankton, Wilson, & Mao, 2010). As long as the technology provides satisfaction to the user, the user will possibly repeat using the technology.

## **2.2. Previous Studies**

In this study we attempt to investigate the Muslim customer behavior in purchasing online halal food by using TAM model as basic and additional external variable, which suits to the Muslim customer. In fact, a number of previous studies have been conducted on online customer behavior by using TAM model. In addition, perceived usefulness and perceived of use are statistically significant to the acceptance of purchase intention, online grocery, and mobile commerce (Renny et al., 2013) (Ashraf et al., 2014) (Chen et al., 2017) (Natarajan et al., 2018)(Chi, 2018)(Driediger & Bhatiasevi, 2019) (Akhlaq & Ahmed, 2015). At the same time, (Hansen et al., 2018) stated that perceived ease of use positively moderates the perceived behavioral control on social media transaction. In contrast, (Jin et al., 2016) (Agrebi & Jallais, 2015) (Tong, 2010) (Wu & Wang, 2005) found that only

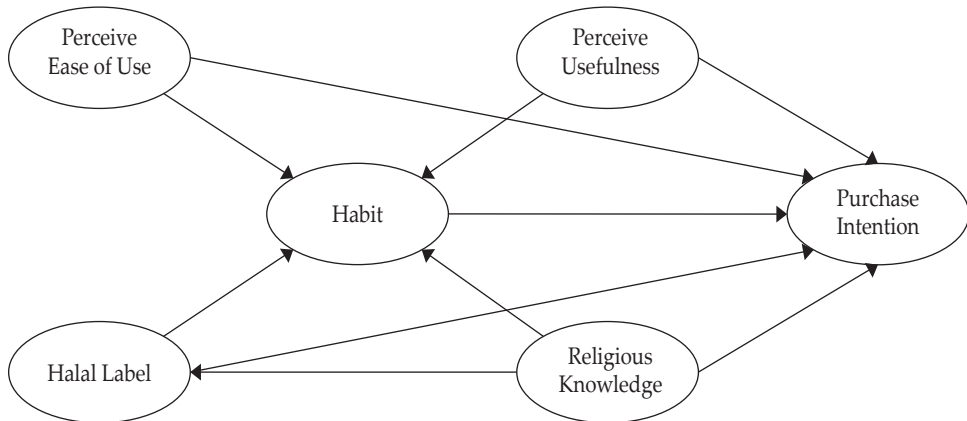
perceived usefulness have positive influence to mobile shopping behavior. Moreover, perceived usefulness and perceived ease of use have significantly mediated the attitude and purchase intention (Ashraf et al., 2016)(Wu & Ke, 2015). Further, perceived usefulness have a significant influence to purchase intention among Muslim customer (Jamal & Sharifuddin, 2015). However, (Shang, Dawei, Wu, 2017) found that only perceived ease of use is significantly influenced the mobile shopping.

On the other hand, a Muslim customer should consume everything allowed by the religion. Therefore, religious people are driven by its religious conduct to behave. Numerous study revealed that religious knowledge influence the purchase intention (Jamal & Sharifuddin, 2015)(Majid et al., 2015) (Newaz, Farhana, Fam, Kim-Shyan, Revti, 2016) (Sukesti, Fatmasari & Mamdukh, 2014)(Butt, Rose, Stephen, 2015). In addition, (Henderson, 2016) (Abd Rahman et al., 2015)(Minton et al., 2018) (Mohd Suki & Mohd Suki, 2015) (Varinli et al., 2016)(Nor, Latif, Ismail, & Nor, 2016)(Awan et al., 2015) stated that religious knowledge drives Muslim behavior toward consuming general food or halal food. Nonetheless, religious knowledge influences the purchase intention of halal-labeled product such as food, cosmetics and tourism (Jamal & Sharifuddin, 2015)(Majid et al., 2015)(Razzaque, Mohamed Abdur, 2016)(Khan, Asad, & Mehboob, 2017)(Muhamad, Nazlida, Vai Shiem, Leong, 2017) (Briliana & Mursito, 2017)(Aisyah, 2014). Thus, the halal label is an important aspect of a product to the Muslim customer. Therefore, halal-labeled products influence the purchase intention of Muslim customer (Aziz & Chok, 2013) (Hamdan, Issa, Abu, & Jusoff, 2013) (Dharma et al., 2018).

