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Effect of general risk on trust, satisfaction, and recommendation intention for halal food

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ABSTRACT

The purpose of this empirical study is to investigate the effect of general risk, a multidimensional factor, on halal customer trust, satisfaction and intention to recommend halal food. The study also calculates the mean comparison of trust, satisfaction and intention recommendation across the demographic variables of halal customers. Our results from the structural analysis revealed that general risk has significant and positive effects on trust, satisfaction, and intention to recommend halal food. In addition, the results of the mean difference test advised that satisfaction and intention to recommend halal food are significantly different between male and female customers and that trust significantly varies across halal customers with different educations and marital status backgrounds. This study added a valuable contribution to the current literature of halal food consumption by performing a set of symmetric analytical approaches to assess desired responses from halal food customers.

Keywords: Halal food, demographic variables, trust, satisfaction, intention to recommend

1. Introduction

Interest in developing the halal market has been piqued recently on a global scale. The awareness and importance of this market has increased during the recent years through the efforts of some scholars and business policy makers (Jafari and Scott, 2014). The business volume of this market is covered over fifty countries worldwide, which creates a potential and attractive market segment (Ryan, 2016). The fast growth of halal tourism and hospitality has been encouraged by many international destinations to start setting new marketing strategies attracting this potential valuable segment. The consumption of halal food and products can be extended to cover various market segments such as Muslim and non-Muslim customers due to its high concerns on health, environmental, and quality issues (Olya and Al-Ansi, 2018).

Despite the value of the halal market, both businesses and customers have little knowledge about the operation and implementation of this complex phenomenon that originates from Islamic Shari'ah law. For example, one study claims that a majority of customers are interested in using Islamic banking services in Australia, even though their understanding of the principles of Islamic finance is minimal (Rammal and Zurbruegg, 2007). In contrast, Ambali and Bakar (2014) found that customers' awareness toward halal foods and products is sufficient. Since customers perceived halal products as healthier, they have a greater intention to enhance their respective awareness and knowledge.

Nevertheless, businesses and service providers need a deeper insight from attitudes and behaviors of halal customers (Rammal and Zurbruegg, 2007). It is important for businesses and services to know how to formulate, trust, satisfaction, and loyalty of halal customers. Marketers need to acquire basic knowledge regarding the variation of behavioral responses of halal customer across their demographic characteristics to develop a target marketing plan. The importance and differences of halal products provisions is discussed to

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fulfil the halal customer's needs in both Muslim and non-Muslim destinations (El-Gohary, 2016). Most previous scholars discussed the concept and significance of halal markets as a potential global business and new commercial trend due to the global growth of the Muslim population (Henderson, 2009). It is evident that there is a paucity of research on patterns of halal customers' characteristics that heavily affect the purchasing behavior of this flourishing segment. Therefore, this study is one of the first empirical studies filling these research gaps by modeling trust, satisfaction, and intention to recommend using perceived general risks and demographic profiles of halal food customers.

This empirical study aims to develop and examine a structural model investigating the associations of general risk on halal customers' satisfaction, trust and intention to recommend halal food. In addition, this study uses a higher factor analysis to test the effect of general risk, a combination of multiple risk factors, on halal food customers' responses. The final findings of this research offer practical implications for international destinations to mitigate general risk factors associated with halal food to achieve the highest level of satisfaction, trust and intention to recommend. Moreover, an independent sample t-test is performed to assess whether satisfaction, trust and intention to recommend significantly vary by gender and marital status, education level, age, and income level. The results will help business planners to comprehend how to effectively target this market based on the profile of potential customers.

2. Theoretical framework

2.1. Halal market

The term halal comes originally from the Arabic language meaning allowable, lawful, acceptable, permitted, and/or permissible (El-Gohary, 2016; Olya and Al-ansi, 2018). The value of halal industry is estimated at \$2.1 trillion a year which make it among fastest

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growing industries in recent years (Oktadiana, Pearce, and Chon, 2016). According to a MasterCard-Crescent rating report revealed that Muslim customers are among the top spenders when it comes to international and outbound travel in 2015. Similarly, Olya and Mehran (2017) identified Arab countries (e.g., Saudi Arabia) are ranked among top source markets of high international tourism expenditure.

According to a report by Dinar (2012), the top halal destinations are Malaysia, Turkey, the UAE, and the Maldives among the organization of Islamic countries (OIC), while other destinations such as Singapore and Thailand placed top for halal-friendly destinations among NON-OIC member countries. However, Australia, Spain, Japan, New Zealand, and South Korea are at the early stages of planning and developing their infrastructure and attractions to satisfy halal concepts from a customer's perspective with various demographic profiles. In order to be a recognized as a halal friendly destination some standards of service and product should be applied which need to comply with Islamic teachings, such as meals free of pork and alcohol, no gambling, separated male/female spas, prayer rooms, non-adult TV channels in hotels, and Qibla direction signs (i.e. signs that show the direction of Mecca) in hotel rooms.

