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Original Research Article

Analysis of The Factors That Influence The Perceptions of Culinary Business Owners Regarding Intention to Register For Halal Certificates

Analisis Faktor-Faktor Yang Mempengaruhi Persepsi Pemilik Usaha Kuliner Tentang Niat Mendaftar Sertifikat Halal

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ABSTRACT

Indonesia Law No. 33 of 2014 concerning Halal Assurance requires that by 2019 halal certification should be effectively implemented for food and beverage products, as well as service products related to both. Out of the 1.6 million micro, small, and medium enterprises (MSMEs), only 10 percent have been halal certified. This study aims to analyze the factors that influence the perceptions of culinary business owners regarding intention to register for halal certificates. Theory of Planned Behavior will be modified and implemented in preparing the frameworks of the dependent-independent variables. Using partial least square method, 200 sample of culinary producers -owners and managers- in Bogor were studied. Intention of producers is found to be significantly influenced by trust. Trust is also found to be sensitive to functional factor and subjective norm. Trust is also found to be determining attitude, together with functional factor and perceived behavioral norms. Trust is also significant in mediating the effect of perceived behavioral norms to intention, and also in mediating the effect of subjective norm to intention.The population of this study is the MSMEs culinary producers in Great Bogor Area, West Java, Indonesia. Only the respective owners and managers of the responding businesses were the main respondent. Similar research should be done for other types of halal product in order to generalize the results.This research modify TPB in setting the framework of determinants for halal certification intention. Variables added to the original TPB framework are trust and functional factor.This result concludes that trust is crucial in the effort to increase the number of halal certified products in Bogor. The halal certification authorities would have basis to review their policies, procedures, and technical guidelines for halal certification process. This study could be extended in terms of object and other potential determinant variables. Literatures related to halal certification has limited exposure to producers' motivation for halal certification

Keywords: Intention, Subjective Norm, Attitude, Halal Certification

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ABSTRAK

Undang-undang Indonesia No. 33 Tahun 2014 tentang Jaminan Halal mensyaratkan bahwa pada tahun 2019 sertifikasi halal harus diterapkan secara efektif untuk produk makanan dan minuman, serta produk layanan yang terkait dengan keduanya. Dari 1,6 juta usaha mikro, kecil, dan menengah (UMKM), baru 10 persen yang bersertifikat halal. Penelitian ini bertujuan untuk menganalisis faktor-faktor yang mempengaruhi persepsi pemilik usaha kuliner terhadap niat mendaftar sertifikat halal. Theory of Planned Behavior akan dimodifikasi dan diimplementasikan dalam menyusun kerangka kerja variabel dependen-independen. Dengan menggunakan metode partial least square, diteliti 200 sampel produsen kuliner - pemilik dan pengelola - di Bogor. Niat produsen ditemukan secara signifikan dipengaruhi oleh kepercayaan. Kepercayaan juga ditemukan sensitif terhadap faktor fungsional dan norma subyektif. Kepercayaan juga ditemukan untuk menentukan sikap, bersama dengan faktor fungsional dan norma perilaku yang dirasakan. Kepercayaan juga signifikan dalam memediasi pengaruh persepsi norma perilaku terhadap niat, dan juga dalam memediasi pengaruh norma subjektif terhadap niat. Populasi penelitian ini adalah pelaku UMKM kuliner di Kawasan Bogor Raya, Jawa Barat, Indonesia. Hanya masing-masing pemilik dan manajer bisnis yang merespons yang menjadi responden utama. Penelitian serupa harus dilakukan untuk jenis produk halal lain untuk menggeneralisasi hasil. Penelitian ini memodifikasi TPB dalam menetapkan kerangka determinan niat sertifikasi halal. Variabel yang ditambahkan pada kerangka TPB asli adalah kepercayaan dan faktor fungsional. Hasil ini menyimpulkan bahwa kepercayaan sangat penting dalam upaya meningkatkan jumlah produk bersertifikat halal di Bogor. Otoritas sertifikasi halal akan memiliki dasar untuk meninjau kebijakan, prosedur, dan pedoman teknis untuk proses sertifikasi halal. Studi ini dapat diperluas dalam hal objek dan variabel determinan potensial lainnya. Literatur yang terkait dengan sertifikasi halal memiliki paparan yang terbatas tentang motivasi produsen untuk sertifikasi halal

Kata kunci: Niat, Norma Subyektif, Sikap, Sertifikasi Halal

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1. Introduction

The number of the world's Muslim population which reaches more than two billion and its increasing population growth is a potential market for halal products. The halal product market is also not exclusive to Muslims. The concept of halal has also been accepted by many food industries in non-Muslim countries because halal symbolizes ethical considerations that show quality and control of their products (Rosnan et al., 2015).

Awareness of the concept of halal is then followed by awareness of the importance of halal certification. The concept of halal certification is increasingly developing along with the

increasing knowledge of Muslim consumers around the world about the concepts and principles of Islamic economics and its instruments and products (Abdul Jalil, 2007). Mahmod (2011) emphasizes that halal certification is an important symbol for Muslim consumers, because it is used as a basic guideline for a product that is believed to be halal in terms of manufacture, processing, storage, transportation, provision, maintenance, cleanliness, and quality assurance. This contributes to the significant growth in the halal market which is also recognized by non-Muslims for the belief that halal food products are better, handled and prepared hygienically (Rosnan et al., 2015).

Figure 1.1. Global Islamic Economy Indicator Score Rank

Source: Thomson Reuters, 2020

Law of Republic Indonesia Number 33, year 2014 concerning Halal Product Assurance requires that by 2019 halal certification must have been carried out for food and beverage products, as well as service products in Indonesia. The law also adds that the halal authority has increased with the presence of the Halal Products Certification Agency (Badan Penyelenggara Jaminan Produk Halal: BPJPH). During the period 2012-2019, Institute for the Assessment of Food, Drugs and Cosmetics-the Indonesian Ulema Council (Lembaga

Pengkajian Pangan Obat-obatan dan Kosmetika Majelis Ulama Indonesia: LPPPOM MUI) has issued 15,495 halal certificates for 13,951 companies, with a total of 274,495 certificates. Of the 1.6 million micro small and medium enterprises (MSMEs), only 10 percent are halal certified.

The role of producers is significant, because they are the ones who will help provide these halal products. Producers need to have a good level of halal literacy so that the guarantee of this halal product can be implemented optimally, from upstream to downstream. In addition, producers also need to understand the stages and procedures for applying for halal certification.

The practice of halal certification in its implementation also requires motivation and commitment from the producers. Several studies have shown that a determination to improve product safety and quality is one of the main motivating factors among food companies in New Zealand (Chen et al., 2015), (Fernando et al., 2014), Serbia (Tomašević et al., 2013), the UK (Mensah and Julien, 2011), Malaysia, and China (Bai et al., 2007).

Government regulations are expected to be an impetus for the implementation of halal certification. Based on Indonesia Halal Products Assurance Act, halal certification is mandatory. Regulation in several countries can be a major contributing factor for implementing food product certification, such as in Serbia (Chen et al., 2014) and Canada (Wilcock et al., 2011).

However, lack of trust and confidence towards certification authority is the main issue in concerned. Trust and confidence towards the certification authority play a significant role in projecting peoples' perception and opinion about the whole process of halal certification. The integrity of the authority in executing their job become the main concerns. In 2013 there was a scandal over the spread of horse meat labeled beef in the UK. In 2020 there were also cases of counterfeiting halal certificates in meat products in Malaysia. These incidents implies that integrity regarding labeling of food products is not limited to the responsibility of producers. It is the responsibility of all related parties to be able to realize integrity in the supply chain (Aung and Chang, 2014; Tse and Tan, 2011).