Furthermore, the online shopping behavior has become a habit (Taylor, Pahnla, & Warsta, 2010). (Law et al., 2016) found that habitual online use as the key mediators of purchase intention. Meanwhile (D. Amoroso & Lim, 2017) showed that habit mediates between customer satisfaction and continuance intention. However, (Farivar Samira, Ofir Turel, 2017) revealed that habit as moderator weaken the nexus between commerce risk and purchase intention. Moreover, habit as mediator strengthens the influence between perceived value and repurchase intention, whereas trust and satisfaction are weakened by the habit (Hsu et al., 2015). In contrast, (Chiu, Hsu, Lai, & Chang, 2012) revealed that a high level of habit reduces the effect of trust on repurchase intention.

### **2.3. Conceptual Framework**

In this paper, we analyze the purchase intention of the Muslim consumer in purchasing online halal food. The proposed model is adapted from the technology acceptance model (TAM) which developed by (Davis, 1989).

**Figure 1. The Conceptual Framework**

The model shows the PLS-path model with six latent variables, with perceived usefulness and perceived ease of use as the origin of TAM model latent variables. Then, we add religious knowledge, halal label, and habit as new latent variables. In addition, we include habit as mediation construct between independent exogenous latent variables and dependent endogenous latent variable.

To examine the direct relationships between independent exogenous latent variables (perceived usefulness, perceived ease of use, religious knowledge and halal label) and dependent endogenous latent variable (purchase intention), four hypotheses are developed. In addition, we examine indirect relationship between independent exogenous latent variables and dependent endogenous latent variables with the mediating role of variable habit to purchase intention. We also investigate the indirect nexus between religious knowledge and habit with using halal label as mediation. Finally, we have eleven developed hypotheses to examine the relationship among variables.

### III. METHODOLOGY

#### 3.1. Data

In this paper, we analyze the purchase intention of the Muslim consumer in purchasing halal food through technology. We use primary data collected from a self-administered questionnaire. The questionnaire was classified into two sections. The first section described the demographic information of respondents. The second explained 27 components relating to the variables. We used the Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). The population of the samples is the Muslim customers. We used the random sampling technique to determine the samples. Furthermore, the questionnaires were shared online through Google Form. At the end of data collection, 127 questionnaire answers were collected for further analysis.

## 3.2. Model Development

### 3.2.1. TAM

The model development of this study is shown in Fig. 1. We modified the origin of TAM model by adding external variables (religious knowledge, halal label and habit). (Davis, 1989) argued that people accept the technology by two major reasons: the first is perceived usefulness (PU), and the second perceived ease of use. Perceived usefulness refers to the degree to which using particular technology will enhance their performance. Meanwhile, perceived ease of use (PEOU) refers to the degree to which using particular technology will effortless (Davis, 1993). In this digital era, the purchase behavior of human beings is shaped by technology.

Since such development, customers can purchase the food through online form including Muslim customer. Empirical studies showed that perceived usefulness and perceived ease of use affect the purchase intention (Driediger & Bhatiasevi, 2019)(Natarajan et al., 2018)(Chi, 2018)(Y. Chen et al., 2017). In addition, habit plays a significant role in technology use behavior (Limayem et al., 2001). Therefore, the usefulness and the easiness of technology lead the human behavior to habitual activity. Thus, the difference level of habit should change the use behavior (Limayem et al., 2007). To sum up, the hypotheses are:

- H1: perceived usefulness positively influence to the purchase intention
- H2: perceived ease of use positively influence the purchase intention
- H3: Perceived usefulness positively influence the habit
- H4: perceived ease of use positively influence the habit

### 3.2.2. Religious Knowledge

Religious knowledge refers to the person who believes in their value of religion and apply it in their daily activity (Razzaque, Mohamed Abdur, 2016). Therefore, Religious knowledge shapes the behavior of religious people (Agag & El-masry, 2016). (Swimberghe et al., 2009) stated that religious commitment influence the customer loyalty. At the same time, (Chairy, 2012) revealed that spirituality influences the green purchase intention. Furthermore, religious knowledge statistically influences Islamic home financing (Alam et al., 2012)(Amin et al., 2014). Nonetheless, religious commitment has a significant effect to purchase halal endorsed product (Khan et al., 2017). The Muslim should behave under the religious conduct in all activities, including in food consumption (Quantaniah, Noreina, & Nurul, 2013). Thus, behavior in food consumption is part of Muslim habit and identity (Varinli et al., 2016). In terms of consumption, a Muslim prefers to consume the halal-labeled product, rather than the absence of it (Awan et al., 2015). Moreover, religious knowledge affects positively on halal food preferences (Yener, 2015). Although, religious knowledge moderates the relationship between horizontal collectivism and intention (Jamal & Sharifuddin, 2015). Thus, the following hypotheses were developed:

- H5: religious knowledge positively affects purchase intention
- H6: religious knowledge positively affects halal label
- H7: religious knowledge positively affects habit



### **3.2.3. The Halal Label**

The halal label is important for the Muslim customer when purchasing halal food (Shariff & Lah, 2014) (Razzaque, Mohamed Abdur, 2016) (Rejaini & Arianfar, 2016). Therefore, consuming halal-labeled product become a habit for Muslim consumer (Varinli et al., 2016). Moreover, numbers of empirical investigation revealed that halal label significantly affect purchase intention (Sukesti, Fatmasari & Mamdukh, 2014)(Ghadikolaei, 2016)(Aziz & Chok, 2013) (Dharma et al., 2018) (Abdul Latiff, Rezai, Mohamed, & Amizi Ayob, 2016). In addition, (Hamdan et al., 2013) revealed that awareness of halal labeling affects the purchase intention. Moreover, (Mohayidin & Kamarulzaman, 2014) found that the halal-label gained the most important attribute in consumer preferences. Furthermore, halal certification influences the intention of cosmetics consumer (Majid et al., 2015). Therefore, we hypothesized that:

H8: halal label positively affects purchase intention

H9: halal label positively affects habit

### **3.2.4. Habit**

Habit refers to action sequences, originally intentional, repeated behavior without conscious intention (de guinea, 2009). In this internet era, continuing use behavior of technology shapes the habitual behavior (David, 2003) (Lankton et al., 2010) (Narwal, Mahabir, geeta, 2013) (Hsiao, Chang, & Tang, 2015)(D. Amoroso & Lim, 2017). Regarding the purchase intention of online halal food, habit plays a significant role. A number of empirical investigations on habit and purchase intention have increased. (Hsiao et al., 2015) (Amoroso & Lim, 2017) stated that habit mediates between satisfaction and continuing intention. In contrast, (Farivar Samira, Ofir Turel, 2017) revealed that habit moderates (weaken) between commerce risk and purchase intention. Moreover, low level of habit moderates trust and satisfaction to repeat purchase intention (Hsu et al., 2015). Furthermore, habit affects negatively to switching intention toward public transport (C. F. Chen & Chao, 2011). Nonetheless, consumers habit influences the intention to accept halal product(Rahim & Junos, 2012). However, the use of online shopping behavior had become habitual behavior (Taylor et al., 2010). Therefore, the developed hypotheses are:

H10: habit affects positively purchase intention

H11: habit mediates between independent variables and dependent variable

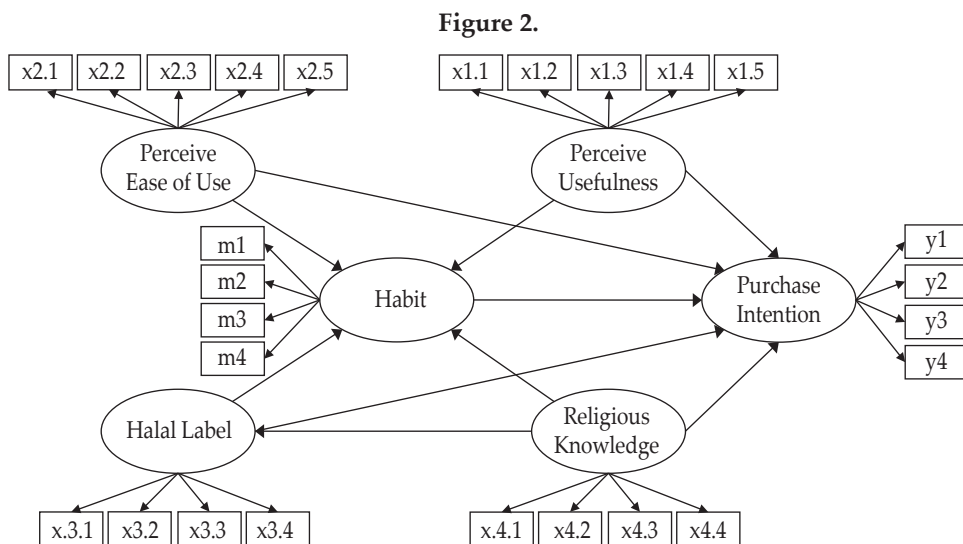


Figure 2 describes the PLS-path model with all instruments of the constructs. Therefore, each construct consists of four or five instruments representing the constructs. Moreover, in order to assure reliability and validity of the data, items and scales were derived from the previous studies. All the items of the constructs were measured using Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). Furthermore, the explanation of all the items can be seen in Table 1.

