How education level polarizes halal food purchase decision of Indonesian millennials

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Abstract

Purpose – The purpose of this paper is to evaluate Indonesian Muslim millennials' decision-making process in purchasing halal food by introducing knowledge variable into the theory of planned behavior framework and education level (EL; i.e. low vs high) as the moderating variable.

Design/methodology/approach – There were 400 questionnaires that were distributed to obtain responses from Indonesian Muslim millennials consumers. SmartPLS was used as the structural equation modeling approach to perform the multi-group analysis.

Findings – EL plays an important role that determines Indonesian Muslim millennials' decision-making process to purchase halal food.

Research limitations/implications – The EL was distinguished based on the Indonesian formal education system, which excluded the religious education system from the analysis.

Practical implications – The information conveyance of halal food product attributes should be conducted gradually according to the millennial consumers' EL. Millennial consumers with higher EL are more likely to internalize the credence attributes of halal food compared to the lower EL counterpart.

Originality/value – This study found the significant differences in terms of halal food purchase decision-making between the two groups of lower EL and higher EL.

Keywords Indonesia, Halal food, PLS-SEM, TPB, Multiple group analysis, Millennial consumers, SmartPLS

Paper type Research paper

1. Introduction

The halal industry globally is experiencing a rapid development. As reported by the State of the Global Islamic Economy Report 2019/2020, the average spending of Muslims worldwide reached US$2.2tn in 2018 on food, pharmaceutical and lifestyle sectors (Thomson Reuters and Dinar Standard, 2020). The report also estimates that Muslims would account for 31% of the global population of Muslims globally for the next 45 years. Accordingly, the demand on halal food sector also increased with the value of US$1,303bn, which projected to reach US$1,863 on 2023. Hence, Muslims consumers' expenditure on food and drinks are projected to rise from US$1,4bn in 2018 to US$2,0bn in 2024.

The rise of the global halal food demand is in accord with the growth of the global Muslim millennial consumers in terms of population. Currently, the millennials are

estimated at around 2 billion where 86% of them are living in emerging market countries, and thus contribute for 50% of the global workforce by 2020 (Yusof *et al.*, 2019). Born between the year of 1980 and 2000, the millennials (i.e. Generation Y) are considered to be a lucrative consumer group, as they enter their economic productive age, and their size are estimated to be three times greater than the previous generations (Amalia *et al.*, 2020). Similar traits are shared among the global millennials and the Muslim ones such as the tendency toward trendsetting, high levels of consumption and technology-savvy as their most prominent and distinctive characteristic (Lissitsa and Kol, 2016; Marmaya *et al.*, 2019). More specifically, the millennials use the internet-based technology in search for products and services that suited most to their personality and lifestyle and would ignore the established images of brands (Ishak *et al.*, 2019). Instead, they value product features and price over brand names as their main motivation in purchasing activities (Saeed and Azmi, 2019). Apart from possessing the similar global traits, the Muslim millennials are reported to have a unique duality trait. That is, they consider themselves as both modern and take morality matters seriously, where religion (i.e. Islam) is viewed as the core element of their identity (Salam *et al.*, 2019).

In an article by Wilson *et al.* (2013), it is highlighted that the scholarship of Islamic Marketing is crucial and imperative due to the size of Muslim populations globally, and there is a need to expand the "Brand Islam" thinking and embrace the local cultural perspectives for more meaningful understanding and thus coined the term "Crescent Marketing." "From this perspective, Indonesia can be considered as a new moon for the raising of importance of Islamic Marketing particularly with its huge Muslim millennials (almost 60% of 260 million Muslim majority Indonesia population)". In fact, Indonesia is set to become the largest Global Islamic Economy (IslamicMarkets IM Insights, 2020), and this requires more and deeper research in understandings in Islamic business orientation including marketing perspective. In line with this, the Indonesian government launched the Halal Economy Masterplan 2019–2024 to strengthen the national halal industry and, in particular, increasing the number of the legitimate halal-certified food products in Indonesia, of which only less than 10% are currently halal-certified (Susanty *et al.*, 2020). The implementation of the Indonesian halal food certification relies on the Halal Assurance System 23000 (HAS 23000), which acts as the general guidance for production process and procedures (Susanty *et al.*, 2020). Accordingly, HAS 23000 is used by the Halal Product Assurance Organizing Agency, as the recently appointed halal certification body, to perform a strict procedure in ensuring a consistent halal status on food products (Katuk *et al.*, 2020). The appointment of the new and sole halal certification body is based on Law No. 33 on Halal Product Assurance on 2014, which also decrees for halal certification of food products to be mandatory from previously voluntary (Suryawan *et al.*, 2019). The regulatory shift was put into effect on 2019 and intended for halal quality assurance to protect the Indonesian Muslim consumers' dietary regulation as required by the Islamic dietary principles (Hosanna and Nugroho, 2018). Further, supported by the Halal Economy Masterplan 2019–2024, halal lifestyle is the anticipated outcome to be embraced by the Indonesian Muslim consumers, with the millennial generation as the focal point.

Based on the generation classification, the millennials (generation Y) are the majority of the population with 33.75%. Meanwhile, the percentage of the other generations are below the millennials, such as generation Z (i.e. post millennial) with 29.3%, generation X with 25.7% and the older generation (i.e. baby boomers and veterans) with 11.27% (Ministry of Female Empowerment and Child Protection, 2020). However, such halal lifestyle might be difficult to be realized if the Indonesian Muslim millennials fail to see the suitability between halal food and its related economic development, with their personality, motivation and level

of knowledge (Arsil *et al.*, 2018; Ishak *et al.*, 2019). Therefore, the focus toward millennials is crucial as they constitute important group of consumers (Endri *et al.*, 2020). That is, belonging to the age of 20–40 reflects individuals or consumers with buying power, buying decision capacity, formal education experience with reasonable social and technology-based networking including exposure to Halal purchases (Yusof *et al.*, 2019).

Responding to the increasing of halal food demand, most academic studies have been conducted to investigate the consumers' intention by using the theory of planned behavior (TPB) as the underpinning theory (Ali *et al.*, 2017, 2018; Al-Kwifi *et al.*, 2019; Al-Swidi *et al.*, 2014; Elseidi, 2018; Haque *et al.*, 2015; Mohd Suki and Abang Salleh, 2016; Shah Alam and Mohamed Sayuti, 2011; Soon and Wallace, 2017). In addition, studies also conducted on the millennial generations by using the TPB framework (Khalek *et al.*, 2017; Khalek and Ismail, 2015; Marmaya *et al.*, 2019). The result of the studies revealed that TPB was able to predict consumers' intention to purchase halal food. In other words, the TPB's main constructs of attitude (ATT), subjective norm (SN) and perceived behavioral control (PBC) were the significant drivers that explain the consumers' intention. Despite TPB's eminent predictive ability, some scholars suggest that other factors would also contribute toward the consumers' intention to purchase halal food (Lada *et al.*, 2009). This is due to the fact that halal food consumption has extended beyond the religious prohibition of pork and alcohol, where it signifies a symbol of excellent quality, produced through a stringent production and auditing process, and express the personality and lifestyle of a Muslim (Arsil *et al.*, 2018). In this regard, some studies have extended the TPB framework by introducing several constructs, such as awareness (Ambali and Bakar, 2013; Awan *et al.*, 2015), halal certification (Aziz *et al.*, 2019; Aziz and Chok, 2013; Mohayidin and Kamarulzaman, 2014), religiosity (Asnawi *et al.*, 2018; Hanafiah and Hamdan, 2020; Iranmanesh *et al.*, 2019; Suleman *et al.*, 2021) and knowledge (Wibowo *et al.*, 2020). The result of these studies showed that the addition of new variables increases the predictive power of TPB. More importantly, such extension of the TPB framework indicates that purchasing halal food requires a rational approach, where consumers' decision-making process involve an internal process to weigh competing psychological factors and determine the most salient ones to simplify their choices (Hasnah Hassan, 2011).