Obtaining a halal certificate has potential to become an effective and significant marketing strategy in increasing customer loyalty, enhancing the image and reputation of the organization and increasing the company's profit margins (Abdul Jalil, 2007). Products with the halal logo also have added value because they are more easily accepted by consumers, both Muslim and non-Muslim (Mahmod, 2011).

Several previous studies have discussed the relationship between halal certification and business performance. Among these studies, it is concluded that halal certification has become part of an innovation strategy that leads to improved business performance (Supian et al., 2018; Ab Talib et al., 2017; Al-alak and Tarabieh, 2011; Rajagopal et al., 2011). This research was not only conducted in countries with a majority Muslim population, but also in countries with a majority of non-Muslim populations.

Ab Talib et al. (2017) conducted research on 210 halal certified food manufacturing companies in Malaysia. It is concluded that the application of halal food certificates has a positive effect on overall business performance. Supian et al. (2018) studied 350 small and medium enterprises in the food and beverage manufacturing industry in Malaysia. The results of his research also show that halal certification has a significant relationship with the performance of SMEs. Mahmod (2011) also concluded that halal certified food manufacturing companies in Malaysia have improved their marketing performance. Rajagopal et al. (2011) also revealed that food companies in the United Arab Emirates such as Nestle, Tesco, and Sainsbury's experienced increased performance after obtaining halal certification.

Studies related to halal certification are mostly found to be related to consumers purchase behavior or intention. Most of the previous studies related to halal certification and producers treated halal certification as the independent variable to the business or financial performance. Studies related to halal certification and producers' intention have also been done and mostly qualitative studies. Some of the studies are Ab Talib et.al (2015), Marzuki et.al (2012a), Marzuki et.al (2012b), and Abdul et.al (2008). This study will implement Theory of Planned Behavior in preparing the frameworks for endogenous-exogenous variables modified by adding two variables; trust and functional factor.

Indonesia Law No. 33 of 2014 concerning Halal Assurance requires that by 2019 halal certification should be effectively implemented for food and beverage products, as well as service products related to both. Out of the 1.6 million micro, small, and medium enterprises (MSMEs), only 10 percent have been halal certified. This study aims to analyze the factors that influence the perceptions of culinary business owners regarding intention to register for halal certificates.

Theoretical and Conceptual Framework

Theory of Planned Behavior (Ajzen, 1991) is originally used to explain consumer behavior. There are three important pillars used in TPB, namely attitude, subjective norms and perceived behavioral control.

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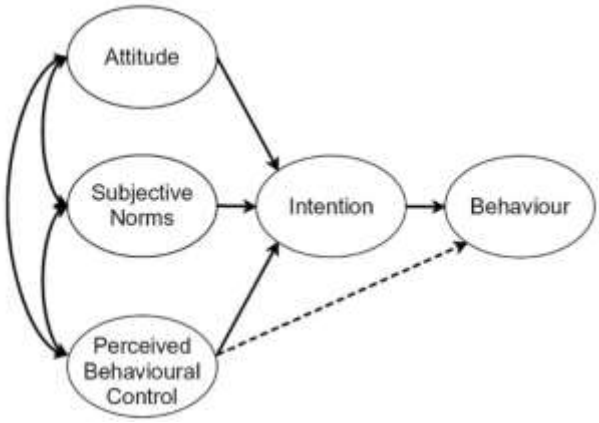

Figure 1.2. Theory of Planned Behavior

Source: Ajzen, 1991

This study will implement Theory of Planned Behavior in preparing the frameworks for endogenous-exogenous variables modified by adding two variables; trust and functional factor. This study will also examine the role of trust as mediating variable between perceived behavioral control and intention, and also between subjective norm and intention. The framework and specification will be portrayed by figure

LITERATURE REVIEW

The Concept of Halal

The term "halal" comes from an Arabic word which means permitted or permitted (Qardhawi, 2013). Halal is a practice or activity that is permitted by Islamic teachings. The antonym of the word halal is "haram". So, halal is defined as something that is not determined by Shariah as something that is haram.

In the context of consumption, halal means permitted as a food standard for Muslims as specified in the Koran. For Muslims consuming halal food is an obligation. When describing halal and haram in the context of food and drink, it means food and drink that can and cannot be consumed by Muslims as stated in the Quran and the hadith of the Prophet also from a legal point of view. Of course, you should avoid products that are categorized as having doubts (*Syubhat*) let alone those that are prohibited (Haram).

In the Qur'an, there are many commands regarding the consumption of halal food and rules regarding the types of food that are prohibited, including in QS. Al-Baqarah [2]: 168, 172-173, QS. Al-Maidah [5]: 3, QS. Al-An'am [6]: 145, QS An-Nahl [16]: 114, and QS Al-Maidah [5]: 90. Based on these verses which include forbidden food such as carrion, blood, pigs, animals

when it is slaughtered is called a name other than God, and *khamr*. So food and beverages as long as the ingredients and their management processes are not mixed with something that is haram are called halal.

In simple terms halal is defined as things that are allowed by Islamic law to be consumed. The scope of the term "halal" is not limited to food and beverages. As such, it is an Islamic term that has an overall impact on every aspect of a Muslim's daily life.

The concept of halal emphasizes cleanliness, safety, cleanliness, virtue, purity, manufacturing, production, process, honesty, truth, and food service and other financial and even social activities on the excellent platform of Islam. Muslim consumers demand products that meet the requirements and are healthy for the requirements of Shariah. Halal also ensures a healthy life for people. Food safety is an important attribute for purchasing food products. In an Islamic perspective, under Shariah law, food security meets the requirements of halal and *thayyib* (good).

Halal Certification

Halal certification is a legal certainty for Muslim consumers. This means that consumers are guaranteed that the products they consume meet the requirements as halal products (Said et al, 2014). Not only can the value of the product and its benefits be used, but also halal and haram. Goods must show the value of goodness, purity, beauty, and benefits both materially and spiritually. Halal authority becomes mandatory for Muslim countries.

Halal certificate was initiated in Indonesia around 1992. The first legality was developed by Institute for the Assessment of Food, Drugs and Cosmetics (Lembaga Pengkajian Pangan Obat-obatan dan Kosmetika: LPPOM) and legalized by the Indonesian Ulema Council or MUI. Halal certificates are required for products (raw materials, ingredients, additives, packaging materials, etc.) and services (such as logistics, cleaning services, insurance) purchased and for animal products it is important to know whether the animal was slaughtered by machine or shot (Tieman and Ghazali, 2013)

Especially for Indonesia, the halal certification recognized by the institution is LPPOM MUI and BPJPH. Whereas for products from abroad, recognized, and credible institutions are institutions that have established a cooperative relationship with Indonesia through MUI. Products containing animal elements (beef, chicken, goat, etc.) must have halal certification.

Halal is important especially for Muslim consumers to decide whether he will buy a product or not (Awan et al., 2015). To convince Muslim consumers of "halal" products, restaurants must state a halal label / logo on the product. The appearance of halal labels / logos on products

can help convince Muslim consumers that they are buying halal products (Rejaii & Arianfar, 2016). Halal food produced must have halal certification to ensure halal. In addition, reasons for food safety and health are also reasons for choosing halal food. So, it can be emphasized that halal certification guarantees all Muslim consumers as it fully meets the requirements as stipulated by Shariah Law.