**Table 1.**  
**Explanation of The Instruments**

Instruments	Constructs	References
<b>Perceive usefulness</b>		
x1.1	The benefit of information system	(Chen & Chao, 2011)(Driediger & Bhatiasevi, 2019) (Chi, 2018)
x1.2	Easy to purchase the food	(Agag & El-masry, 2016)(Jamal & Sharifuddin, 2015)
x1.3	Time efficiency	
x1.4	Fast transaction	
x1.5	Information system provide many choices	
<b>Perceive ease of use</b>		
x2.1	Easy to learn	(Chen & Chao, 2011)(Driediger & Bhatiasevi, 2019) (Chi, 2018)
x2.2	Easy to access	(Agag & El-masry, 2016)(Jamal & Sharifuddin, 2015)
x2.3	Easy to operate	
x2.4	Easy to handle	
x2.5	Easy to master	
<b>Halal label</b>		
x3.1	Everyday consumption	(Azam, 2016)(Butt, Rose, Stephen, 2015) (Awan et al., 2015)(Aziz & Chok, 2013)
x3.2	Assuring the purchase of halal label	
x3.3	Important thing to consume	
x3.4	The existence of halal label on restaurant banner	

**Table 1.**  
**Explanation of The Instruments (Continued)**

Instruments	Constructs	References
<b>Religious knowledge</b>		
x4.1	Knowledge of the religious allowance	(Newaz, Farhana, Fam, Kim-Shyan, Revti, 2016)(Jamal & Sharifuddin, 2015)(Agag & El-masry, 2016)
x4.2	Knowledge of the religious forbidden	
x4.3	Not consuming forbidden food	
x4.4	Not consuming forbidden food through online and offline purchasing	
<b>Habit</b>		
m1	Usually act in line with religious teachings	(Khalifa & Liu, 2007)(Taylor et al., 2010)(Chen & Chao, 2011)
m2	Usually buy halal food through online and offline	
m3	Usually do <i>halal</i> consumption	
m4	Usually consume <i>halal</i> food	
<b>Purchase intention</b>		
y1	Intention to purchase online food	(Driediger & Bhatiasevi, 2019) (Chi, 2018)(Hansen et al., 2018).
y2	Intention to purchase due to its easiness	
y3	Intention to purchase due to its benefit	
y4	Intention to purchase due to its allowed by the religion	

### 3.3. Methodology

Once we gathered the data, we used PLS-SEM (partial least squares structural equation modeling) to estimate the structure model. Actually, PLS-SEM is usually used when facing the non-normal data, small sample size and formatively measure constructs (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014). In addition, PLS-SEM has two components: the inner model and outer model. PLS-SEM becomes the more familiar tool in the marketing field (Hair, Ringle, & Sarstedt, 2011). We apply smartPLS 3.0 application to analyze the data.

In the outer model, we estimate the reliability and validity of the constructs. The reliability of the variables measured by the result of composite reliability and the result of Cronbach's alpha. The result of composite reliability must be higher than >0.70 and Cronbach's alpha should be higher than >0.60 to indicates that the constructs are reliable. Meanwhile, the validity of the variables was assessed by the result of the AVE (Average Variance Extracted). Moreover, to indicate that the variables are valid, the result of AVE must be upper than >0.50 (Hair et al., 2011).

Furthermore, we calculated the structural modeling in the inner model. In the structural modeling, we estimate the  $R^2$  values. Whereas  $R^2$  values of 0.20 are deliberated in high in a study such as a customer behavior,  $R^2$  results of 0.75, 0.50, 0,25, respectively explain the level of influence mediate or weak levels of accuracy prediction (Hair et al., 2014). Thereafter, we estimated the hypothesis testing. Critical  $t$ -value at significance level 5% is 1.98 and the  $p$ -value 0.05. The hypothesis is accepted when the  $t$ -value higher than  $t$ -table ( $t$ -value > 1.98) and  $p$ -value lower than 0.05 ( $p$ -value  $\leq$  0.05), vice versa (Hair et al., 2011).