2.2. Prospect theory

Prospect theory identifies consumer behavior via various aspects of real life decisions (Camerer, 2005). This theory is used to explain the decision making process of the individuals under risky conditions. It was developed by Kahneman and Tversky (1979) for modelling consumer behavior for those who make decisions based on different values of gains and losses. In other words, consumer responses and decisions influenced by the potential value perceived rather than final outcomes. Researchers argued that prospect theory is necessary to explain how consumers behave when they perceived risks. They considered

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that perceived risks lead to both negative and positive consequences under different uncertainty conditions (Lu et al., 2005; Olya and Altinay, 2016). Thus, consumer behavior is formulated based on various aspects of factors that may lead to unpredicted results. This study used prospect theory to support interactions of various risk types (e.g., health risk, financial risk) with satisfaction, trust and intention to recommend of halal food. As Olya and Al-ansi (2018) argued that many studies assume a negative role (i.e., losses) for risk in indicating the desired behavioral response of the customers, some types of risk can positively affect behavioral outcomes of the halal customers. According to prospect theory, this study used seven different risks in the proposed conceptual models in which some of the risk factors (e.g., health and quality risks) are considered as gains and some (e.g., financial and time-loss risks) as losses.

2.3. Risk, trust, and satisfaction

General risk constructed as a combination of multi-dimensional factors that influence the customer attitude and behaviour (DeFranco and Morosan, 2017). Risk dimensions may have different effects on customer trust and satisfaction depending on individual experience and cultural background. Trust is recognized as a major driver of customer's satisfaction and desired behavioral outcomes in social science (e.g., Karmer, 1999; Poortinga and Pidgeon, 2003).

Previous studies suggested a significant association between perceived risk and trust. Ahmed (2008) conducted a survey in the UK and indicated that Muslim customers, due to lack of awareness, have no trust on big supermarkets that provide halal meat; instead they prefer to get and purchase halal meat from smaller shops owned by local Muslim. Similarly, Muslim butchers in Belgium founded to be more trusted in handling halal meat by Muslim customers (Bonne and Verbeke, 2008). Further, customer trust is influenced by several

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factors such as treatment, reputation, attitude, and honest as expressed by business and service providers (Artigas et al., 2017).

Satisfaction of customer was defined as the overall acceptance of experience and product quality expectations obtained once utilize or consume product or service by customers which may affect their purchase decision (Oliver, 1980). Satisfaction is considered an important variable due to its high effects on customers' future behavior and attitudes about certain products or services (Jani and Han, 2014). Many studies in different disciplines investigated and tested the relationships between overall risk construct and customer satisfaction (Huy Tuu and Ottar Olsen, 2009; Simcock, Sudbury and Wright, 2006). The results of Simcock, Sudbury and Wright's (2006) study confirmed the associations between customers' age differences with risk factors and its impact on customer's satisfaction. Additionally, perceived risk by customers in the context of food consumption has a negative relationship with their satisfaction (Chen and Li, 2007). Similarly, Huy Tuu and Ottar Olsen (2009) found that satisfaction of customers in Vietnamese restaurants is influenced by their risk perception toward seafood meals.

2.4. Risk and intention to recommend

Bauer (1960) considered risk as a concept of the uncertainty, which is negatively associated with expected responses from customer. For example, second-home owners' intention is influenced and increased by social risk for purchasing the nature-based tourism activity products (Tangeland et al., 2013). Another study determined that perceived risk during shopping at a tourist destination could influence the customer's behavioral intentions (Yüksel and Yüksel, 2007). Mitchell and Greatorex (1993) reported the partial effect of risk dimensions on customer intention to purchase professional services, as well as perceived risk, which leads to negative influences on the traveler/customer's intentions in terms of revisit,

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use and purchase (Reisinger and Mavondo, 2005; Lu et al., 2005). Malazizi, Alipour, and Olya (2018) investigated the effects of risk perceptions of Airbnb hosts on their satisfaction and behavioral intentions and found heterogeneous results about role of risk factors in predicting hosts' responses toward Airbnb as a sharing economy business.

A review of the studies advised heterogeneous results concerning the association of risk with desired behavioral intention. Risk has no relationship with customer purchase intentions due to its heterogeneous interactions with other factors as reported by Kannungo and Jain (2004), while Olya and Al-ansi (2018) founded that different types of risk can both negatively and positively formulate customer satisfaction and intention to recommend halal products. As Olya and Altinay (2016) recommended, risk may play both opposite roles positively and negatively in predicting loyalty of customers while the role of risk depends on the features of other predictors in the casual model.