The halal label is not only about halal food, but also about food hygiene and safety (Shariff & Lah, 2014). The technical halal product guarantee is then translated through the certification process. Previously, halal certification was voluntary in nature, in Halal Assurance Regulation, it is now mandatory. Therefore, all products that enter, circulate, and are traded in the territory of Indonesia must be halal certified. This is the main differentiator from previous legislative products that were previously published. Later, as the person in charge of the halal guarantee system will be carried out by the government which will be organized by the Minister of Religion by forming BPJPH which is located under and responsible to the Minister of Religion. If necessary, BPJPH can form representatives in the regions (Hidayat & Siradj, 2016).

Theory of Planned Behavior

Theory of Planned Behavior (TPB) is used to explain changes in consumer behavior. There are three important pillars used in TPB, namely attitude, subjective norms and perceived behavioral control (Ajzen, 1991) which have an impact on purchase intention or behavior.

TPB identifies three basic factors that influence individual desired behavior including attitudes, subject norms, and perceived behavior control. In conditions of natural disasters or epidemics, Daellenbach et al (2018) also used this model as a basic theory for understanding consumer purchase intentions at uncertain times.

Some studies add factors or elements that are included in the model to effectively explain the relationship between research variables (Gkargkavouzi et al, 2019; López Mosquera and Sánchez, 2012) and the research results from these studies have proven their hypothesis effectively. Furthermore, many previous studies have suggested adding other relevant variables such as environmental factors when studying consumer intentions (Choi and Johnson, 2019; Chen and Tung, 2014; Hsu and Huang, 2012; Pavlou and Fygenson, 2006;).

Food Certification and Producer Attitude and Behavior Control

It takes a strong motivation and determination from the producers to be willing to undergo the certification process, including food product certification. Therefore, the motivation for implementing food certification is motivated by a commitment to offer safe and quality food on the market, while providing assurance to consumers that the product is safe for consumption

(Ab Talib, 2015). Several previous studies have also shown that among the motivations of producers to certify is an effort to protect consumers from the potential presence of foodborne diseases (Macheka et al., 2013; and Jin et al., 2008), other studies show that the motivation of producers is to ensure and improve product safety and quality (Chen et al, 2014; Macheka et al, 2013; Mensah and Julien, 2011).

Other motivations may relate to profit orientation or wider market share. This is as discussed in the research of Escanciano and Santos-Vijande (2014), and Fernando et al (2014). Companies that have internationally recognized food certificates can overcome export barriers and facilitate market entry (Mensah and Julien, 2011).

Certification does require commitment not only from the owner, but also from management. Lack of management commitment can be a barrier to motivation for certification, as in the research of Wilcock et al (2011), Jin et al (2008), Baş et al (2007), Hielm et al (2006). Among them, the lack of tendency to certify may also be related to the large number and complexity of work administration in documentation related to administration and recording (Karaman et al., 2012; Hielm et al., 2006; Taylor, 2005; and Konecka-Matyjek et al., 2005).

Food Certification and Producer Subjective Norms

Food certification in its application is also influenced by social factors, funds or prevailing norms. Encouragement or requests from consumers, the community or the community, and even the government also influence the motivation of producers to apply for the certification process. Fikru's research (2014) states that international companies are driven by requests from local consumers to obtain certification. In addition, demand from the domestic food market puts pressure on local food companies, and ultimately encourages them to apply for certification (Fotopoulos et al., 2010). The motivation to apply certification is also the result of ensuring consumer satisfaction and meeting the demand for quality and safe food (Strohbehn et al., 2014; and Psomas et al., 2012). Thus, adapting to customer pressure and ensuring customer satisfaction is paramount because it allows companies to attract new customers, retain existing ones, and create loyalty (Sarter and Sarter, 2012; and Herath and Henson, 2006). Apart from consumer pressure, regulatory and government policy pressures can also directly or indirectly motivate food companies to apply certification.

Other studies highlight government pressure as a significant motivating factor for certification. Among these studies are those conducted by Chen et al (2014), Maldonado et al (2014); Milios et al (2013), Tomašević et al (2013), Wilcock et al (2011), Othman et al (2009), Celaya et al (2007), and Yapp and Fairman (2006).

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a. Food Certification and Functional Factors

Functional factors related to the systems and procedures for food product certification can also influence the motivation of producers to register their products. Ab Talib et.al (2015) in his research concluded that the practical experience of food product producers shows that the success in implementing the system depends on complex problems that include managerial, organizational and technical aspects of the procedure.

Among the factors that can affect the motivation of producers to undergo the certification process are problems related to the certification itself. Cost and time factors are factors mentioned in Wilcock et al (2011), Shih and Wang (2011), Jin et al. al (2008), Baş et al (2006), Jin et al (2006), Taylor (2005), and Konecka-Matyjek et al (2005). Other factors relate to facilities (Baş et al., 2007). Furthermore, the issue of clear technical instruction is also important, as concluded by Baş et al (2007). Certification procedures also often require special training as stated in Baş et al (2006), Baş et al (2007), and Wilcock et al (2011). Because it requires expertise to understand the certification process and procedures, it also requires assistance from experts or consultants as stated by Wilcock et al (2011). Overall, lack of understanding of the system could hinder producers to apply for any certification program (Baş et al., 2007; and Hielm et al., 2006).

b. Food Certification and Trust

In 2013 there was a scandal over the spread of horse meat labeled beef in the UK. In 2020 there were also cases of counterfeiting halal certificates in meat products in Malaysia. This implicitly implies that the integrity regarding labeling of food products is not limited to the responsibility of producers. It is the responsibility of all related parties to be able to realize integrity in the supply chain (Aung and Chang, 2014; Tse and Tan, 2011).

A trustworthy authority is needed to play an important role in issuing halal certificates for suppliers, so that consumers are sure about the halal status of the product (Hanzaee and Ramezani, 2011). Bonne et.al (2007) argue that halal food is a 'credence quality product', whose integrity is difficult to ascertain along the supply chain. Companies need to implement a halal assurance system to obtain halal certification. The halal assurance system itself also requires system traceability so that producers and consumers are equally sure of the quality and halal status of the products being marketed.

c. Trust as Mediating Variable between Perceived Behavioral Control and Intention

Several studies tested the role of trust as mediating variable between perceived behavioral control and intention. Dewi and Ketut (2020) on their research proves that trust is able to mediate the influence of perceived risk and intention. Trust can also partially mediates the relationship between customer satisfaction and customer loyalty (Osman and Sentosa, 2012). On the case of intention to use a wearable health device, trust is also found to be significantly mediates perceived security, and perceived privacy on consumers' intention (Adebesin, 2020).

d. Trust as Mediating Variable between Subjective Norm and Intention

Trust in several studies is also proven to mediate subjective norms and intention. Dewi and Ketut (2020) proves that trust is able to mediate the influence of subjective norm on continuous usage intention. Chanwong, et.al (2019) also proves that trust is significant in mediating the effect between subjective norm and intention on electronic banking services.