## IV. RESULTS AND ANALYSIS

### 4.1. Results

The inner model of PLS-SEM describes the relationship the construct being estimated. On the other hand, the outer model or the assessment model explains the relationship between the indicator variables and their corresponding construct (Hair et al., 2014).

#### 4.1.1. The Outer Model

In the outer model, we evaluated the reliability and validity of the data. The measurement of the reliability assessed by composite reliability and Cronbach's  $\alpha$ . In addition, the measurement of the validity was assessed by average variance constructs (AVE). Cronbach's alpha and composite reliability both explain about internal consistency reliability of construct. the value of Cronbach's alpha should higher than 0.60 to indicate the internal consistency reliability (Hair et al., 2011). In addition, Average Variance Extracted (AVE) points to the convergent validity of the constructs (Hair et al., 2014). The value of AVE must be higher than 0.50 to show the convergent validity of the construct (Hair et al., 2011).

**Table 2.**  
**Reliability and Validity of Constructs**

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
habit	0.937	0.956	0.844
Halal label	0.785	0.861	0.608
perceived ease of use	0.920	0.940	0.759
perceived usefulness_	0.871	0.906	0.660
purchase intention	0.912	0.939	0.794
religious knowledge	0.918	0.942	0.803

Table 2 shows the result of Cronbach's alpha, Composite Reliability, and AVE. All constructs have result above  $>0.60$  which indicate that all constructs have internal consistency reliability. The value of habit  $0.937 > 0.60$ , Halal Label  $0.785 > 0.60$ , PEOU (Perceived Ease of Use)  $0.920 > 0.60$ , PU (Perceived Usefulness)  $0.871 > 0.60$ , Purchase Intention  $0.912 > 0.60$ , and Religious Knowledge  $0.918 > 0.60$ . Meanwhile, the value of composite reliability of the all constructs is also higher than  $>0.70$ , the value of habit  $0.956 > 0.70$ , Halal Label  $0.861 > 0.70$ , PEOU (Perceived Ease Of Use)  $0.940 > 0.70$ , PU (Perceived Usefulness)  $0.906 > 0.70$ , Purchase Intention  $0.939 > 0.70$ , Religious Knowledge  $0.942 > 0.70$ .

Furthermore, the value of Average Variance Extracted (AVE) of the constructs are higher than  $>0.50$ . the value of habit  $0.844 > 0.50$ , Halal Label  $0.608 > 0.50$ , PEOU  $0.759 > 0.50$ , PU  $0.660 > 0.50$ , Purchase Intention  $0.794 > 0.50$ , Religious Knowledge  $0.803 > 0.50$ . As a result, the value of AVE of constructs indicates that all constructs have strong convergent validity.

### 4.1.2. The Inner Model

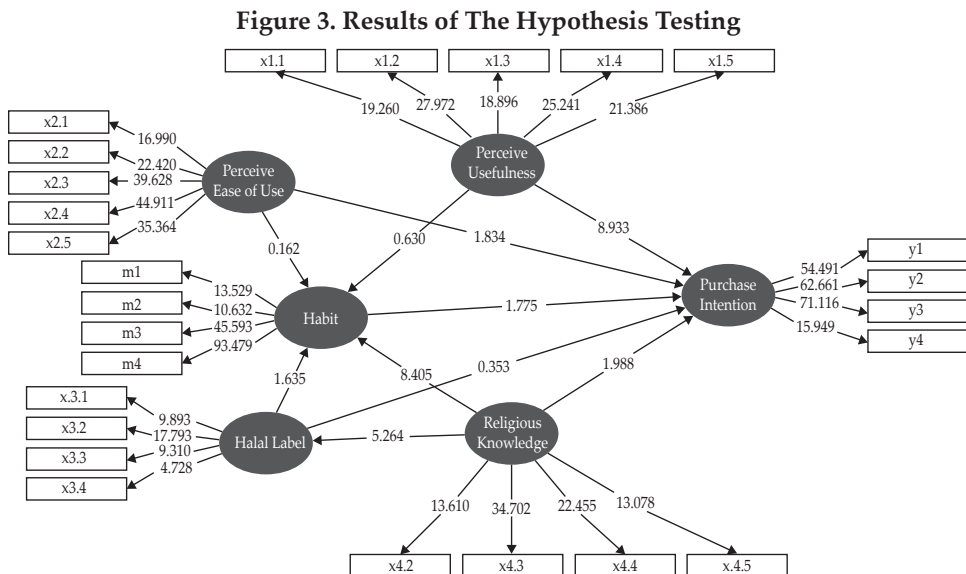
We analyze the  $R^2$  in the inner model. The value of  $R^2$  is considered as the predictive accuracy; whereas,  $R^2$  results of 0.75, 0.50, and 0.25 represent the exogenous variables influencing the endogenous variables.