In the context of Indonesian consumers, studies were also conducted by using the extended TPB framework to predict the purchase intention (PI). Interestingly, the result of the studies revealed contradictory findings. For instance, Vanany *et al.* (2019) found that ATT has significant effect toward PI on halal food, whereas SN, PBC and halal awareness (i. e. knowledge) have insignificant effect toward PI. However, Rachbini (2018) reported that ATT, SN and PBC have significant effect toward PI. Studies on the Muslim millennials also revealed similar results. Sosianika and Amalia (2020) revealed the insignificant effect of ATT toward PI, whereas Pratiwi (2018) found that knowledge also contributes to such insignificance. On the other hand, Amalia *et al.* (2020) reported that ATT, SN and PBC possess significant effect toward PI, whereas Sriminarti and Nora (2018) suggested that knowledge had a significant effect toward halal food PI. Following the discussion, it is apparent that studies related to the Indonesian millennial Muslim consumers remain scarce. Meanwhile, studies related to halal food on Indonesian millennials context used the extended TPB framework with the knowledge construct as the additional variable. Accordingly, the contradictory findings allow to test a moderator variable on the existing framework to explain the specific condition in which the predictor variables have the strongest effect toward the dependent variable (Andersson *et al.*, 2014).

Several studies investigated the moderating role of several variables into the TPB framework within the halal food context. Most notable variables investigated are religiosity

(Muslichah *et al.*, 2019; Elseidi, 2018), cultural dimension (Ali *et al.*, 2020) and gender (Sosianika and Amalia, 2020). The result of these studies showed that the moderating variables were able to strengthen the relationships within the TPB framework. Furthermore, the studies also indicate that apart from the utilization of the extended TPB framework, there is a need to introduce a moderating variable to better understand the specific condition where the consumers are able to act rationally regarding their intention to purchase halal food. In this regard, Sosianika and Amalia (2020) suggest to analyze the moderating effect of education level (EL) within the Indonesian Muslim millennials context. Drawing from the discussion, an area of research is available to investigate the moderating role of EL by using the extended TPB framework in the context of Indonesian Muslim millennials. Following the discussion, this study aims to investigate the moderating role of ELs into the extended TPB framework on the Indonesian Muslim millennial context. For this purpose, the PLS-multi-group analysis (MGA) would be the most suitable procedure as the moderator variable is categorical and would be applied to the entire model (Aguinis *et al.*, 2017).

2. Literature review

The call for halal certification and labeling has led to a new cultural spectacle where halal, which means permissible, is no longer just a religious requirement but also a "vanguard of businesses" (Wilson, 2014) requiring marketers to understand it particularly relating to consumer behavioral context. Muslim consumer behavior is a culturally based construct and thus requires marketers to understand varieties of Muslim consumers' perspectives, which necessitate toward the classifications for smaller homogeneous segments (Wilson and Liu, 2011). In this study, the authors integrate the social science-based TPB, which is a popular theory in predicting consumer PI on their future behavior.

2.1 Theory of planned behavior

TPB is an extension from the theory of reasoned action with the addition of PBC, alongside ATT and SN, to predict behavioral intention (Ajzen, 1991). The purpose of such extension is to enable the prediction of a behavior based on the level of personal willingness to perform a particular action. Hence, TPB is considered as an established theory to assess a person's decision-making process on a variety of contexts (Aertsens *et al.*, 2011). In addition to the main variables of TPB, Ajzen and Fishbein (2005) suggested to introduce other variables that would increase the prediction of behavior. In this regard, knowledge has gained interest among scholars within the halal food purchasing-related topics in Indonesia, notwithstanding the contradictory results (Vanany *et al.*, 2019; Sriminarti and Nora, 2018). Thus, knowledge would be introduced into the TPB framework in this study.

ATT is defined as the level of a person's evaluative tendency toward performing a particular behavior (Ajzen, 2012). Such evaluation is conducted to assess both positive and negative consequences related to performing a behavior (Harreveld *et al.*, 2015). As such, ATT also captures a person's expectation that when performing a behavior would be beneficial or non-beneficial (Aertsens *et al.*, 2011).

SN is referred to a person's compliance toward a particular social norm (Ajzen, 1991). It explains that a behavior is performed by referring to the expectation and approval of people that is considered to be important (i.e. family, friends and religious figure) (Haque *et al.*, 2015). A deviation from such social expectation would result in an isolation from the rest of a group, which is common within the Asian culture (Zhang *et al.*, 2017). Accordingly, SN would capture a social norm that is applied on a particular cultural setting that influence a person's decision-making process (Al-Swidi *et al.*, 2014).

PBC is described as a person's degree of perception that performing a behavior is under his/her control and easy to perform (Ajzen, 2012). Self-efficacy becomes the main belief that form a person's PBC to conduct a behavior (Kidwell and Jewell, 2010). Consequently, PBC would act as a person's perceived capability and personal willingness to perform a behavior (Vabø and Hansen, 2016).

Intention (INT) is referred to as a person's motivation and plans when performing a behavior (Ajzen, 2012). It also indicates that a behavior is performed under a guidance which a person developed to simplify their decision-making (Das, 2014). Accordingly, INT is considered as an important predictor of actual behavior. Therefore, PI would depict a person's motivation and plan that is considered as simple to purchase a product in the near future (Morwitz, 2014).

2.1.1 Knowledge. Consumers' knowledge (KNO) would depend on how much they are familiar and possess adequate information regarding a product (Keller, 1993). Such informational role is crucial to influence consumers' psychological factors that simultaneously occurred on food-related purchasing situations (Grunert *et al.*, 2012). In this regard, KNO holds an informational characteristic which acts as an external cue (Canziani *et al.*, 2016). In terms of halal food, its product attributes would serve as the external cue that would be gathered and categorized by the consumers (Ab Talib *et al.*, 2015; Verain *et al.*, 2016). Accordingly, consumers would consider to the most important halal food product attributes, which are aligned with their personal motives (Lin and Filieri, 2015). Thus, in this study, consumers' KNO would depend on halal food product attributes and how much they perceive to be knowledgeable on those attributes.