Scholars in tourism investigated the customer behavioral intentions as an outcome of customer satisfaction and trust (Jani and Han, 2011; Han et al., 2014). For example, Jani and Han (2014) reported that satisfying the needs of customers positively affects the restaurant customers' behavioral intention of both recommendation and revisit. Similarly, Han and Ryu (2007) found that satisfaction acts as a contributor of desired behavior intentions of restaurant customers.

2.5. Research model and hypotheses

The structural model consists of a multi-dimensional factor namely general risk as predictor of satisfaction, trust, and intention to recommend customers. Since risk factors may have both positive and negative effects on the outcome of the model, we used a second order construct of general risk including seven types of risk, namely health risk, psychological risk, environmental risk, social risk, quality risk, financial risk, and time-loss risk. While in the

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current literature, the heterogenous results of association of risk and desired behavioral responses of the customers were reported (Olya and Altinay, 2016; Olya and Al-ansi, 2018), we supposed general risk increases satisfaction, trust, and intention to recommend halal food.

The main reason of assuming positive association of risk with the behavioral responses is that in the case of halal food, customers may feel satisfied if they take risk of consumption of halal food as it is lawful and recommended in Sharia. For instance, Islamic teachings motivated its believers to sacrifice in practicing the Sharia law, which lead to desired behavioral outcomes (i.e., patience, morals). Halal customers prefer to keep halal as it provides peace of mind that they are faithful and avoid feeling guilty by consumption of haram food. In other words, halal customers due to religious beliefs intend to take risks (e.g., time-loss risk and financial risk) that make them satisfies and then trust and recommend the halal foods to others. This perception was confirmed by an earlier study of Mohsin Butt and Aftab (2013) who found that religious concerns has significant and positive associations with satisfaction, trust and loyalty in online Islamic banking. In addition, food consumption by tourists is highly influenced by their religious and cultural beliefs (Mak et al., 2012).

The proposed conceptual model assesses the adequateness of the second-order structure of general risk and its effects on trust, satisfaction and intention to recommend. The following hypotheses are proposed and examined by this study:

H1: General risk has a significant and positive impact on satisfaction.

H2: General risk has a significant and positive impact on trust.

H3: General risk has a significant and positive impact on intention to recommend.

H4: Trust has a significant and positive impact on satisfaction.

H5: Trust has a significant and positive impact on intention to recommend.

H6: Satisfaction has a significant and positive impact on intention to recommend

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2.6. Demographics, satisfaction, trust, and intention to recommend

Several internal and external factors may influence customers' behavior and attitudes. One of those indicators is demographics and cultural background of the customers that is shaped by complex elements defined by society (Moutinho, 1987). Importantly, Halal market progress mainly depends on satisfying customer needs that can be achieved by offering a high level of service and product quality, which may vary based on customer demographics (Andersson, Tommy and Mossberg, 2004).

Many Muslim customers and travelers naturally prefer to continue practicing their beliefs during their trips and holidays, such as praying and consuming halal food, and use products and services which comply with Sharia law. Muslims keep halal to ensure a high quality of lifestyle and peace of mind through complying with their religious beliefs (Battour et al., 2012). Since halal concept must be applied in every aspect of life of a Muslim with different demographic profiles, thus, there is demand for investigation of variation of satisfaction, trust, and recommendation intention of halal customers across their demographic properties.

A review of tourism and hospitality research shows that attitude and behavioral outcomes of the customers alter are based on the demographic characteristics. For example, an empirical study identified that a willingness of customers to travel to Japan varied based on socio-demographic attributes (Ishida et al., 2017). Similarly, Sinclair-Maragh (2017) examined the roles of residents' demographic in supporting tourism development in Jamaica, showing specifically that females have a greater intention than males to support tourism development. Another piece of research identified the differences in decision-making process between both gender in the context of upscale restaurants (Han and Ryu, 2007).

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Income level and educational level of customers appeared in many studies as significant indicators affecting customer decision-making. For example, educated customers with a high income intend to use products and services more compared to less educated customers at a low income level (Keaveney and Parthasarathy, 2001). Dipietro et al. (2013) reported that high educated customers have more awareness of green practices in the upscale foodservices industry than those at a lower educational level. Similarly, the study identified that customers with a high income and educational level are more conscious of purchasing green products (Roberts, 1996).

The significant role of marital status and age considers essential factors influenced the outcome desire and intentions of customers. Chan (2013) found that younger customers of green hotels are more concerned about environmental issues than older customers who consider service quality issues as the first priority to reserve a hotel. Moreover, perceived trust and intention to purchase tourism products and services are founded to be significantly affected by the age and marital status of Facebook users (Escobar-Rodríguez et al., 2017).

Several studies in different fields investigated the variations of perceptions among marital status and age of customers and its impact on their behaviors and intentions (Al-Jazzazi and Sultan, 2017; Meng and Uysal, 2008). In sum, previous studies revealed varied perceptions across demographic characteristics of customers (i.e., gender, age, education, income and marital status), assuming an important role on their behaviour and attitude. Against this background, there is a lack of empirical studies that highlight the different level of satisfaction, trust and behavioral intentions of halal customers based on their demographics characteristics.