2. Method

This study focuses on examining the determinants of the intention of UMKM producers towards halal certification as well as examining the determinants of consumer demand for UMKM products. The variables explored include producers' intentions of halal certification and the factors that influence it, as well as consumer intentions to buy halal products and the factors that influence it. Here, the indicators involved in modeling are represented by latent (or unobserved) variables. Therefore, this study uses an approach that can estimate the relationship between these latent variables. In the statistical literature, Structural Equation Modeling (SEM) is a commonly used method to analyze the relationship between latent variables.

Generally there are two types of SEM modeling that can be used to analyze the relationship between latent variables, namely Covariance-Based SEM (CB-SEM) developed by Jöreskog (1969) and Partial Least Squares SEM (PLS-SEM) developed by Wold (1974). In particular, this study applies the Partial Least Squares SEM (PLS-SEM) model developed by Wold (1974). PLS-SEM is often called soft modeling because it uses softer assumptions and can use a small sample size. One of the advantages of PLS-SEM is its ability to test weak theories and weak data, such as small sample sizes or problems with data normality (Wold, 1985). Apart from being used to explain the presence or absence of a relationship between latent variables, PLS-SEM can also be used to confirm the theory.

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PLS-SEM is a hybrid model which is a combination of two models, namely: the measurement model (outer model) and the structural model (inner model). PLS-SEM generally applies OLS regression based estimation technique.

In this case data used are primary data collected through distributing questionnaires to culinary producers in Indonesia. The selection of culinary MSME producers is because the food and beverage products they produce are consumed directly by the community. So that food and beverage products have an important and strategic position when it comes to halal issues.

PLS Estimation Procedure and Statistical Test

One of the important statistical analyzes in PLS-SEM modeling is to estimate and evaluate statistics on the resulting model. In general, the estimation and test stages in PLS-SEM modeling are presented as follows:

1) Designing model specifications. This stage involves the theoretical specification of the relationship between latent variables and how each latent variable will be measured. Model specification can be achieved based on experience in a particular field, review of theory and literature.
2) Draw a path diagram. To facilitate understanding and analysis of model results, the inner model and outer model designs obtained in the previous stage can be expressed in a path diagram. The inner model describes the relationship between the latent variable and its measuring indicators, while the outer model describes the relationship between the latent variables. The path diagram illustrates the research hypothesis and displays the relationship of the variables to be tested. This diagram is often referred to as a path model. The path model is a diagram that connects latent variables based on theory to visually present the hypothesis to be tested.
3) Estimating model parameters. PLS-SEM analysis estimates parameters that represent the relationship between measurement indicators (manifest) and their latent variables, as well as the relationship between different latent variables. In this context, the PLS-SEM results can be described and interpreted as a combination of two models, namely: the measurement model (outer model) and the structural model (inner model). PLS-SEM generally applies OLS regression based estimation technique. This method focuses on predicting a hypothesized set of relationships that maximize the variance described in the dependent variable, similar to the OLS regression model.

4) Evaluating the model. Model evaluation in PLS-SEM includes evaluation of the outer model and inner model. The outer model evaluation includes convergent validity, discriminant validity, and construct reliability. Convergent validity is a measure of internal consistency to ensure that the items or indicators that are assumed to measure each latent variable actually measure it and do not measure other latent variables. In PLS-SEM, Average Variance Extracted (AVE) can be used to determine the convergent validity of the construct being measured. AVE is formulated as:

$$AVE = \frac{\left(\sum \lambda_i{}^2\right)}{\sum \lambda_i^2 + \sum_i \sigma^2(e_i)}$$

Where:

- λ : *loading factor*
- $\sigma^2(e_i)$: *error variance*

Discriminant validity assessment aims to ensure that the reflective construct has the strongest relationship with its own indicator in the PLS pathway model (Hair et al, 2017). The assessment of discriminant validity has become a generally accepted prerequisite for analyzing the relationship between latent variables. For variant-based structural equation modeling, such as PLS, Fornell-Larcker criteria and cross-loadings checks are the dominant approaches for evaluating discriminant validity (Henseler, Ringle, & Sarstedt, 2014). By looking at the cross-loading, the factor loading indicator on the specified construct must be higher than all other construct loadings provided that the cut-off value of the loading factor is higher than 0.70.

Construct reliability is used to assess whether the indicators of measuring latent variables are reliable or not. Cronbach's alpha is a reliability (or consistency) coefficient that can be used to measure how well a set of items or indicators measures a single dimension of a latent variable. When data has a multidimensional structure, Cronbach's alpha tends to be low. Cronbach's alpha can be formulated as (Cronbach, 1951):

$$\rho_c = \frac{(\sum_i l_i)^2}{(\sum_i l_i)^2 + \sum_i var(e_i)}$$

Where:

l = standardized outer loading value of the ith measuring indicator for a certain latent variable

e = measurement error of the ith measuring indicator

var (ei) = Variant of measurement error defined as 1 - l_i ^ 2

Meanwhile, the inner model evaluation includes multicollinearity, coefficient of determination (R^2) and predictive relevance (Q^2). Multicollinearity is a phenomenon in which two or more exogenous constructs (latent variables) are highly correlated, causing the predictive ability of the model to decrease. The measure that can be used to identify multicollinearity is variance inflation factor (VIF) for a particular variable (Xi), which is defined as the inverse of the tolerance value (TOL):

$$VIF_{x_i} = 1/TOL_{x_i}$$

where $TOL_{x_i} = 1 - R^2_{x_i}$

According to Hair et al. (2014), the level of collinearity is very high (or symptoms of multicollinearities occur), if the tolerance is 0.20 or lower, which also means that the VIF is 5 or higher)

Furthermore, the coefficient of determination (R^2) measures the accuracy of the model's predictions and is calculated as the squared correlation between the actual value and the predicted specific endogenous constructs. R^2 values range from 0 to 1, with a higher level indicating a higher level of prediction accuracy. It is difficult to provide a rule of thumb for an acceptable value of R^2 because this depends on the complexity of the model and the research discipline. A R^2 value of 0.20 is considered high in disciplines such as consumer behavior, but in studies of the drivers of success, researchers expect a value much higher than 0.75. In scientific research focused on marketing problems, R^2 values of 0.75, 0.50, or 0.25 for endogenous latent variables can, as a rule of thumb, be described as substantial, moderate, or weak, respectively (Hair et al., 2017; Reinartz et.al, 2009).

Apart from evaluating the magnitude of the R2 value as a criterion for predictive accuracy, the Stone-Geisser Q2 value should also be examined (Geisser, 1974; Stone, 1974). This measure is an indicator of the predictive relevance of the model. When PLS-SEM shows predictive relevance, it accurately predicts indicator data points in the reflective measurement model of endogenous constructs and endogenous single item constructs. In the structural model, a Q2 value that is greater than zero for a particular reflective endogenous latent variable indicates the predictive relevance of the path model for a particular construct. According to Hair et al. (2017), as a relative measure of predictive relevance, the values 0.02, 0.15, and 0.35 indicate that exogenous constructs have small, medium, or large predictive relevance for certain endogenous constructs. The

Q2 value was estimated using a blindfolding procedure and was formulated as (Hair et al., 2017):

$$q^2 = \frac{Q^2_{included} - Q^2_{excluded}}{1 - Q^2_{included}}$$

5) Test the overall fit of the model. The overall fit model test aims to ascertain whether the predictive value of the model tends to predict the response to other samples accurately. One approach that can be used to test the overall fit in PLS-SEM is the standardized root mean square residual (SRMR). Henseler et al. (2014) introduced SRMR as a measure of goodness of fit for PLS-SEM which can be used to avoid model specification errors. SRMR is defined as the difference between the observed correlation and the model that states the correlation matrix. Thus, it is possible to assess the mean magnitude of the difference between the observed and expected correlations as the absolute measure of the fit criterion (model). SRMR values less than 0.10 or 0.08 (in a more conservative version; see Hu and Bentler, 1998) are considered suitable.