As a product, foods are classified into three distinct product attributes or quality cues: intrinsic (i.e. physical), extrinsic (i.e. intangible) and credence (i.e. important aspects to consumers that would be difficult to identify) (Chamhuri and Batt, 2015). Referring to the classification, halal food is categorized as a product with credence attributes, as the consumers could not evaluate the benefit until the product is purchased and consumed (Ishak *et al.*, 2016). Food credence attributes would include the health benefit and the process involved in producing the food product (Sautron *et al.*, 2015). The Islamic slaughtering method is the integral part of halal food production and hence becomes the crucial credence attribute of the product (Fuseini *et al.*, 2017). Such method of slaughtering is intended to cause immediate and painless death to the animal, while allowing the blood to drain quicker to remove harmful bacteria (Tieman and Hassan, 2015). In this sense, the Islamic slaughtering method adheres to the animal-friendly principles within the food production procedure (Lever and Miele, 2012; Van der Spiegel *et al.*, 2012). Additionally, manufacturing hygiene condition, hazard prevention and strict inspection procedures during production process are conducted to ensure the halal status of the food product (Fathi *et al.*, 2016; Soon *et al.*, 2017). Following the discussion, halal food product attributes would include health benefits, which are assured through a stringent production and inspection process, and the animal-friendly principles in the form of Islamic slaughtering method.

As halal food is categorized as a credence product, consumers' complexity is inevitable in terms of their decision-making process (Hasnah Hassan, 2011). Food credence attributes encompass the health benefit and the production method, which are related to social and ethical values (Fernqvist and Ekelund, 2014). In this regard, consumers are unable to monitor closely such production method and would find it difficult to identify directly the claimed benefit (i.e. halal) (Tonkin *et al.*, 2016). As a result, to assess food with credence quality cues, consumers tend to seek additional information to reduce such complexity (Axsen and Kurani, 2014; Jafari and Goulding, 2013). In turn, seeking additional information necessitates a certain number of capabilities to access, understand and use that information

to align them with consumers' personal values (Fibri and Frøst, 2020). In this regard, such capabilities would depend on consumers' EL (Holdsworth *et al.*, 2019).

2.2 Education level as moderating variable

Although TPB is a widely used theory and open for inclusion for additional variables, its predictive power needs to be strengthen to evaluate behavior under different circumstances to obtain better understanding of which variable of the model occurs (Honkanen *et al.*, 2006; Nardi *et al.*, 2019). Particularly, food-related behaviors would depend on strong individual beliefs that would lead to different results based on specific context (Indrajaya, 2019), such as religious beliefs (Ali *et al.*, 2018; Ayyub, 2015; Haque *et al.*, 2015), cultural background (Levitt *et al.*, 2019; Ting *et al.*, 2019; Vabø and Hansen, 2016), generation (Amalia *et al.*, 2020; Marmaya *et al.*, 2019; Yadav and Pathak, 2016), EL (Schüz *et al.*, 2020; Shah *et al.*, 2020) and level of knowledge (Kim and Hwang, 2020; Vanany *et al.*, 2019; Zhang *et al.*, 2018). Accordingly, EL would be introduced as a moderator variable, because of contradictory findings described earlier, and as recommended by past study (Sosianika and Amalia, 2020).

EL determines personal values that are held as guidance to solve various problems on a daily basis. It also determines how a person perceives and processes the incoming information (Hopkins *et al.*, 2018). Consumers with higher EL are more likely to have critical thinking skills, where they are capable to develop a pattern to recognize pieces of information from accessible various sources (DiLullo *et al.*, 2011). Within the food studies, such skill is the underlying factor to form a food-related literacy that determines consumers' motivation and ability to gain access, understand and use of information (Schüz *et al.*, 2020; Singh and Verma, 2017). In addition, consumers with a higher EL will also be very responsive to information and affect their preference toward healthier diet in consuming food products (Zhang *et al.*, 2018). Therefore, consumers with higher EL are more likely to perform a behavior that is in accordance with social practices and context (Holdsworth *et al.*, 2019). Following the discussion, EL is categorized by following the Indonesian formal education classification to ensure the contextuality of the study. Moreover, the majority of Indonesians students attend to the formal education system (Ministry of Education and Culture, 2016). Thus, EL comprises two groups: graduates from elementary, junior-high and high school degree are categorized as the lower EL group. Meanwhile, graduates of diploma, bachelor, master and doctoral degree are categorized as the higher EL group. In this sense, EL would be treated as a categorical variable. The research framework is illustrated in Figure 1.

2.3 Hypotheses development

ATT possess evaluative properties where consumers assess products to meet their desired expectation (Garg and Joshi, 2018). In turn, such evaluation would result in the degree of favorability and influence their PI toward products (Argyriou and Melewar, 2011). ATT is found to significantly influence consumers' PI when they encounter food-related decision-making (Menozzi *et al.*, 2015; Nuttavuthisit and Thøgersen, 2017; Ting *et al.*, 2019). The significant effect of ATT toward PI is found in many settings, such as online food delivery (Yeo *et al.*, 2017) and fashion influencer (Chetioui *et al.*, 2020). Meanwhile, in the context of halal food, the significant role of ATT in influencing PI is also documented by scholarly studies (Abu-Hussin *et al.*, 2017; Ali *et al.*, 2020; Ashraf, 2019). These studies indicate that consumers' evaluation would determine their level of favorability and likeability, which would significantly influence their PI. Drawing the discussion, the hypothesis is presented as follow:
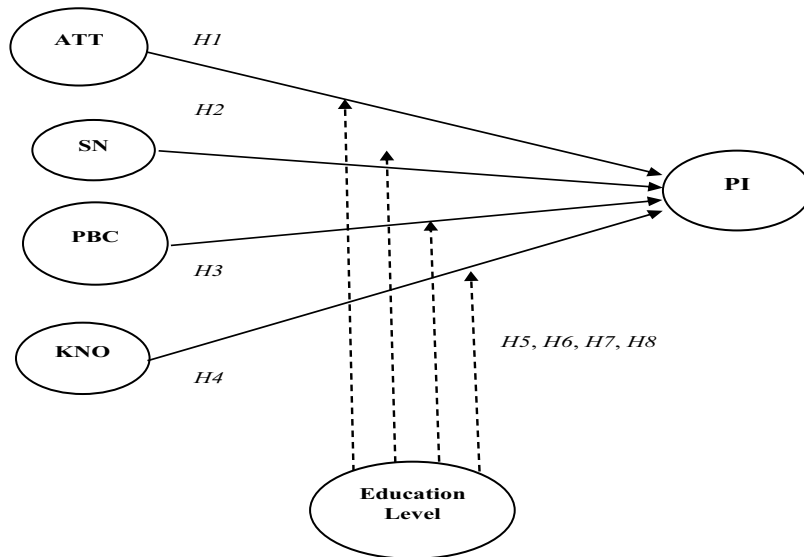
Figure 1.
Research framework

H1. There is a positive relationship between ATT toward PI.

Performing a behavior that is in accordance with important referents' expectation and gain their approval is considered as crucial to avoid negative social consequences (Marmaya *et al.*, 2019). As a result, SN would have a strong influence toward PI. Social expectations are crucial in consumers' decision-making process especially when consumers encounter a rather complex situation (Vasiljevic *et al.*, 2015). Consumers would come to their closest referents to reduce the complexity to simplify their decision-making process (Ottar Olsen and Grunert, 2010). In terms of halal food, consumers might encounter such complexity because of the product's credence attributes (Haque *et al.*, 2015). Hence, the role of SN is to simplify consumers' decision-making process and increase their PI. Studies have confirmed the significant influence of SN toward PI such as in the context of environmental complaint (Zhang *et al.*, 2017) and tourism (Zhang *et al.*, 2018). In accordance with this, several studies documented the significant influence of SN toward PI within the halal food context (Al-Swidi *et al.*, 2014; Asnawi *et al.*, 2018; Khalek *et al.*, 2017). Drawing from the discussion, the hypothesis is presented as follow:

H2. There is a positive relationship between SN toward PI.