3. Methods

3.1. Data collection

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Malaysia's population is 32,049,700. Islam is the religion of more than 60% of Malaysians, Buddhism is about 20%, Christianity is over 9%, and Hinduism is more than 6%. Malaysia is located in the southeast of Asia and is surrounded by Islamic countries, such as Indonesia, Singapore, and Brunei. Hospitality and tourism, with a \$40 billion contribution to the GDP, is one of the flourishing industries in the Malaysia which offered a total of 1.7 million employment opportunities. According to statistics from 2017, Malaysia hosts 28,467,000 international tourists and is anticipated to grow by 5.2%, over the next decades (World Travel & Tourism Council, 2017).

A survey-questionnaire was used to get halal customer's views in Kuala Lumpur, the capital of Malaysia. Data were collected from customers at five international and recognized halal food restaurants located at different popular tourist's attractions known as the golden-triangle district of the city centre (i.e., KLCC, Bukit Bintang) where most international chain hotels, shopping centres, and restaurants are located. Most international tourists travelling to Malaysia visit and stay in this area due to the convenient accessibility and availability of tourism services and products. Permission for collecting data from restaurants managers was obtained prior approaching customers. Comprehensibility and wordiness of scale items were checked by qualified experts from academia and from within the industry. A pilot study was conducted to check the ambiguity of questions and possible procedural issues (e.g., timing) of the survey. The results of the pilot study with 12 customers showed no need to amend the research instruments.

A convenience sampling technique was used, 235 customers were approached to participate in the survey, which was spanned over four weeks between January 19, 2017 and February 19, 2017. Initially, the awareness and familiarity of consumptions and purchasing halal food were checked by asking two filter questions to ensure that qualified respondents

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were targeted. A total of 205 (87%) final respondents met the above criteria and accepted to participate in the survey-questionnaire.

The sample included both male and female 110 (54%), 95 (46%). the marital status respondents were both single and married or in relationships 131 (64%), 74 (36%). The 124 (60%) respondents were aged between 18-27 years old, and 81 (40%) respondents were older than 28 years old. Total respondents 136 (66%) had not completed high school and some colleges degree, and 69 (34%) respondents had completed college degrees, master degrees and PhD degrees. With regards to the income level of 135 (66%) respondents were \$19,999 or less, and 70 (34%) had an income of \$20,000 or more.

3.2. Research instruments

The measures employed in this study were acquired from validated scales used in the previous studies (Deng and Ritchie, 2016; Möhlmann, 2015; Chiu et al., 2014; Currás-Pérez et al., 2013; Cha et al., 2010; Kim and Damhorst, 2010; Simpson and Siguaw, 2008; Lu et al., 2005; Reisinger and Mavondo, 2005; Stone and Grønhaug, 1993) and would be modified to be appropriate in the setting of current study. The study used three items to measure intention to recommend which was extracted from Cha et al. (2010) and Currás-Pérez et al. (2013)

Trust of the customer is measured using five items adopted from Möhlmann, (2015). Three items for each psychological risk, time-loss risk, environmental risk and financial risk were adapted from Currás-Pérez et al. (2013), Deng and Ritchie (2016), Reisinger and Mavondo (2005), Simpson and Siguaw (2008), and Stone and Grønhaug (1993). Quality risk items were measured and modified from Kim and Damhorst (2010) and Ali et al. (2014) by four items. Four items were used to measure health risk from Reisinger and Mavondo (2005)

A 7-point Likert scale, ranging from 1 (extremely disagree) to 7 (extremely agree) was used to measure all scale items. The questionnaire was divided into three main sections,

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starting with a brief explanation of the purpose of the survey, followed with measurements of the major scale items. The third section was used to measure the demographic profiles of participants, including age, gender, educational level, income level and marital status.

3.3. Data analysis

Data were screened and scanned to use valid cases for data analyses. Structural equation modeling (SEM) using the partial least squares (PLS) method was used to test measurement and structural models. The reliability and validity of the study construct were evaluated. PLS-SEM is a well-established technique used in various studies for estimating path coefficients and investigates the complexity of constructed relationships in structural models (Ali et al., 2017). The ability to impute relationships between variables and efficiency in examination of the measurements model items are two advantages over than covariance-based SEM (Fakih et al., 2016; So and King 2010).

The research model, including general risk as a second order factor, was tested in two major steps. First, the significance levels of the outer loadings, weights and coefficients of measurements model needed to be assessed (Anderson and Gerbing, 1988). Second, structural model was tested to check six proposed hypotheses using a bootstrapping technique.