Model Specification and Research Instruments

Table 3.1 Manifest Variables

Variable	Manifest Variables	Code
Functional Factor	I will only use ingredients that are halal even though they are more expensive	F1
	I will only use halal ingredients even though they are harder to come by	F2
	I will only use halal ingredients even though it will take longer to obtain	F3
Attitude	The halal status of the product is important to me	A1
	I know exactly the halal status of all the materials I use (including the main and supporting materials)	A2
	Consumer satisfaction is important to me	A3
	I believe that halal products are more attractive to consumers	A4
	I believe that halal products can guarantee goodness and safety for consumers	A5

Perisai, 7 (2), Oktober 2023, 143-176
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Variable	Manifest Variables	Code
Subjective Norm	My family advised me that I have to confirm the halal status of the products I make / sell	SN1
	My closest friends suggest that I have to confirm the halal status of the products I make / sell	SN2
	My teacher / Ustadz / Ustadzah suggested that I have to confirm the halal status of the products I make / sell	SN3
	My neighbor advised me that I must confirm the halal status of the products I make / sell	SN4
	People around me suggested that I must confirm the halal status of the products I make / sell	SN5
Perceived Behavioral Control	I have easy access to halal ingredients	PBC1
	I have cheap access to halal ingredients	PBC2
	I can afford to buy halal ingredients	PBC3
	I have easy access to information about halal ingredients	PBC4
Trust	I trust the halal certification authority in Indonesia	T1
	I believe that halal certification will benefit my business	T2
	I trust the process of implementing halal certification in Indonesia	T3
	I trust my suppliers when they declare that their products are halal after seeing their halal logo	T4
Intention	I trust the halal certification authority in Indonesia	I1
	I believe that halal certification will benefit my business	I2
	I trust the process of implementing halal certification in Indonesia	I3
	I trust my suppliers when they declare that their products are halal after seeing their halal logo	I4

The Model Specification is as follows:

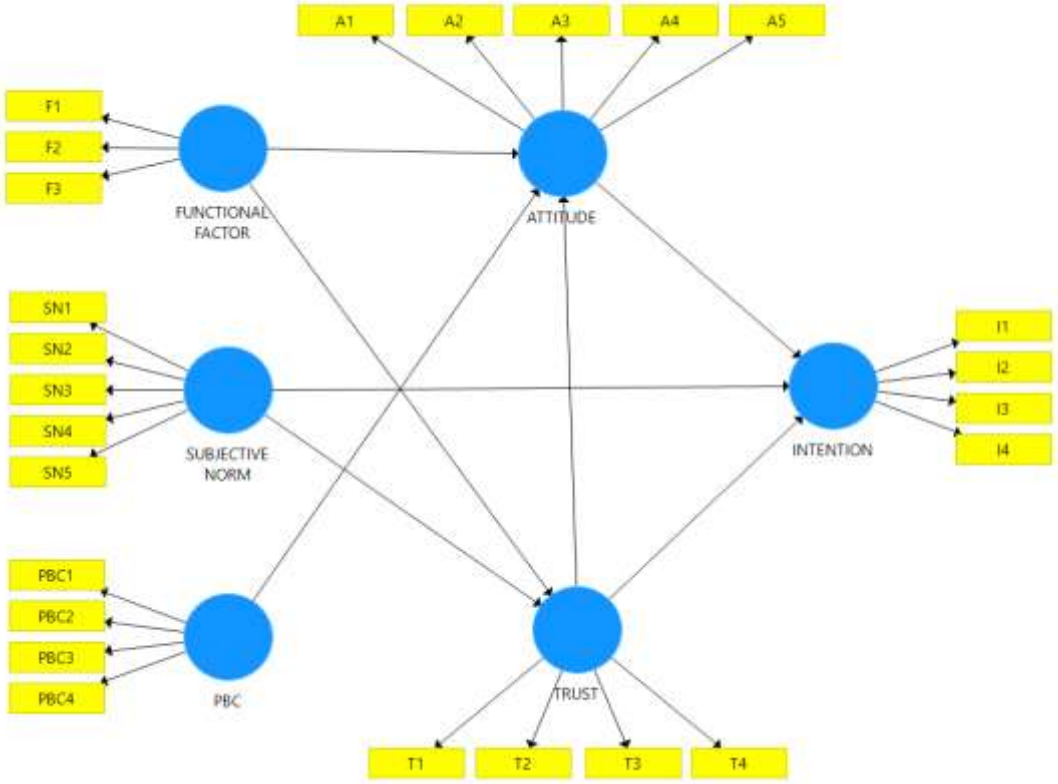

Figure 3.1. Model Specification

Based on the above framework, the following hypotheses have been identified:

1. H1: attitude is positively related to halal certification intention.
2. H2: functional factor is positively related to attitude.
3. H3: functional factor is positively related to halal certification intention.
4. H4: functional factor is positively related to trust.
5. H5: perceived behavioral control is positively related to attitude.
6. H6: perceived behavioral control is positively related to halal certification intention.
7. H7: perceived behavioral control is positively related to trust.
8. H8: subjective norm is positively related to attitude.
9. H9: subjective norm is positively related to halal certification intention.
10. H10: subjective norm is positively related to trust.
11. H11: trust is positively related to halal certification intention.
12. H12: trust mediates perceived behavioral control and intention
13. H13: trust mediates subjective norm and intention

Perisai, 7 (2), Oktober 2023, 143-176
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3. Result and Discussion

Table 4.1 Respondents' Profile

Item	Total	Percentage	Item	Total	Percentage
Gender	**200**	**100%**	**Total Revenue**		
Male	67	33%	up to IDR 300 million annually or up to IDR 25 million monthly	184	92%
Female	133	67%	up to IDR 210 million monthly or up to IDR 2,5 billion annually	15	8%
			above IDR 210 million monthly or up to IDR		
Age	**200**	**100%**	2,5 billion annually	1	1%
< 30	80	40%	**Total Employee**	**200**	**100%**
30 - 40	37	19%	None	82	41%
41 - 50	67	34%	1-5	109	55%
51 - 60	13	7%	6-10	4	2%
> 60	3	2%	11-20	2	1%
Educational Background	**200**	**100%**	above 20	3	2%
Elementary School	6	3%	**Total Outlet**	**200**	**100%**
Junior High School	3	2%	One	168	84%
Senior High School	99	50%	2 - 10	21	11%
Bachelor's degree	71	36%	Above 10	11	6%
			License from Health		
Master's degree	7	4%	**Authority**	**200**	**100%**
Others	14	7%	Yes	45	23%
Position	**200**	**100%**	On process	38	19%
Owner	174	87%	No	117	59%
Manager	22	11%	**Halal Certified?**	**200**	**100%**
Total Asset	**200**	**100%**	Yes	33	17%

Item	Total	Percentage	Item	Total	Percentage
up to IDR 50 million	174	87%	on process	57	29%
up to IDR 51 - 500 million	12	6%	No	110	56%
above 500 million	8	4%			

Note:

- IDR 25 million is equivalent to USD 1,783; IDR 50 million is equivalent to USD 3,567; IDR 210 million is equivalent to USD 14,977; IDR 300 million is equivalent to USD 21,396; IDR 500 million is equivalent to 35,670; IDR 2,5 billion is equivalent to USD 178,303

Demographically, there are more female respondents compared to male for this study. The percentage is 67% and 33%. In terms of age, majority are below 30 years old by 40%. The rest 34% are between 41-50 years old. Respondents are dominated by high school graduates (by 50%) and also bachelor's graduate by 36%. As the sampling was purposive, only business owners and managers are intended as respondents. This is because respondents should have significant part in deciding whether to apply halal certify or not. 87% of respondents are business owners, while the rest are managers. For the asset size, most of respondents are micro business owners or managers. 87% of respondents business have a net worth of IDR 50 million (equivalent to USD 3,567). Based on total income, 92% of respondents have a total income of less than IDR 300 million (equivalent to USD 21,396) annually or up to IDR 25 million (equivalent to USD 1,783) per month. Based on total outlet ownership, majority of respondents only have one business outlet (84%). Regarding the license, two kinds of license were asked: health license from health office and halal certification. There are 23% of the total respondents who had received health permit. Lastly, there are only 17% of respondents business which are halal certified.

Outer Model Evaluation

Outer model evaluation is carried out to assess the validity and reliability of the manifest variable in measuring each latent variable. Testing of the outer model that is reflective is generally carried out through three measurements, namely convergent validity, discriminant

Perisai, 7 (2), Oktober 2023, 143-176
E. ISSN. 2503-3077
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validity and reliability measurements (Hair et al. 2014). Convergent validity indicates that the set of indicators used can represent the latent variables. Meanwhile, construct reliability is used to assess whether the manifest variables are reliable or not. The results of testing the outer model using the three tests are presented in Table 4.2 and Table 4.3.

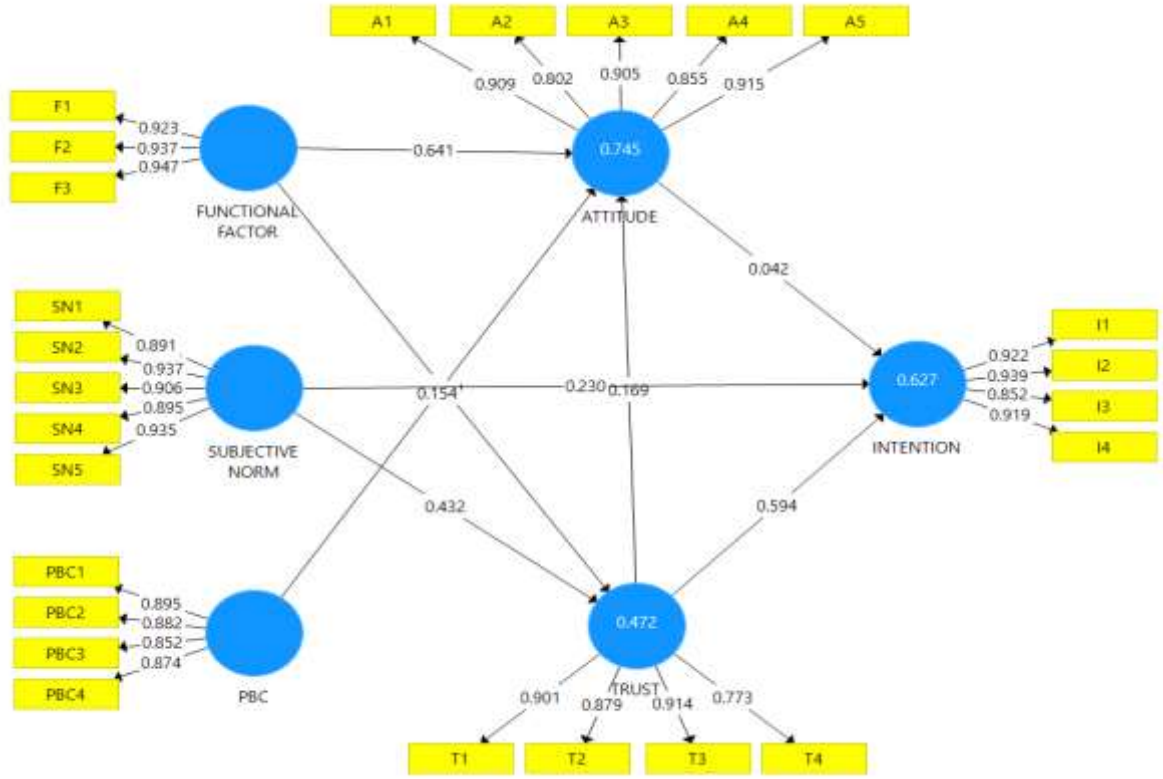

Figure 4.1. Outer Loading

Convergent validity can be assessed by looking at the results of the factor loading measurement model and also the Average Variance Extracted (AVE) which exceeds 0.5 (Hair et al. 2014). In Table 4.2, it can be seen that the AVE value of all latent variables used in the model is greater than 0.5. This shows that the average of each latent variable is able to explain more than 50 percent of the variation in the measurement indicators. These results also indicate that the indicators that measure each latent variable have a high enough correlation. Overall, these results indicate that the construct validity requirements have been met.

Table 4.2. Outer Model

	Attitude	*Functional*	*Intention*	*PBC*	*Subjective Norm*	*Trust*
Attitude1	0.909					
Attitude2	0.802					

Attitude3	0.905					
Attitude4	0.855					
Attitude5	0.915					
Functional1		0.923				
Functional2		0.937				
Functional3		0.947				
Intention1			0.922			
Intention2			0.939			
Intention3			0.852			
Intention4			0.919			
PBC1				0.895		
PBC2				0.882		
PBC3				0.852		
PBC4				0.874		
SN1					0.891	
SN2					0.937	
SN3					0.906	
SN4					0.895	
SN5					0.935	
Trust1						0.901
Trust2						0.879
Trust3						0.914
Trust4						0.773

Furthermore, the reliability of the measurement model can be assessed using three values, namely the Cronbach alpha coefficient above 0.6, the rho_A coefficient above 0.6, and the composite reliability value above 0.7 or greater (Fornell and Larcker 1981). Table 4.3 shows that the composite reliability of the measured model values is almost entirely greater than 0.6

Perisai, 7 (2), Oktober 2023, 143-176
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for Cronbach's Alpha and rho_A, and greater than 0.7 for the composite reliability. These values prove that the instrument measurement is consistently acceptable.

Table 4.3. Construct Reliability and Validity

	Cronbach's Alpha	Rho_A	Composite Reliability	Average Variance Extracted (AVE)
Attitude	0,925	0,927	0,944	0,771
Functional Factor	0,929	0,929	0,955	0,876
Intention	0,929	0,932	0,950	0,826
PBC	0,900	0,921	0,929	0,767
Subjective Norm	0.950	0,953	0,962	0,834
Trust	0,890	0,896	0,924	0,754

Inner Model Evaluation

In PLS-SEM modeling, evaluation of the structural model can be carried out using three indicators, namely: Variance Inflation Factor (VIF) and Coefficient of Determination (R^2). Variance Inflation Factor (VIF) is used to evaluate the presence of collinearity between exogenous constructs in the endogenous construct equation. Multicollinearity is a phenomenon where two or more exogenous constructs are highly correlated, causing the predictive ability of the model to decrease. Multicollinearity testing can be done using Variance Inflation Factor (VIF). In general, VIF values must be less than 5. If the VIF of each exogenous construct is more than 5, this indicates a collinearity between constructs (Sarstedt et al., 2017). In this study, the VIF value of all the exogenous latent variables was less than 5 which indicates that there is no multicollinearity in the structural model.