Consumers' degree of self-efficacy and relative easiness indicates their capability to perform a behavior (Kidwell and Jewell, 2010). Such capability reflects that a behavior is performed accordingly with consumers' will. As such, PBC would strongly influence consumers' PI toward a product (Amalia *et al.*, 2020). PBC also indicate how strong people hold and attached into their fundamental beliefs, which determine their behavioral intention (Vabø and Hansen, 2016). In the context of halal food, being attached into Islamic teaching is fundamental for Muslim consumers that guide their decision-making purposes (Al-Kwifi *et al.*, 2019). The significant effect of PBC toward PI is supported by several studies in the context of multi-channel consumers buying process (Rippé *et al.*, 2016) and hybrid vehicles PI (Hamzah and Tanwir, 2021). Further, PBC also signifies the important role of Islamic

teaching to enable the Muslim consumers to purchase halal food on their own will (Mohd Suki and Abang Salleh, 2016; Shah Alam and Mohamed Sayuti, 2011; Suleman *et al.*, 2021). Drawing from the discussion, the hypothesis is presented as follows:

H3. There is a positive relationship between PBC toward PI.

The alignment between the incoming information and consumers' personal motivation would simplify their decision-making process (Carlson *et al.*, 2008). In this sense, consumers would choose the most relevant information that is considered to be important to them (Lin and Filieri, 2015). Accordingly, consumers would rely on their subjective knowledge regarding a product's attributes which are aligned with their personal values (Cilingir and Basfirinci, 2014; Viot, 2012). Accordingly, KNO would have a significant effect toward PI as documented by past studies in the context of renewable energy (Chen *et al.*, 2016) and green products preference (Goh and Balaji, 2016). Moreover, as halal food is classified as a product with credence attributes, health benefits and animal-friendly attributes are the most relevant informational elements that would be processed by the consumers (Ambali and Bakar, 2013; Tieman and Hassan, 2015; Van der Spiegel *et al.*, 2012). Therefore, KNO would provide the required information to the consumers related to a product, which are aligned with their personal motives in consuming halal food. In turn, such alignment would increase their halal food PI (Nurhayati and Hendar, 2019; Wibowo *et al.*, 2020). Drawing from the discussion, the hypothesis is presented as follows:

H4. There is a positive relationship between KNO toward PI.

Past studies reported that EL has a moderating effect, especially when evaluated within the TPB framework. For instance, people with higher EL are more likely to understand and possess positive evaluation about the importance food waste reduction on household area, while adhering to a social norm and have the capability to perform food waste reduction behaviors (Heidari *et al.*, 2020). In another instance, students that participated on entrepreneur education programs tend to have the intention to be an entrepreneur upon graduation (Shah *et al.*, 2020). Such intention is formed by having a clear expectation, gained unbiased information conveyance compared to that of the society and obtained the necessary entrepreneurial skills and capabilities. Meanwhile, EL also has a significant effect toward consumers' capability to process information related to particular products. Singh and Verma (2017) suggest that although information on organic food has been conveyed aggressively, it is consumers with higher EL who tend to have concern on food production method that might risk one's health, and thus prefer to choose organic food. Similarly, consumers with higher EL find it easier to discern the information and operate a relatively new technology, such as drone for food delivery services (Kim and Hwang, 2020). Anwar *et al.* (2020) revealed that students with higher exposure of entrepreneurial education are more prepared and have more confidence to encounter uncertainties on their business prospect. Finally, students with higher EL are found to have independency and proficiency to operate Web-based learning system (Tarhini *et al.*, 2014). Overall, the studies showed that people with higher EL are more capable and have confidence to perform relatively complex tasks, which require the capability to seek, access and use the related information to perform the expected behavior by the society (Hu and Zhang, 2016; Hopkins *et al.*, 2018). Moreover, these studies also highlight that EL had been used as a moderator variable within the extended TPB framework. Thus, the strength of consumers' ATT, SN, PBC and KNO toward PI would be moderated by their EL. Drawing from the discussion, hypotheses are presented as follow:

H5. The influence of ATT on PI will be stronger for consumers with higher EL.

H6. The influence of SN on PI will be stronger for consumers with higher EL.

H7. The influence of PBC on PI will be stronger for consumers with higher EL.

H8. The influence of KNO on PI will be stronger for consumers with higher EL.

3. Methodology

3.1 Construct measurements

The respondents' data was collected by using a self-reported questionnaire. A seven-point Likert scale was used to measure items for each construct, with the range of "strongly disagree" (1) to "strongly agree" (7). ATT, SN and PBC comprise of five measurement items and was adapted from the studies of Amalia *et al.* (2020), Vanany *et al.* (2019) and Marmaya *et al.* (2019). Meanwhile, KNO consists of five measurement items to measure halal food credence product attributes, which was adapted from the studies of Nurhayati and Hendar (2019) and Wibowo *et al.* (2020). The respondents' profile was also included gender, age, occupation, monthly income and residence of origin.

Prior to questionnaire distribution, expert validity was performed to validate the questionnaire. Three experts on halal food studies agreed to assess the questionnaire, whose feedbacks require several adjustments regarding technical terms on the statements. Back-to-back translation was also used because the questionnaire was originally developed in English, which had to be translated into Bahasa Indonesia as the native language of the respondents (Brislin, 1970). Afterwards, a pilot study was conducted that involved 40 respondents to ensure the respondents' comprehension of the questionnaire. The pilot study revealed that all constructs achieved the satisfactory level of reliability (ATT, $\alpha = 0.902$; SN, $\alpha = 0.827$; PBC, $\alpha = 0.884$; KNO, $\alpha = 0.870$; PI, $\alpha = 0.915$).

3.2 Data collection and sampling

As the Indonesian Muslim millennials are dispersed across the country and have a tendency to be technology savvy, the questionnaire was distributed through online platform using Google Form and social networking sites, such as Twitter and Facebook. Further, the Indonesian millennials are mostly concentrated on Java Island and its respective province's capital cities (i.e. Jakarta, Bandung, Semarang and Surabaya), where internet usage are also the highest (APJII, 2018). Thus, a snowball sampling was used where five representatives from each capital cities were approached by the researchers to pass on the questionnaire to their closest friends and relatives (Sekaran and Bougie, 2016). Additionally, a non-probability purposive sampling was used to ensure that the respondents are Muslim and within the classification of millennial generation. Accordingly, the following screening questions were asked: "Are you a Muslim?," and "Are your age fall between the range of 20–40 years old?" A total of 400 questionnaires was distributed as determined by G Power 3.1 software to fulfill 80% predictive power, with the statistical parameters of: effect size = 0.15, error margin = 5%, power of $(1-\beta) = 80\%$ and four predictors (Faul *et al.*, 2009). After filtering the respondents who are Muslim millennials, assessment of incomplete data and outliers, the usable data set is 299. SPSS version 21 was used to generate respondents' profile and to assess common method variance (CMV) (Podsakoff *et al.*, 2003). The result from Harman's single factor test showed that the major factor only contributes for 24%. Therefore, CMV would not pose an issue at the later stage of analysis.