**Table 3.**  
**The  $R^2$  Results**

	R Square	R Square Adjusted
habit_	0.792	0.785
halal label	0.460	0.456
purchase intention	0.612	0.596

Table 3 displays the  $R^2$  results that represent the predictive accuracy. The  $R^2$  values of Habit 0.785 (78.5%) have a strong level in predictive accuracy. Meanwhile, the  $R^2$  results of purchase intention 0.596 (59.6%) indicate the medium level of accuracy prediction. The  $R^2$  value of halal label 0.456 (45.6%) indicates the weak level of accuracy prediction. The  $R^2$  results indicate that 78.7% of variable habit is influenced by the four independent variables, while the purchase intention variable is 59.7% influenced by all variables. Accordingly, the halal label variable is 45.6% is influenced by religious knowledge.

Ultimately, we calculate the hypothesis testing. The proposed hypothesis has a significant value when the  $t$ -value higher than  $t$ -table ( $t$ -value > 1.98) and  $p$ -value lower than 0.05 ( $p$ -value  $\leq$  0.05), vice versa. The results are as follows.



**Table 4.**  
**Hypothesis Results Testing**

	Original Sample (O)	T Statistics ( O/STDEV )	P Values
habit -> purchase intention	0.241	1.775	0.076**
halallabel -> habit	0.166	1.635	0.103
halallabel -> purchase intention	0.028	0.353	0.725
perceived ease of use -> habit	-0.007	0.162	0.872
perceived ease of use -> purchase intention	0.149	1.834	0.067**
perceived usefulness_ -> habit	-0.021	0.630	0.529
perceived usefulness_ -> purchase intention	0.689	8.933	0.000*
religious knowledge -> habit	0.771	8.405	0.000*
religious knowledge -> halallabel	0.678	5.264	0.000*
religious knowledge -> purchase intention	-0.234	1.988	0.047*

\*Significance at 5%, \*\*significance at 10%

Table 4 describes the results of hypothesis. There are four variables which have a significant value: (1) perceived usefulness that affects significantly to purchase intention (t-value 9.179 > 1.98, p-value 0.000 ≤ 0.05); (2) religious knowledge that has a positively significant impact to habit (t-value 8.775 > 1.98, p-value 0.000 ≤ 0.05); (3) religious knowledge that has a positively significant influence to halal label (t-value 5.247 > 1.98, p-value 0.000 ≤ 0.05); and (4) religious knowledge that has negative significant impact to purchase intention (t-value 2.086 > 1.98, p-value 0.037 ≤ 0.05). Meanwhile, habit and perceived ease of use have positive influence to the purchase intention, each (p-value 0.076 ≤ 0.1) and (p-value 0.067 ≤ 0.1)

In addition, the rest of the constructs have insignificant values. A halal label has positive insignificant impact to habit (t-value 1.630 < 1.98, p-value 0.103 ≥ 0.05), halal label has positive insignificant impact to purchase intention (t-value 0.363 < 1.98, p-value 0.725 ≥ 0.05), perceived ease of use has negative insignificant impact to habit (t-value 0.157 < 1.98, p-value 0.872 ≥ 0.05), and perceived usefulness has negative insignificant impact to habit (t-value 0.613 < 1.98, p-value 0.529 ≥ 0.05).

**Table 5.**  
**Indirect effect**

	Original Sample	T Stat.	P-Values
religious knowledge -> halallabel -> habit	0.112	1.559	0.120
halallabel -> habit -> purchase intention	0.040	1.014	0.311
religious knowledge -> halallabel -> habit -> purchase intention	0.027	0.919	0.359
perceived ease of use -> habit -> purchase intention	-0.002	0.137	0.891
perceived usefulness_ -> habit -> purchase intention	-0.005	0.471	0.638
religious knowledge -> habit -> purchase intention	0.186	1.683	0.093**
religious knowledge -> halallabel -> purchase intention	0.019	0.337	0.736

\*P value < 0.05, \*\*P value < 0.1

Furthermore, in this study, we consider variable habit as mediating variable, which mediates between the independent variables and dependent variable. Therefore, we estimate whether the habit will fully mediate the independent variables or partly mediate the independent variables to a dependent variable.