Table 4.4 Variance Inflation Factor (VIF)

	Attitude	***Intention***	***Trust***
Attitude		2.150	
Functional	1.886		1.621
PBC	1.816		

Subjection Norm		2.131	1.621
Trust	1.741	1.942	

The most common measure used to evaluate structural models is the coefficient of determination (R^2 value). This coefficient is a measure of the model's predictive accuracy and is calculated as the squared correlation between the actual and predicted values of a particular endogenous construct. The coefficients represent the combined effect of exogenous latent variables on endogenous latent variables. In scientific research that focuses on marketing problems, R^2 values of 0.75, 0.50, or 0.25 for endogenous latent variables can, as a rough guide, be described as substantial, moderate, or weak, respectively (Hair, Ringle, & Sarstedt, 2011; Henseler et al., 2009). In this study, it can be seen that the R^2 value for the attitude model is substantial, while R2 for the intention and trust model is moderate.

Table 4.5 R-square

Model	***R Square***
Attitude	0.741
Intention	0.621
Trust	0.467

Furthermore, from Table 4.6 it can be seen that the results of the overall fit model test for the manufacturer's model. This test is carried out to determine whether the overall model produced fits the data. As in the case of the manufacturer's model, the Standardized Root Mean Square Residual (SRMR) is used here as the correct measure for PLS-SEM to avoid model specification errors. Based on the results obtained, the SRMR value for the entire model is 0.079. According to Hu and Bentler (1999) these results are included in the good fit criteria.

Table 4.6 Goodness of Fit

	Saturated Model	***Estimated Model***
SRMR	0,069	0,074
d_ULS	1.549	1.794
d_G	0.897	0.933
Chi-Square	958.482	967.242
NFI	0.826	0.824

Perisai, 7 (2), Oktober 2023, 143-176
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Path Analysis

This section presents an analysis of the influence of the variables of Attitude, Functional Factors, Subjective Norms, Perceived Behavioral Control, and Trusts from MSME producers on the Intention of Halal Certification based on the estimation results of the PLS-SEM model. The estimation results are presented in Figure 4.1 and Table 4.7 and Table 4.8. Figure 4.1 presents the results of the full model in the form of a diagram consisting of the estimation results of the latent variable measurement model (outer model) and the structural model (inner model). Furthermore, Table 4.7 presents the significance test results of the direct effect of each exogenous latent variable on the endogenous latent variable. Based on Figure 4.1 and Table 4.7, it can be seen that in the producer model there are 3 (three) endogenous latent variables, namely Attitude, Trust, and Intention and 4 (four) exogenous latent variables, namely Subjective Norm, Knowledge, PBC and Functional. Thus, in this case at least 3 (three) structural equations are formed. Based on these 3 (three) structural equations, 8 (eight) hypotheses that relate to the direct relationship between latent variables in the model can be derived (see Table 4.7). Furthermore, by using the real level of 1% and 5% alpha, it can be seen that of the 8 (eight) available hypotheses, there are 6 (six) hypotheses with the conclusion to reject H0, which means that the hypothesis that endogenous latent variables have a significant effect on endogenous latent variables is accepted. Meanwhile, 2 (two) other hypotheses concluded that H0 could not be rejected, which means that the hypothesis that endogenous latent variables have a significant effect on endogenous latent variables is accepted.

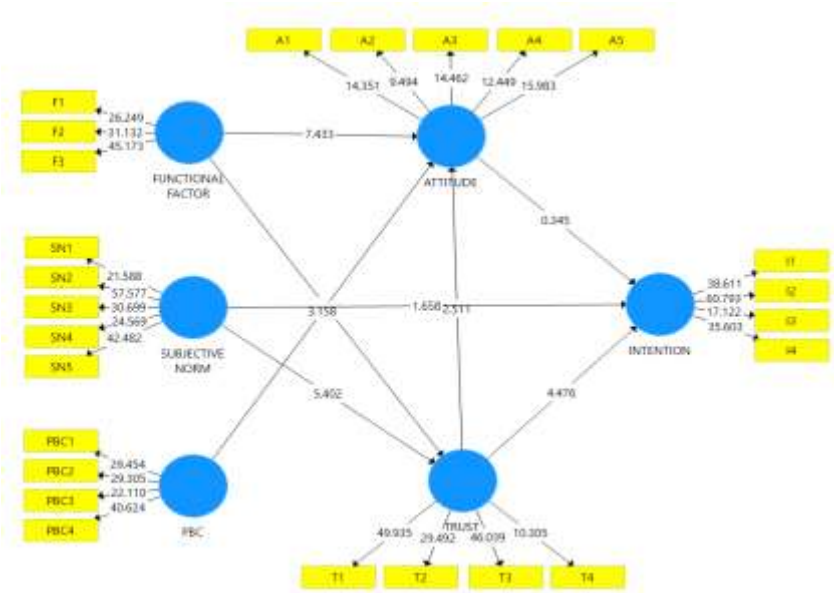

Figure 4.2. T Statistic

Table 4.7 Producer Model Estimation Coefficients

		Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Conclusion
1	Attitude →Intention	0.042	0.071	0.123	0.345	0.730	Not Supported
2	Functional Factor → Attitude	0.641	0.609	0.086	7.433	0.000 *	Supported*
3	Functional Factor → Trust	0.330	0.325	0.079	4.177	0.000 *	Supported*
4	PBC → Attitude	0.154	0.153	0.049	3.158	0.002 *	Supported*
5	Subjective Norm → Intention	0.230	0.222	0.139	1.658	0.098	Not Supported
6	Subjective Norm → Trust	0.432	0.432	0.080	5.402	0.000 *	Supported*
7	Trust → Attitude	0.169	0.186	0.067	2.511	0.012 **	Supported**
8	Trust → Intention	0.594	0.565	0.133	4.476	0.000 *	Supported*

Note: * Significant at 1%; ** Significant at 5%, *** Significant at 10%

Based on Table 4.7, it can also be seen that the factors that most played a role in influencing the intention is trust. This explains that the higher level of trust from MSME producers plays a role in encouraging their interest in certifying their products. This result is understandable, because in theory, high trust or confidence will encourage the intention of halal certification. This finding is in line with the study of Mohamed et al. (2008) which states that obtaining a halal certificate issued by a credible certification body is generally accepted as a good

Perisai, 7 (2), Oktober 2023, 143-176
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marketing strategy. In addition, there is a need for a trustworthy authority to play an important role in issuing halal certificates for suppliers, so that consumers are sure about the halal status of the product (Hanzaee and Ramezani, 2011). So that companies need to implement a halal assurance system to obtain halal certification so that producers and consumers are equally sure of the quality and halal status of the products being marketed (Ghazali and Md. Sawari, 2014; Muhammad et al., 2009).

Mediation Analysis

According to Preacher and Hayes (2008), the mediating analysis result could be found from the lower level and upper level resulted from bootstrapped Confidence Interval which should shows both negative number or both positive number in order to be proven as significant.