Furthermore, blindfolding procedures were conducted to assess the accuracy of the results in terms of predictive relevance (Q^2). In other words, researchers need to conduct measurement models test to estimate the reliability and validity of measurements items prior to testing the structural model relationships and indicate its goodness of fit (GoF) index. Finally, the study employed the independent sample *t*-test to identify satisfaction, trust and intention to recommend halal food significantly differ by profile of customers in terms of age, gender, educational level, income level and marital status

4. Results

4.1. Assessment of measurements model

Internal consistency of items was evaluated using composite reliability (CR) and Cronbach's alpha (α). The composite reliability values range was between .902 and .968, while the values of Cronbach's alpha range shown between .864 and .974, which exceeded the minimum level expected of .70 (Hair et al., 2006). These values are strongly sufficient levels of internal consistency reliability. Validity of the constructs was checked using confirmatory factor analysis (CFA). All measurements items for constructs were significantly loaded.

Table.1 shows the standardized factor loading for all items, which exceeded the recommend level of .6 (Chin, 1998), ranging from .779 to .974. The convergent validity is based on the measured constructs' average variance extracted (AVE) (Hair et al., 2006). As shown in Table 1, all AVE values reflect the overall amount of variance in the variables accounted for by the latent construct exceeded the recommended value of .5 (Hair et al., 2006).

(Insert Table 1 here)

Discriminant validity was tested to ensure that a construct measure has no similarity characteristics with any other measures in the measurement model (Hair et al., 2016). Fornell and Larcker criterion (Fornell and Larcker, 1981) is one of the approaches for testing discriminate validity in which the AVE of each latent variable must be higher than squared correlations with other latent variables. Table 2 shows that the square root of the AVE of each construct is higher than its corresponding correlation coefficients, pointing towards adequate discriminant validity (Fornell and Larcker, 1981).

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Furthermore, cross loading is used to cross-check discriminate validity as the magnitude of loading values under the expected dimension must be higher than values emerging under other respective factors (Henseler et al., 2009). The cross-loading results proved the existence of discriminant validity between all the constructs based on the cross loadings criterion (appendix A).

(Insert Table 2 here)

The weights of first-order constructs (including environmental, health, quality, social, psychological, financial and time-loss risks) on designated second order constructs (i.e., general risk) were computed. As illustrated in Figure 1, the weights for health, environmental and quality risks are .823, .873, .781 with t-value of 24.360, 38.274, 13.297, respectively. The weights for psychological, social, financial, and time-loss risks are .696, .477, .478, .018 and t-statistic of 14.638, 5.147, 4.812, .143, respectively (Figure 1).

4.2. Assessment of structural model

Scholars determine the path coefficient and significance levels of their links by performing PLS algorithm procedures to find loadings, weights, path coefficients and then perform a bootstrapping technique to find significant levels of the proposed hypothesis (Ali et al., 2016; Hair et al., 2016).

Goodness-of-fit indices (GoF) are used to evaluate the overall model fit. The GoF measure uses the geometric mean of the total average communality of the constructs and the total average R^2 for endogenous constructs. R^2 is a useful tool to assess the explanatory power and proportion of prediction of goodness-of-fit (GoF) index as an alternative and

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suggested active tool (Tenenhaus et al., 2005). According to Wetzles et al. (2009), GoF equals .1 represents poor fit, .25 moderate fit, and larger than .36 good fit. As shown in Table 3, a GoF value of .649 was acquired for the proposed structural model which indicates and shows an acceptable and good fit of the model with empirical data.

(Insert Table 3 here)

4.3. Hypothesis testing

The results of structural model testing were used to evaluate the effect of general risk on satisfaction, trust, and intention to recommend halal customers. The results of hypotheses testing and corrected R^2 values on each endogenous variable were demonstrated in Figure 1. General risk explained 55% of the customer satisfaction variation ($R^2 = .555$), 54% of intention to recommend variation ($R^2 = .541$), and 45% of trust variation ($R^2 = .447$).

Furthermore, the results describe the predictive relevance of each endogenous construct (Q^2) by performing the blindfolding technique to effectively show how collected data can be reconstructed empirically using the model and PLS parameters (Ali et. al., 2016). The findings of Q^2 in this study show an acceptable predictive relevance of satisfaction, trust and intention to recommend according to Chin (2010), who recommended to obtained Q^2 using cross-validated redundancy procedures to evaluate the accuracy of the tested hypotheses.

(Insert Figure 1 here)

The results of hypotheses testing are provided in Table 4. According to SEM results, general risk significantly contributed in the satisfaction of halal food customers ($\beta = .595$, $p <$

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.01). Therefore, Hypothesis 1 is supported. Similarly, general risk has a significant and positive impact on customer's trust ($\beta = .614$, $p < .01$). Thus, Hypothesis 2 is supported. In contrast, general risk has no significant impact on intention to recommend of halal food. Then, Hypothesis 3 is not supported.