3.3 Data analysis
Data was analyzed using SmartPLS 3.2.9 to assess the hypotheses and moderating effect of
EL. PLS SEM is suitable to evaluate complex model and theory extension (Rigdon, 2012).
The first step of PLS SEM analysis is to analyze the measurement model to assess the
constructs' reliability and validity. Subsequently, the structural model was performed to test
the hypotheses for direct relationships. As EL is a categorical variable and applied on the
entire model, PLS-MGA is the preferred procedure to test its moderating effect (Memon *et al.*,
2019). Specifically, PLS-MGA would analyze and compare the influence of every structural
path in the model on different groups (Sarstedt *et al.*, 2011). For this purpose, the
respondents are divided into two groups comprising of lower EL group ($N = 143$) and higher
EL group ($N = 156$). Prior to performing PLS-MGA, measurement invariance should be
conducted to ensure that respondents on both groups possess the similar understanding
regarding the constructs. The measurement invariance was performed using the
measurement invariance of composites (MICOM) procedure, which requires three stages of
analysis: configural invariance, compositional invariance, equal means and equal variances
across groups (Henseler *et al.*, 2016).

4. Results
4.1 Respondents' profile
The respondent's characteristics are classified based on their EL. The majority of the
participants are female for both groups (64% low EL; 71% high EL). Most of the
respondents' age are within the 20–25 cohort for both groups (79% low EL; 59% high EL).
Most respondents at lower EL are students (74%), whereas most of the higher EL
respondents are employed on private sector (55%). The monthly income for the lower EL
group is mostly less than IDR 1.5m, whereas the higher group EL's monthly income is
ranged between IDR 3m–10m. Finally, the majority of the respondents' origin are from The
Special Capital Region of Jakarta (40% low EL; 67% high EL). Table 1 summarizes the
respondents' profile.

4.2 Measurement model assessment (outer model)
PLS algorithm with 300 iterations was performed to assess the constructs' reliability and
validity for both groups. The result showed that composite reliability (CR) values for all
constructs on both groups have met the cut-off value of 0.7, with at least 0.801. Meanwhile,
the average variance extracted (AVE) values are above the cut-off value of 0.5, with the
minimum value of 0.509, whereas the factor loading values for all items on two groups are
above the cut-off value of 0.708, except for ATT1, ATT4, ATT5, KNO2, KNO3, KNO5,
PBC3, PBC4, PBC5, PI1, PI4, PI5, SN3, SN4 and SN5. In this regard, factor loadings with the
value of 0.4–0.7 should only be removed if doing so would achieve the CR and AVE cut-off
values of 0.7 and 0.5, respectively (Hair *et al.*, 2017). As the CR and AVE values for all
constructs for both groups have met the respective cut-off values, thus items ATT1, KNO2,
KNO3, PBC3, PI4, PI5, SN3, SN4 and SN5 are retained for further analysis. Table 2
summarizes the measurement model assessment.

Next, discriminant validity analysis was conducted using the heterotrait–monotrait
(HTMT) ratio, where ratio between correlations of items measuring different constructs and
correlations of items measuring the same constructs should below the cut-off value of 0.90
(Henseler *et al.*, 2015). Table 3 depicts that all values are below 0.90 for both groups; hence,
the discriminant validity has been established. Subsequently, multicollinearity analysis was
performed prior to evaluate the structural model to eliminate redundancy on the observed
relationships (Hair *et al.*, 2017). To achieve this, the variance inflation factor (VIF) value

Characteristics	Lower EL (N = 143)	Higher EL (N = 156)
Gender		
Male	52(36%)	46(29%)
Female	91(64%)	110(71%)
Age		
20–25	114(79%)	92(59%)
26–30	17(12%)	43(28%)
31–35	7(6%)	8(5%)
36–40	5(3%)	13(8%)
Occupation		
Student	106(74%)	27(19%)
Public sector	1(1%)	14(3%)
Private sector	8(5%)	84(55%)
Self-employed	18(13%)	19(14%)
Housewife	10(7%)	12(9%)
Monthly income		
Less than IDR 1,500,000	79(55%)	13(8%)
IDR 1,500,000–IDR 2,900000	24(16%)	35(23%)
IDR 3,000,000–IDR 5,000,000	31(23%)	45(29%)
IDR 5,000,000–IDR 10,000,000	8(5%)	46(29%)
More than IDR 10,000,000	1(1%)	17(11%)
Residence of origin		
Special Capital Region of Jakarta	58(40%)	67(43%)
Bandung	32(24%)	39(25%)
Semarang	28(19%)	30(19%)
Surabaya	25(17%)	20(13%)

Table 1.
Respondents' profile

should be below 3.3 (Kock and Lynn, 2012). Table 4 shows that all VIF values of all constructs ranged between 1.105 and 1.302 for lower EL group and 1.067 and 1.176 for higher EL group, indicating that multicollinearity would not interfere the later stage of analysis. Additionally, the result of the measurement model is considered as the first stage analysis of the MICOM procedure for measurement invariance, where both groups were analysed using the same algorithm (Hair *et al.*, 2017; Henseler *et al.*, 2016). Therefore, the configural invariance has been established.

4.3 Structural model assessment (inner model)
Structural model assessment begins with evaluating the predictive model assessment. The value of R^2 for the lower EL group is 0.562, whereas for the higher EL group, the value is 0.455, indicating 56.2% and 45.5% of the variance on PI is explained by ATT, SN, PBC and KNO for both groups (Figure 2). The R^2 values for both groups are considered as substantial within the consumer behavior studies, where the value of 0.2 is the minimum requirement (Hair *et al.*, 2017). Meanwhile, the effect size (f^2) of the observed relationships is ranged from small to large for both groups. Finally, the predictive relevance (Q^2) evaluation showed that PI has a Q^2 value of 0.278 and 0.214 for the lower EL group and the higher EL group, respectively. Hence, the results revealed that the model has a predictive relevance for both groups. In addition, the model fit was assessed by evaluating standardized root mean square residual (SRMR), which shows the value of 0.076, 0.075 and 0.078 for the overall data set, high EL group and low EL group respectively. The SRMR results are lower than 0.08, indicating that the model proposed in this study is categorized as good fit (Henseler *et al.*, 2014).