Table 4.8. Mediating Variable

	IV- -> Mediator	**Mediator --> DV**	**Automatic calculation**	**Standard deviation**	**Automatic calculation**	**Bootstrapped Confidence Interval**	
	Path a	**Path b**	**Indirect Effect**	**SE**	***t-value***	**95% LL**	**95% UL**
PBC ->Trust-> Intention	0.23	0.67	0.156	0.06	2.443	0.031	0.282
SubjectiveNorm ->Trust->Intention	0.37	0.67	0.250	0.07	3.575	0.113	0.387

Figure 4.3. Mediating Variable (PBC →Trust→ Intention)

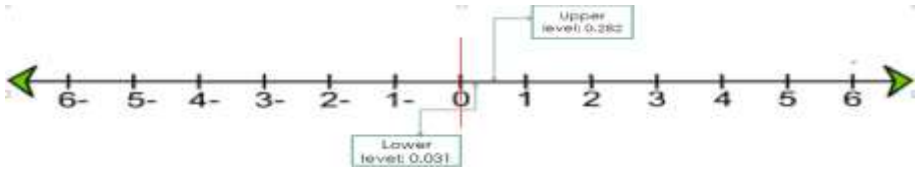
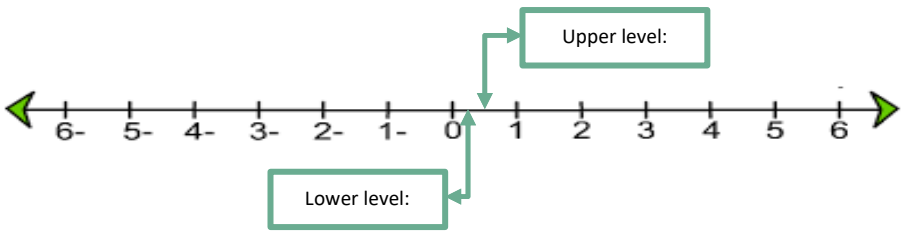


Figure 4.4. Mediating Variable (Subjective Norm →Trust→ Intention)



From these results, we can conclude that trust is proven to be significant in playing role as mediator between perceived behavioral control and intention; and also between subjective norm and intention. This result is in line with Dewi and Ketut (2020), Osman and Sentosa (2012), Adebesin (2020), and Chanwong, et.al (2019).

Total Indirect Effect

Table 4.9. Total Indirect Effect

		Original Sample (O)	**Sample Mean (M)**	**Standard Deviation (STDEV)**	**T Statistics (|O/STDEV|)**	**P Values**
1	Attitude → Intention					
2	Functional Factor → Attitude	0.056	0.059	0.025	2.254	0.025**
3	Functional Factor → Intention	0.225	0.231	0.102	2.215	0.027**
4	Functional Factor → Trust					
5	PBC → Attitude					
6	PBC → Intention	0.007	0.010	0.019	0.339	0.734
7	Subjective Norm → Attitude	0.073	0.081	0.035	2.099	0.036**
8	Subjective Norm → Intention	0.260	0.246	0.056	4.598	0.000*
9	Subjective Norm → Trust					
10	Trust → Attitude					
11	Trust → Intention	0.007	0.014	0.025	0.285	0.776

Figure 4.4. Mediating Variable 1

Note: * Significant at 1%; ** Significant at 5%, *** Significant at 10%

Table 4.9 shows the result for indirect effect analysis. Subjective norm is found to be significantly intention indirectly as alpha 1%. Functional factor has significant indirect effect

Perisai, 7 (2), Oktober 2023, 143-176
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to inflation at alpha 5%. Both subjective norm and functional factor are found to be indirectly influencing attitude at alpha 5%.

Total Effect

Table 4.10. Total Effect

		Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
1	Attitude → Intention	0.042	0.071	0.123	0.345	0.730
2	Functional Factor → Attitude	0.697	0.668	0.078	8.918	0.000*
3	Functional Factor → Intention	0.225	0.231	0.102	2.215	0.027**
4	Functional Factor → Trust	0.330	0.325	0.079	4.177	0.000*
5	PBC → Attitude	0.154	0.153	0.049	3.158	0.002*
6	PBC → Intention	0.007	0.010	0.019	0.339	0.734
7	Subjective Norm → Attitude	0.073	0.081	0.035	2.099	0.036**
8	Subjective Norm → Intention	0.490	0.468	0.130	3.785	0.000*
9	Subjective Norm → Trust	0.432	0.432	0.080	5.402	0.000*
10	Trust → Attitude	0.169	0.186	0.067	2.511	0.012**
11	Trust → Intention	0.601	0.578	0.122	4.910	0.000*

Note: * Significant at 1%; ** Significant at 5%, *** Significant at 10%

Table 4.10 shows total effect of all relationship between variables. Out of 11 relationships, two are found to be not significant; attitude to intention and perceived behavioral control to intention. Three are found to be significant at alpha 5%; functional factor to intention,

subjective norm to attitude, and trust to attitude. The rest six are found to be significant at alpha 1%; trust to intention, subjective norm to trust, subjective norm to intention, perceived behavioral control to attitude, and functional factor to trust, and functional factor to attitude.

4. Conclusion and Recommendation

Conclusion

This study aims to examine the determinants of the intention of MSMEs producers towards halal certification and to examine the determinants of consumer demand for MSMEs products. For this purpose, this study conducted a survey of 200 MSMEs producers in the Greater Bogor area. Furthermore, by using the PLS-SEM method to represent the relationship between these variables and applying the SMARTPLS 3.0 program, this study concluded that the intention of culinary product producers in Bogor to carry out halal certification is positively influenced by trust. The higher the level of producer trust in the halal certification authority in Indonesia, especially in the Greater Bogor area, the higher the motivation to carry out halal certification.

Subjective norm and functional factor are found to be significantly influencing intention indirectly. Both subjective norm and functional factor are also found to be indirectly influencing attitude. Intention of producers is found to be significantly influenced by trust. Attitude, subjective norm, and perceived behavioral control were not proven as significant in determining the producers' intention for halal certification directly. Trust in other hand is also found to be sensitive to functional factor and subjective norm. Trust is also found to be determining attitude, together with functional factor and perceived behavioral norms. When treated as a mediating variable, trust is also significant in mediating the effect of perceived behavioral norms to intention. Trust is also proven to be significant in playing role as mediator between the subjective norm and intention.

Recommendation

Based on the main study findings that have been described in the previous section, there are several recommendations that can be derived from these findings. These recommendations are classified into two groups; recommendations for halal certification authorities and recommendations for further research. Recommendations for halal certification authorities explain how the findings of the study can be used to strengthen policies related to programs or strategies to encourage halal certification for business actors, especially MSMEs. Meanwhile, recommendations for further research are aimed at a broad academic audience who are

interested in similar research topics in an effort to strengthen studies related to the determinants of halal certification by producers.

Recommendations for Halal Certification Authorities

a. To increase the number of halal certifications, especially for culinary products in the Bogor Raya area, it is necessary to conduct ongoing socialization so that people, especially producers, have good motivation to carry out and renew halal certification. The relevant authorities can educate about the importance of halal certification and that this can also be used as a strategy to increase sales.
b. Halal certification authorities can communicate and provide periodic guidance to the halal producer community. This is mainly aimed at increasing public trust, especially producers, so that motivation to apply for halal certification and motivation to extend halal certification can be properly maintained.

Recommendations for Further Research

Further research can use in-depth interview methods and qualitative research methods to be able to better explore the causes and obstacles related to efforts to increase halal certification in Indonesia, both from the producer side and from the side of the halal certification authority.

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