As we hypothesized, trust significantly and positively associated with satisfaction ($\beta = .204$, $p < .01$) which is evidence supporting Hypothesis 4. Trust also has a significant, positive impact on intention to recommend ($\beta = .158$, $p < .01$). Therefore, Hypothesis 5 is supported. Satisfaction has a significant and positive impact on intention to recommend ($\beta = .614$, $p < .01$). Thus, Hypothesis 6 is also supported (Table 4). These results advised that satisfied customers who have trust, are most likely to recommend halal foods to others.

(Insert Table 4 here)

4.4. Results of means comparisons

4.4.1. Gender

The independent sample t-tests of respondents revealed significant differences in customer satisfaction and intention to recommend across two gender groups (satisfaction: $F = 18.078$, $p = .001$; intention to recommend: $F = 13.572$, $p = .022$), while trust did not vary by gender significantly (Trust: $F = 2.565$, $p = .118$) (c.f. Table 5). As shown Figure 2, mean scores results indicate scores of satisfaction, trust, and intention to recommend for the male group were higher than the female group (satisfaction: $M_{\text{male}} = 6.513$ Vs. $M_{\text{female}} = 6.116$; trust: $M_{\text{male}} = 6.114$ Vs. $M_{\text{female}} = 5.894$; intention to recommend: $M_{\text{male}} = 6.605$ Vs. $M_{\text{female}} = 6.349$). These findings identified the male group had higher desired to consume halal food than the female group.

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4.4.2. Marital status

The results from the independent sample *t*-tests for marital status showed that trust is significantly different across the two groups of marital status (trust: $F = 5.255$, $p = .046$), while it has no significant difference with satisfaction and intention to recommend (satisfaction: $F = .732$, $p = .559$; intention to recommend: $F = .000$, $p = .501$). In addition, mean scores showed that the married/couple group received the higher scores of the three model outcomes than the single group (satisfaction: $M_{\text{married}} = 6.378$ Vs. $M_{\text{single}} = 6.301$; intention to recommend; $M_{\text{married}} = 6.536$ Vs. $M_{\text{single}} = 6.458$) and were lower than single in terms of their trust (trust: $M_{\text{married}} = 5.827$ Vs. $M_{\text{single}} = 6.117$). The results revealed that the married/couple group was exposed a higher level of satisfaction and intention to recommend toward consumptions of halal food. Singles trusted more than married customers.

4.4.3. Education level

Education level was divided into two groups of less educated (not completed higher school and some college degrees) and highly educated (completed college degrees, Masters and PhDs). The *t*-tests of education level indicated that trust differs significantly across the two groups (trust: $F = 19.101$, $p = .035$), while the two groups are the same in terms of satisfaction and intention to recommend (satisfaction: $F = .019$, $p = .141$), (Intention to recommend: $F = .135$, $p = .826$). The mean scores of highly educated was larger than the less educated group (satisfaction; $M_{\text{HighEducated}} = 6.458$ Vs. $M_{\text{LessEducated}} = 6.263$; trust = $M_{\text{HighEducated}} = 5.805$ Vs. $M_{\text{LessEducated}} = 6.117$), while the results show lower scores for intention to recommend rated by the less educated group ($M_{\text{HighEducated}} = 6.469$ Vs. $M_{\text{LessEducated}} = 6.495$). These findings show educated customers are more satisfied toward halal food, while they have less trust and intentions to recommend halal food to the others.

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(Insert Figure 2 here)

4.4.4. Age and income level

The findings of the *t*-test showed that satisfaction, trust, and intention to recommend did not vary across customers with different age levels (satisfaction: $F = 1.263$, $p = .153$; intention to recommend: $F = .816$, $p = .259$; Trust: $F = 6.004$, $p = .424$). In addition, the results for income level were similar to age in which halal customers with a different income level have no difference in the level of satisfaction, trust, and intention to recommend for halal food. (satisfaction: $F = 1.070$, $p = .904$; intention to recommend: $F = .011$, $p = .581$; trust: $F = 8.450$, $p = .110$) (Table 5).

(Insert Table 5 here)

5. Discussion and conclusion

This empirical study extended our knowledge of the formulation of trust, satisfaction and behavioral intentions of halal food customers using a multi-dimensional risk factor and demographics of the customers. Concerning the value of the halal market, modeling behavioral responses of halal customers help business and service providers to target a flourishing market offering new opportunities.

The SEM results revealed that the effect of general risk significantly and positively contributed in customer trust, satisfaction and intention to recommend. According to the prospect theory, halal customers evaluate losses (e.g., financial and time-loss risks) and gains (e.g., health and quality risks) of consuming halal foods such that their satisfaction and trust increased when they perceive risk of halal foods. This means that general risk of halal food increase trust and satisfaction of customers. These findings are in accordance with the

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outcomes of Tangeland et al. (2013), who reported in their study that social risk enhanced and increase the intention of second-home owners to buy nature-based tourism activity products. The findings of the present study is in line with Malazizi et al. (2018) who reported psychological risk improved Airbnb host satisfaction and continuance intention to use and intention to recommend this business to others. In the context of the food industry, Huy et al. (2009) revealed that significant association of risk perception with customer satisfaction.