The results in table 5 explain the role of variable habit in order to mediate between independent variables (PU, PEOU, halal label, religious knowledge) and dependent variable (purchase intention). Then, the role of the halal label variable is to mediate between religious knowledge and purchase intention. The result of mediating variable halal label between religious knowledge and habit is  $0.120 \leq 0.05$ . The result of mediating variable halal label and habit between religious knowledge and purchase intention is  $0.311 \leq 0.05$ . The result of mediating variable habit between perceived ease of use and purchase intention is  $0.891 \leq 0.05$ . The value of mediating variable habit between perceived usefulness and purchase intention is  $0.638 \leq 0.05$ . The value of mediating variable habit between religious knowledge and purchase intention is  $0.093 \leq 0.05$ . The value of mediating variable halal label between religious knowledge and purchase intention is  $0.736 \leq 0.05$ . The results indicate that variable habit does not mediate the PU, PEOU, and halal label. Only religious knowledge is mediated by habit to purchase intention. Therefore, the variable halal label also does not mediate between religious knowledge and purchase intention, religious knowledge, and habit. Moreover, halal label and habit both do not mediate religious knowledge and purchase intention.

### **4.3. Analysis**

Our findings yield perceived usefulness has a significant positive impact directly to purchase intention. This result is in line with (Wu & Ke, 2015)(Kusyanti & Arifin, 2017) (Koufaris, 2002)(Mathieson, 1991)(Wu & Wang, 2005)(Driediger & Bhatiasevi, 2019)(Jin et al., 2016). At the same time perceived usefulness has a positive effect on habit but insignificant. The finding indicates that the advantages is the key driver to use the application in order to predict technology acceptance (Davis, 1989). However, the usefulness of application in purchasing online halal food does not lead the Muslim consumer to habitual activity. According to (Lankton et al., 2010) (D. Amoroso & Lim, 2017) habit is correlated with attitudes and satisfaction of consumers. In contrast, the Muslim consumer will purchase online halal food depend on their actual behavior, rather than habitual behavior (Limayem et al., 2001), such as facing the limitation of time during break time of work.

Meanwhile, the perceived ease of use has a significant positive influence to purchase intention. This finding supported by (Ashraf et al., 2014)(Renny et al., 2013)( Wu & Ke, 2015)(Driediger & Bhatiasevi, 2019). In contrast, according to (Zhang, Zhao, & Tan, 2008) (Karahanna & Straub, 1999) (Koufaris, 2002) (J. H. Wu & Wang, 2005) perceived ease of use insignificantly influences the purchase intention. However, the easiness of technology use in helping daily activity determines the decision of purchase intention including Muslim consumer.

However, Muslim consumers that embed religious knowledge in their activity will rely on their activity in line with the religious norm. Instead of consuming any food, the Muslim consumer should consume the food in a halal way (Minton et al., 2018) (Simanjuntak & Dewantara, 2014), even when they purchase it on online

form. Our finding revealed that religious knowledge has a negative significant effect to purchase intention. The higher knowledge of religious people, the lesser in purchase intention.

Thus, in Islam, a Muslim should not consume excessively (*tadzbir*) as written in the Quran “*and give to the near of kin his due and to the needy and wayfarer and do not squander wastefully. Surely the squanderers are the fellows of the Shaitan and the Shaitan is ever ungrateful to his Lord* (Al-Israa:26-27). In contrast, (Varinli et al., 2016) (Khan et al., 2017) (Sukesti, Fatmasari & Mamdukh, 2014) (Yener, 2015) (Jamal & Sharifuddin, 2015) (Alam et al., 2012) (Delener, 1990) revealed that religious knowledge has positive impact to purchase intention.

On the other hand, religious knowledge has a positive significant impact on the halal label. As mentioned earlier that religious knowledge influences the behavior of religious people. This empirical finding in line with (Simanjuntak & Dewantara, 2014) (Sukesti, Fatmasari & Mamdukh, 2014) (Yener, 2015) (Jamal & Sharifuddin, 2015) (Awan et al., 2015) (Minton et al., 2018). The phenomena seem to make sense in order to convince the Muslim consumer that they purchase a halal food (Shariff & Lah, 2014). Thus, the halal label for the Muslim consumer is part of the religious issue which can change their behavior (Aisyah, 2014) (Khan et al., 2017). In addition, religious knowledge which embeds to Muslim perspective lead the Muslim to become a habit (Rahim & Junos, 2012). Therefore, religious knowledge also has a positive significant effect to habit.