Items	Complete data set (N = 299) Factor loading	α	CR	AVE	Low EL (N = 143) Factor loading	α	CR	AVE	High EL (N = 156) Factor loading	α	CR	AVE
ATT1	0.854	0.744	0.852	0.659	0.643	0.665	0.801	0.574	0.871	0.803	0.880	0.710
ATT2	0.840				0.782				0.862			
ATT3	0.735				0.836				0.794			
KNO1	0.859	0.729	0.818	0.532	0.742	0.666	0.802	0.509	0.850	0.771	0.849	0.586
KNO2	0.694				0.832				0.680			
KNO3	0.719				0.539				0.806			
KNO4	0.626				0.709				0.712			
PBC1	0.793	0.701	0.866	0.764	0.884	0.638	0.839	0.725	0.908	0.837	0.925	0.860
PBC2	0.823				0.773				0.921			
PBC3	0.922				0.923				0.934			
PI2	0.870	0.802	0.865	0.618	0.908	0.826	0.877	0.645	0.809	0.752	0.834	0.561
PI3	0.863				0.891				0.834			
PI4	0.679				0.701				0.599			
PI5	0.712				0.687				0.732			
SN1	0.881	0.862	0.891	0.624	0.884	0.839	0.873	0.583	0.862	0.875	0.904	0.655
SN2	0.868				0.856				0.870			
SN3	0.758				0.691				0.801			
SN4	0.727				0.668				0.786			
SN5	0.697				0.690				0.719			

Table 2.
Measurement model
evaluation

Overall, the model of the study has a sufficient predictive ability for both groups and summarized on Table 5.

The hypotheses for direct relationships (i.e. *H1–H4*) were conducted to test the full data set ($N = 299$) containing both groups and performed using the bootstrapping procedure with 5,000 iterations. The result revealed that there are two hypotheses that are supported (SN $\geq$ PI, β = 0.156, t = 3.788; PBC $\geq$ PI, β = 0.608, t = 5.328) and two hypotheses that are not supported (ATT $\geq$ PI, **β** = 0.040, t = 0.409; KNO $\geq$ PI, β = 0.079, t = 1.060). Table 6 summarizes the result.

4.4 Measurement invariance of composites and multi-group analysis

Prior to MGA, measurement invariance was performed using the MICOM procedure. The result showed that compositional invariance (stage 2) has met the required correlation value of 1, where correlations for all constructs are close to 1 and within the range of its respective confidence interval at 5% significance level. This also signifies that partial measurement invariance has been established. On the other hand, results for equal mean and equal variance for differences between the two groups (stage 3) revealed that all constructs are also within its respective confidence interval for 5% significance level, except for SN. Accordingly, full measurement invariance has been established for all constructs except for SN, where SN is considered as a partial measurement invariance. Taken together, the MICOM test confirmed that MGA is allowed to be performed to evaluate the differences between the two groups and to test the hypotheses of the moderating effect of EL (i.e. *H5–H8*).

PLS-MGA used two nonparametric methods: Henseler's MGA (Henseler *et al.*, 2009) and the permutation test. Henseler's MGA compares group-specific bootstrap values from each group with *p*-value lower than 0.05 or higher than 0.95 which indicate significant differences

	ATT	KNO	PBC	PI	SN
Low EL					
ATT	–	–	–	–	–
KNO	0.418	–	–	–	–
PBC	0.375	0.276	–	–	–
PI	0.165	0.156	0.895	–	–
SN	0.211	0.190	0.542	0.349	–
High EL					
ATT	–	–	–	–	–
KNO	0.381	–	–	–	–
PBC	0.366	0.356	–	–	–
PI	0.494	0.536	0.625	–	–
SN	0.087	0.315	0.082	0.297	–

Table 3.
Discriminant validity assessment (HTMT ratio)

Relationships	VIF (low EL)	VIF (high EL)
ATT → PI	1.210	1.183
KNO → PI	1.105	1.266
PBC → PI	1.302	1.159
SN → PI	1.182	1.071

Table 4.
Collinearity assessment
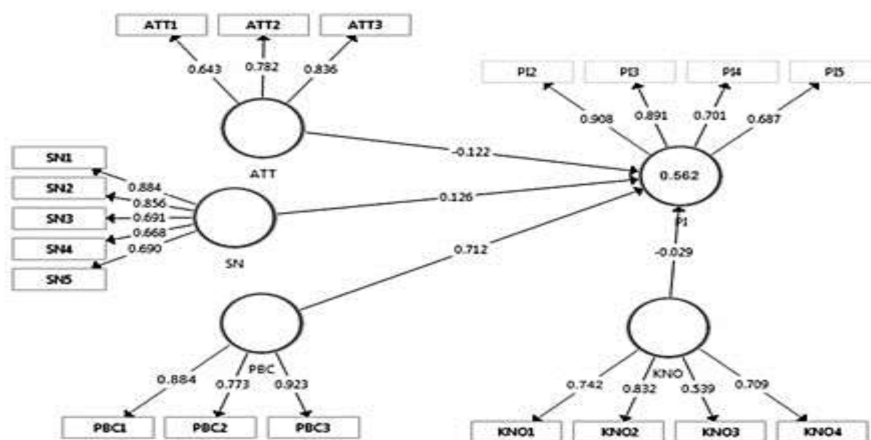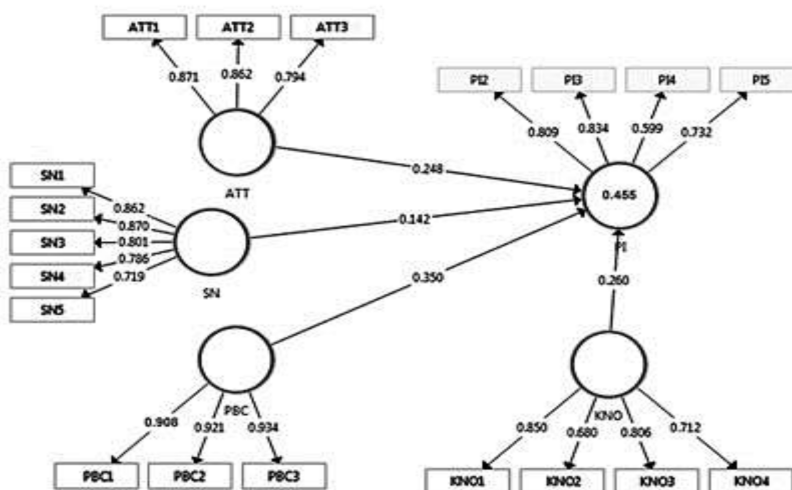
Low EL

High EL

Figure 2.
Low EL vs high EL

Relationships	R^2 (low/high)	Q^2 (low/high)	f^2 (low/high)	Effect size (low/high)
ATT → PI	0.562/0.455	0.278/0.214	0.028/0.095	Small/small to medium
KNO → PI			0.002/0.098	Small/small to medium
PBC → PI			0.890/0.194	Large/medium to large
SN → PI			0.030/0.035	Small to medium/small to medium

Table 5.
Predictive model
assessment

between specific path coefficients across two groups, whereas the permutation test requires the p-value smaller than 0.05 to be determined as significantly different. The result of PLS-MGA revealed that significant differences across two groups are found on the relationship between ATT and PI and KNO and PI. The results indicate that the relationship of ATT with PI and KNO with PI are stronger for Indonesian Muslim millennial consumers with higher EL. On the other hand, the relationships between SN and PI are not significantly different across two groups. Significant differences are found in the relationship between PBC and PI for both groups; however, PBC is stronger for consumers with lower EL. Based on the PLS-MGA results, hypotheses *H5* and *H8* are supported, whereas *H6* and *H7* are not supported. Tables 7 and 8 summarize the MICOM and PLS-MGA results, respectively.