In addition, trust is increased once they evaluate a combination of risks. Similar findings were reported by Artigas et al. (2017) who found trust is influenced by multi-dimensional factors in terms of tourist's destination. The environmental and health risk dimensions were found to be the highest factors of risks which demonstrate its significance in achieving the desired responses from halal customers. Next, quality and psychological risk dimensions emerged as the second important indicator of general risk that increased trust and satisfaction of halal food. These results are in line with Belanche et al.'s (2012) study, which found that risk positively has a significant contribution to online users' satisfaction.

This study revealed that general risk is not associated with intention to recommend which refers to the complexity of the halal concept in the hospitality industry in which complex behavior of halal customers may result from diverse socio-cultural backgrounds of the customers. This result is in accordance with findings of Kannungo and Jain (2004), Olya and Altinay (2016), and Olya and Al-ansi (2018), who acknowledged the heterogeneity and complexity features of association of risk with the customers' behavioral intentions. In this vein, Malazizi et al. (2018) reported that service risk (i.e., possibility of mismatching services provided by the business with customer expectations) is not related with satisfaction and loyalty of customers. This empirical study found that trust of halal customers increased satisfaction and intention to recommend, which is partially similar to the findings of Shin et al. (2017). As Bonne and Verbeke (2008) identified Muslim customers trusted butcher shops

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that are handled by Muslims who keep halal. It means that customers' trust derives their satisfaction and loyalty to the halal products. This result offers service providers the required information to enhance trust of their customer as it boosts their loyalty.

This empirical study provides a new insight into the current knowledge of halal customer behavior by investigating the alteration of trust, satisfaction and intention to recommend by their demographic characteristics. The findings of gender differences in this study is in line with the results of previous studies from different disciplines that show significant variation of satisfaction between male and female customers (Hwang et al., 2015; Jackson, et al., 2014). The results of means comparison of three outcomes with demographic characteristics of halal customers show that there is heterogeneity across demographics and behavioral intentions of the individuals. Such results are also confirmed by Olya and Gavilyan (2017) who identified the behavioral intention of people changed based on their demographics.

5.1. Practical implications

Decision makers, stakeholders, and business managers should consider general risk attached in halal foods as an effect indicator on satisfaction and trust of the customers. They are recommended to increase the awareness of businesses providers about risks attached with production and consumption of halal food, which helps them to understand the basics of halal customer needs and preferences. Managers can also facilitate the process of serving halal food by recruiting Muslim professionals and laborers in certain positions to provide the services properly. We believe business with partnership of Muslims is a practical recommendation as Ahmed (2008) found that halal customers prefer to purchase from shops managed by Muslims. One of the reasons for this might be that halal customers are more likely to trust Muslim businesses as they must keep halal in their business as well.

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Furthermore, halal customers may think their expectations and needs might be met if they purchase from Muslim businesses as the level of their knowledge and understandings of halal products and service are more than non-Muslim business.

The findings of means comparisons tests based on customers demographics help businesses to develop a marketing strategy to target satisfied customers who more greatly trust and recommend halal food to others. Furthermore, customer trust significantly differs among those whose education level and marital status are different. Less educated people show more trust than highly educated which suggested to assign professionals and trained employees with multi-linguistic skills to provide halal services, these results might change if the number of highly educated responses are high or equal to less educated customers. Additionally, this study recommended targeting married/coupled segment who are more satisfied and intended to recommend halal food. Thus, businesses are advised to consider the marital status of potential customers in developing their marketing plans. Moreover, gender influences halal customer's satisfaction and intention to recommend.

According to the means comparison results, men are more satisfied than female customers. Similarly, male customers have more intention to recommend halal food to their family, friends, and others. Therefore, managers and decision makers can target male customers as a first priority in target marketing of halal food. It must be acknowledged that the view of female customers regarding their satisfaction with and intention to recommend consumed halal food may vary by type of halal products and services. We suppose if a female customer were asked to rate their satisfaction, trust, and behavioral intention regarding halal cosmetics, beauty products, or fashion products and services, they might be more satisfied and have a greater intention to recommend such halal products than male customers. Managers must be vigilant in the inclusion of income level and age of halal customers in their

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marketing plan as the findings of the study recommended variation of desired responses from halal customers differ based on the above demographic backgrounds.