A halal label on the food package will increase the confidence of Muslim consumer in purchasing halal food (Aisyah, 2014). Therefore, numerous studies found that halal label has significant influence to purchase intention (Khan et al., 2017)(Ghadikolaei, 2016) (Sukesti, Fatmasari & Mamdukh, 2014)(Awan et al., 2015)(Aziz & Chok, 2013). On the contrary, our findings revealed that halal label has insignificant impact to purchase intention. Thus, Muslim consumer makes their decision based on their familiarity of the product, rather than the halal label on it (Hamdan et al., 2013). Moreover, in order to purchase online halal food Muslim consumer is faced the absence of the halal label on the restaurant's banner promoted online. Furthermore, the halal label has insignificant effect to habit. However, in the case of purchasing online halal food, the halal label is not something to address with the Muslim consumer due to the absence of a halal label on the restaurant's banner promoted online. In addition to this, Muslim consumers alternatively purchase the food from the well-known restaurant that provides halal food in the absence of the halal label.

Habit is psychological terms rather than the frequency of past behavioral (Verplanken & Orbell, 2003). In contrast, the frequency of past behavior becomes a habit in accordance with information system use (Limayem et al., 2007). We found that habit has the significant positive impact to purchase intention. This finding was in line with (Khalifa & Liu, 2007) (David, 2003) (Limayem et al., 2007) (Limayem et al., 2001). Therefore, (C. F. Chen & Chao, 2011) argued that habit can switch the behavioral intention. Meanwhile (D. Amoroso & Lim, 2017) stated that habit has positive influence to continuance intention. Furthermore, in term of purchasing online halal food Muslim consumer has become habitual behavior. In addition, on the mediating effect of PU, PEOU, religious knowledge and halal label on habit, the results revealed that there is no significant value.



## **V. CONCLUSION AND RECOMMENDATION**

### **5.1. Conclusion**

This study examined the Muslim consumer behavior in purchasing online halal food. The result shows that perceived usefulness affects positively significant to purchase intention (p-value  $0.000 < 0.05$ ). Therefore, religious knowledge affects significantly to habit (p-value  $0.000 < 0.05$ ). Moreover, religious knowledge affects significantly to halal label (p-value  $0.000 < 0.05$ ). Furthermore, religious knowledge has negative significant effect to purchase intention (p-value  $0.047 < 0.05$ ). On the other hand, habit has positive significant effect to purchase intention (p-value  $0.076 < 0.1$ ). At the same time, perceived ease of use has positive significant effect to purchase intention (p-value  $0.067 < 0.1$ ).

In contrast, halal label has positive insignificant effect to habit (p-value  $0.103 > 0.05$ ). Therefore, halal label has positive insignificant effect to purchase intention (p-value  $0.725 > 0.05$ ). Moreover, perceived ease of use has negative insignificant effect to habit (p-value  $0.872 > 0.05$ ). Perceived usefulness has negative insignificant effect to habit (p-value  $0.529 > 0.05$ ). Furthermore, we also estimate habit as mediating variable, the result shows that habit partly mediates between religious knowledge and purchase intention. However, habit has failed to mediate between independent variables (perceived usefulness, perceived ease of use, religious knowledge and halal label) and dependent variable (purchase intention). Therefore, the halal label also failed to mediate between religious knowledge and habit.

The results of this study indicate that Muslim behavior in purchasing online halal food is driven by perceived usefulness. Meanwhile, habitual behavior of Muslim customer is driven by their religious knowledge. Therefore, religious knowledge of a Muslim customer influences the purchase intention negatively, which signifies that the more religious customer the less religious people to purchase online halal food. Furthermore, a Muslim customer depends on their actual behavior rather than habitual behavior when purchasing halal food online. However, further research is necessary, as an investigation of Muslim behavior in other countries is important. To compare the data across generation is needed.

### **5.2. Recommendation**

This study offers practical implications. For the researcher, the empirical findings of this study could fill the gap of existing literature. For the practitioners, the company should consider launching the online version in order to attract more customers due to the Muslim consumer's concern about the advantages of technology. Therefore, the halal label is important to guarantee the customer that they in fact purchase halal food. For the regulators, the authority of halal certification must be more inclusive in order to accommodate the small medium enterprises to get halal certification from the authority. Then, the industry should consider halal marketing to attract a wider range of Muslim customers, considering their behavior is driven by the knowledge of the religion.

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