5. Discussion and conclusion

The aim of this study is to investigate the moderating effect of EL on Indonesian Muslim consumers' PI toward halal food. This study uses TPB as the underpinning theory to examine the significant differences of the psychological factors (i.e. ATT, SN and PBC) in terms of decision-making purpose. Additionally, KNO was introduced to the TPB framework to examine the role of halal food-related information that is aligned with the Indonesian millennial Muslim consumers' personal values. This study revealed that Indonesian Muslim millennial consumers do share the unique global traits of millennials where they seek to align the modern era with Islamic teaching, indicating that any product should be in harmony with their personal values (Arsil *et al.*, 2018; Salam *et al.*, 2019). Their familiarity on internet-based technology further facilitates them to search various information related with Islam and particularly halal food. Nevertheless, the level of comprehension on information related with halal food would depend on their EL. This suggests that although halal food is considered as common among Indonesians, conveying its product attributes beyond the traditional understanding remains quite challenging as complex information processing is required. Accordingly, this study was able to distinguish the role of EL on Indonesian Muslim millennials' capability to discern information and the related psychological process that involved with their decision-making to purchase halal food.

5.1 Overall model

In general, the Indonesian millennial Muslim consumers do not consider the evaluation of halal food as an important psychological process. At the same time, information regarding credence attributes of halal food is not considered to be internalized. Accordingly, they would rely on PBC, which is the dominant psychological factor in purchasing halal food. Thus, they perceive that purchasing halal food is the normal way of being a Muslim, which requires no internal processing regarding the product. Apart from PBC, the Indonesian Muslim millennials would also rely on SN that drive their behavior based on social expectations and approvals.

	Hypotheses	Relationships	Path coefficient (β)	T statistics	p-values	Supported
	H1	ATT → PI	0.040	0.409	0.682	**No**
	H2	SN → PI	0.156	3.788	0.000	**Yes**
	H3	PBC → PI	0.608	5.328	0.000	**Yes**
	H4	KNO → PI	0.079	1.060	0.289	**No**

Table 6.
Hypotheses testing for direct relationships

| Variable | Configural invariance | Compositional invariance (correlation = 1) | | | Equal mean assessment | | | Equal variance assessment | | | Full measurement invariance established |
		C = 1	Confidence interval	Partial measurement invariance established	Differences	Confidence interval	Equal	Differences	Confidence interval	Equal	
ATT	Yes	0.948	[0.825,0.949]	Yes	0.126	[−0.226,0.223]	Yes	−0.621	[−0.959,0.975]	Yes	Yes
SN	Yes	0.981	[0.880,0.998]	Yes	0.218	[−0.233,0.222]	Yes	−0.467	[−0.452,0.449]	No	No
PBC	Yes	0.994	[0.986,0.997]	Yes	−0.200	[−0.223,0.218]	Yes	0.899	[−0.944,0.914]	Yes	Yes
KNO	Yes	0.999	[0.973,1.000]	Yes	0.124	[−0.227,0.225]	Yes	−0.545	[−0.574,0.588]	Yes	Yes
PI	Yes	0.996	[0.957,1.000]	Yes	−0120	[−0.227,0.227]	Yes	1.000	[−1.442,1.427]	Yes	Yes

Table 7.
Measurement
invariance result
(MICOM)

| Hypotheses | Relationships | Path coefficient | | Confidence interval | | Path coefficient difference | p-value difference | | Supported |
		LOW EL	High EL	Low EL	High EL		PLS-MGA	Parametric test	
H5	ATT → PI	−0.122	0.248	[−0.256,−0.013]	[0.004,0.495]	−0.370	0.047	0.028	Yes
H6	SN → PI	0.126	0.142	[−0.193,0.266]	[0.032,0.265]	−0.290	0.879	0.881	No
H7	PBC → PI	0.712	0.350	[0.498,0.875]	[0.134,0.537]	0.362	0.021	0.022	No
H8	KNO → PI	−0.029	0.260	[−0.137,0.192]	[0.117,0.452]	−0.017	0.011	0.011	Yes

Table 8.
PLS-MGA results
(moderated
hypotheses testing)

The significant influence of SN toward PI for both groups indicates that the Indonesian Muslim millennial consumers do comply with others' expectation, which gained the approval in purchasing halal food (Al-Swidi *et al.*, 2014). Family, friends and local religious figures are the central referents in terms of purchase-related behavior that deemed appropriate with Islamic teachings. Moreover, the finding also showed that the millennial consumers on both groups perceive a similar degree of influence from their closest referents. As such, it is plausible that the Indonesian millennials are well-understood by their surroundings about their tendency as a technology-savvy consumer (Sosianika and Amalia, 2020). Thus, the Indonesian Islamic society provides an environment where the millennials are allowed to independently access information related to halal food and its recent industry development through various SNS (Endri *et al.*, 2020). Nevertheless, such independent information seeking would depend on the millennials' capability to internalize the halal credence attributes that are related with the development of halal food industry and halal lifestyle. Specifically, internalizing that halal food is beyond the conventional understanding that only recognized the prohibition of pork and alcohol (Rezai *et al.*, 2012). In this context, such capability would be determined by the millennials' EL, which is found significantly different between the lower and the higher ones.

5.2 Lower education level group

The influence of ATT on PI had an insignificant and negative relationship for consumers with lower EL. The result indicates that these consumers do not perform an internal evaluative process and thus do not expect halal food to possess health benefit and animal-friendly principles when purchasing halal food (Marmaya *et al.*, 2019). Further, an insignificant and negative relationship was also found between KNO and PI, which also indicates that consumers with lower EL are not able to comprehend the credence attributes of halal food. Such negative result revealed that millennials with lower EL have limited information processing capabilities (Hopkins *et al.*, 2018). Specifically, information regarding the credence attributes of halal food, which require more complex processing capability skills, such as critical thinking to form halal food literacy (Fibri and Frøst, 2020). As a result, Muslim millennial consumers within this group are not motivated to discern the credence attributes of halal food and tend to disregard such information on their purchasing decision. On this account, they would rely on PBC, which is found as the dominant psychological factor. Such dominant role of PBC shows that the millennial consumers have a high level of self-confidence to purchase halal food at their own will (Vabø and Hansen, 2016). Living in the most populated Muslim country, the millennial consumers might assume most of Indonesian food is halal and might find it easy to access and purchase halal food, where evaluative and information internalization capabilities are not required. Further, approval from their closest referents is perceived as adequate to justify their purchasing decision (Ottar Olsen and Grunert, 2010). Additionally, they seem to have a strong underlying belief of and strongly attached to Islamic teaching and values that guide their purchasing decision (Al-Kwifi *et al.*, 2019). Thus, as PBC becomes the dominant psychological factor and leaves no room for ATT and KNO to contribute to their purchasing decision, it could be inferred that millennials with lower EL tend to purchase halal food based on emotional approach.

5.3 Higher education level group

In contrast, both ATT and KNO are found to have a positive and significant relationship with PI for Indonesian Muslim millennial consumers with higher EL. The results revealed that millennial consumers on this group seem to have a different approach in terms of

purchasing halal food, that is, they tend to perform an evaluation process regarding the credence attributes of halal food. In turn, they would expect that halal food possesses both health benefit and animal-friendly attributes, which motivate them to purchase the product. Millennial consumers with higher EL are also capable to internalize the information regarding the credence attributes of halal food, which demonstrates their sufficient level to process the complex dimensions of food products. This indicates that Indonesian Muslim millennial with higher EL possess the critical thinking capabilities that is necessary to form food literacy (DiLullo *et al.*, 2011; Holdsworth *et al.*, 2019). As a result, they are likely to comprehend the principal of halal food that is more than the conventional understanding. Hence, such comprehension capability would be the key factor for their involvement with the development of halal food industry and to accept the halal lifestyle. Further, another interesting finding is that the PBC's influence on PI among millennials with higher EL is smaller compared to the lower EL counterpart (lower EL $f^2 = 0.890$; higher EL $f^2 = 0.194$). This finding suggests that millennials with higher EL performed a more balanced decision-making process by considering all psychological factors (Grunert *et al.*, 2012; Hasnah Hassan, 2011). As a result, they perceive that purchasing halal food is not simply to avoid pork and alcohol, as they realize that purchasing halal food would benefit to both self- and social well-being (Van der Spiegel *et al.*, 2012). Apparently, such benefits are aligned to their personal values and motives to purchase halal food. Therefore, it would safe to say that Indonesian millennial consumers with higher EL are likely to perform their purchasing decision on halal food with rational approach.

5.4 Theoretical implications
The discussions pointed out the role of EL to moderate the relationships within the TPB constructs. In this regard, this study found the complexity of consumers' decision-making process that occurred on two different conditions, namely, consumers with lower EL and higher EL. The addition of KNO variable further explains such complexity, which is sufficiently accommodated by TPB. The research framework that is built on TPB framework was able to determine and distinguish the most relevant factors that guide the Indonesian Muslim millennials' intention to purchase halal food. Overall, the predictive power of TPB provides reliable results with the addition of a moderating variable and an independent variable. As such, TPB remains one of the most reliable theoretical frameworks and could be used in various contexts.

5.5 Managerial implications
Drawing on the discussion, several managerial implications need to be considered. Indonesian Muslim millennials perceive an equal amount of social influence, where the society allows them to seek additional information independently. As the Indonesian Government is developing halal food industry, it is required an effort from the Indonesian halal authority to disseminate such information on a national-wide scale. Specifically, halal food literacy programs that focus on the credence attributes of halal food. In addition, such programs could be used as a platform to highlight the importance of halal food industry development along with its regulations. Important referents, such as local religious leaders, would be the ideal audience for such programs because of their capabilities to further deliver the information to a larger beneficiary, including the millennials. More importantly, such food literacy program is intended to enhance the millennials' comprehension and conviction that halal food credence attributes are in line with Islamic principal and their personal values. In turn, the acceptance of the halal lifestyle might be realized where the millennials recognize that halal food is produced by taking a high consideration on individual and social

well-being where its demand is growing rapidly on a global scale. Apart from the literacy programs that are aimed at the important reference, halal authority might convey the information toward the millennials directly, as well as their parents on the importance of consuming halal food. Nonetheless, the conveyance of halal credence attributes should consider the EL level among the millennials to ensure that the messages are received properly. Halal authority should notice that differences about information processing capabilities are evident among the millennials, which require that different types of information reach the most appropriate target. Furthermore, as part of halal certification, halal authority might force a compulsory requirement on halal logo presence in a specific position on food packaging or promotion material. As such, this repetitive appearance of halal logo might increase halal presence among Indonesian Muslim millennials and thus demand the importance of halal knowledge.

Meanwhile, as millennials with lower EL are limited on their capability in information processing, the information conveyed to this group should focus on intrinsic attributes of halal food. Intrinsic attributes are considered as basic, where the message should emphasize on halal food physical quality, such as appearance, colour, texture, smell and taste (Chamhuri and Batt, 2015). By focusing on intrinsic attributes, the millennials may be familiarized with the physical characteristic that might distinguish halal food with other products. As a consequence, they would be stimulated to use their cognitive aspects that might create awareness on halal food and to develop a more rational approach in purchasing halal food, specifically to improve their critical thinking skills and motivation to seek and use relevant information that form halal food literacy. On the other hand, millennials with higher EL seem to realize the role and impact of purchasing halal food extensively. In this regard, the halal authority should make them as the primary target to be conveyed with more complex attributes of halal food. Millennials with higher EL tend to have the better understanding about the development of Indonesian halal food industry. Thus, they are most likely to be prepared to accept the halal lifestyle. Moreover, such level of comprehension may connect them with Muslims worldwide, which embrace and acknowledge similar values that are accommodated through halal food.

In addition, the halal authority should, perhaps, introduce this information officially as an education curriculum on a gradual basis. As the respondents' education background in this study came from the formal education system, they most likely do not have a sufficient fundamental knowledge on sharia economy, including halal food. Currently, subjects related to halal food are only offered at a specific vocational schools and university faculties (Krisbianto and Putra, 2018). The formal education intervention is anticipated to reduce the polarization between the lower EL and higher EL groups aggravated by social media algorithm and help marketers to increase the willingness to purchase Halal Food for future Indonesian generations. Hence, it is timely for the halal authority to initiate a plan for halal food related information to be introduced officially as an education curriculum on formal schools and universities. To achieve this, continuous discussions should be conducted involving representatives from religious leaders, practitioners, academics and government agencies to find the common ground. By doing this, the millennials and the next generations would have the necessary knowledge and skills as required to be the backbone of Indonesian Sharia economy, including the development of halal food.

5.6 Limitations and future directions

Finally, several limitations in this study would open up areas of research for future studies. The respondents are restricted to millennials from the capital cities of Java Island; thus future studies may include other millennials from different islands and its respective capital

cities. Model developed in this study could also be used on other countries and halal industry sectors. As the respondents' educational background came from the formal education system in this study, future studies should investigate millennials' perception from religious education background. Furthermore, this study does not incorporate the most relevant and trusted information sources and media among the millennials within the halal food context, which future studies are strongly recommended to investigate. Finally, future studies should also look into the possibilities of how halal intrinsic attributes may increase the rational level of millennials with lower EL on their purchasing decision-making.

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Appendix

Attitude	Buying halal food is a good idea
	Halal food is a healthy product
	It would be a pleasure to buy halal food
	Halal food is in line with animal-friendly values*
	Buying halal food would be very positive*
Subjective norm	Approval from friends to buy halal food as a healthy product
	Approval from friends to buy halal food as an animal-friendly product
	Approval from family to buy halal food as a healthy product
	Approval from family to buy halal food as an animal-friendly product
	People important to me think buying halal food is appropriate
Perceived behavioral control	Confidence that halal food is an animal-friendly product
	Confidence that halal food is a healthy product
	I have complete control to buy halal food
	I have the time to buy halal food*
	Very easy for me to buy halal food*
Knowledge	I understand about the impact of hygiene condition of manufacturing on health
	I understand about the impact of hazard prevention on health
	I understand that the Islamic slaughtering method is intended to cause painless and immediate death to animals
	I understand that the Islamic slaughtering method allows quicker blood draining to remove harmful bacteria
	I understand about the strict inspection procedure impact for health*
Purchase intention	Recommend others to purchase halal food*
	Product quality
	Spend more for health reasons
	Switch for animal-friendly reasons
	Plan to buy for the next three months

Table A1.
Measurement items   **Note:** (*) Items deleted because of low factor loadings

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