5.2. Limitations and future research directions

Cross-sectional data were collected from Kuala Lumpur, the capital and most visited city of Malaysia, and the study findings do not represent the views of other halal customers from Western countries in which people may have different perspectives. This study focused on patrons of restaurants and the results may not be generalized to the customers of other subsectors of halal businesses, such as cosmetics, banking, and medical services. Thus, future researchers can capture the views of people whose experience of purchasing halal products and services in different halal businesses to provide a comprehensive understanding on the links of risks and demographics with trust, satisfaction and loyalty of halal customers. This study tested the effect of general risk—as higher-order factors involving seven dimensions—on the satisfaction and behavioral intentions of the halal customers. Halal is a complex concept; different types of risk may influence behaviour of halal customers which have not been identified yet. As Lepp and Gibson (2003) discussed, cultural and religious dogma may drive people's behaviour. Future studies can conduct a qualitative study to explore possible different risk factors that might influence halal customer attitudes and behavior.

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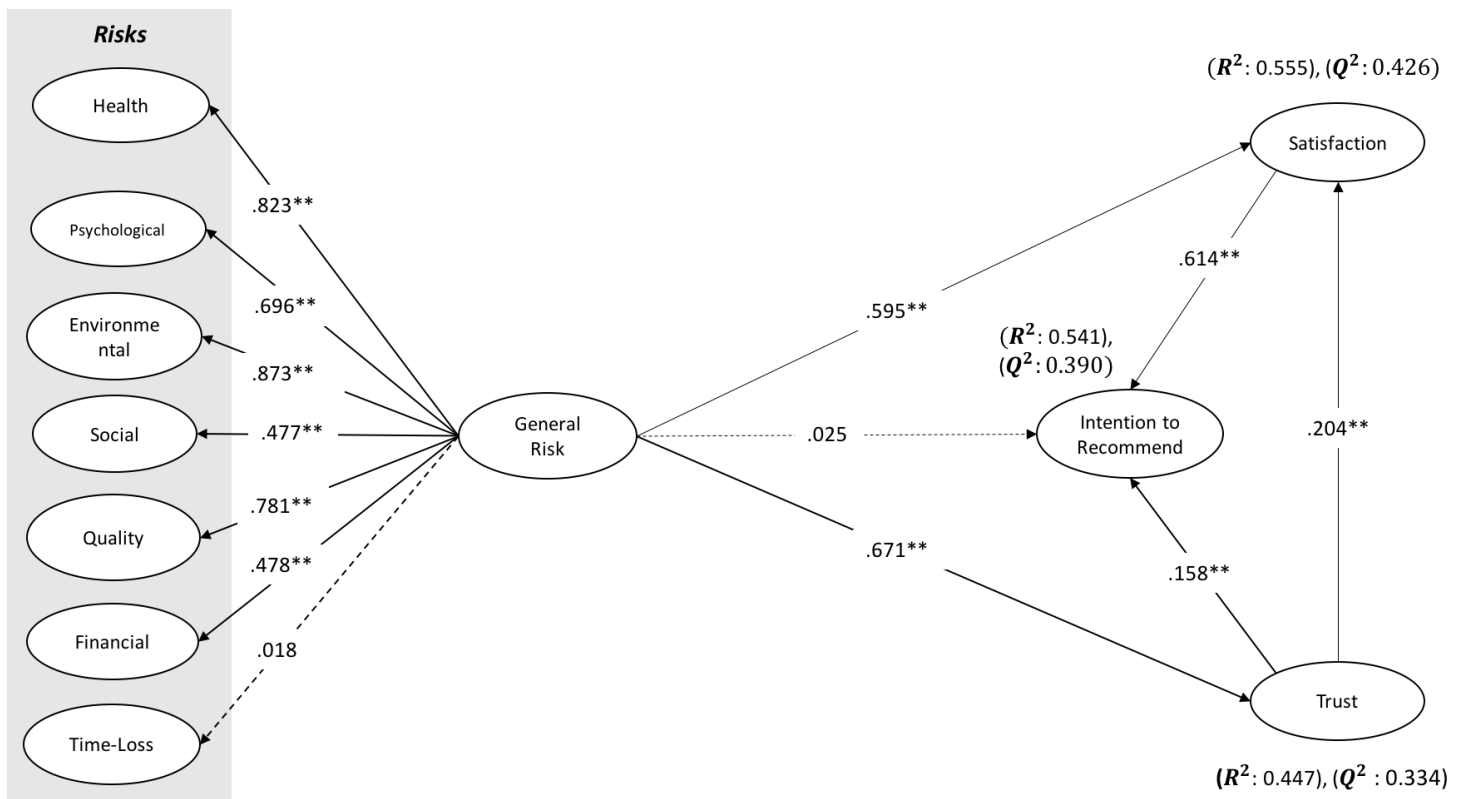


Fig. 1. Proposed conceptual model

Al-ansi, A., Olya, H., & Han, H., (2018). Effect of general risk on trust, satisfaction, and recommendation intention for halal food, *International Journal of Hospitality Management*, 1-10. Doi: [10.1016/j.ijhm.2018.10.017](https://doi.org/10.1016/j.ijhm.2018.10.017).

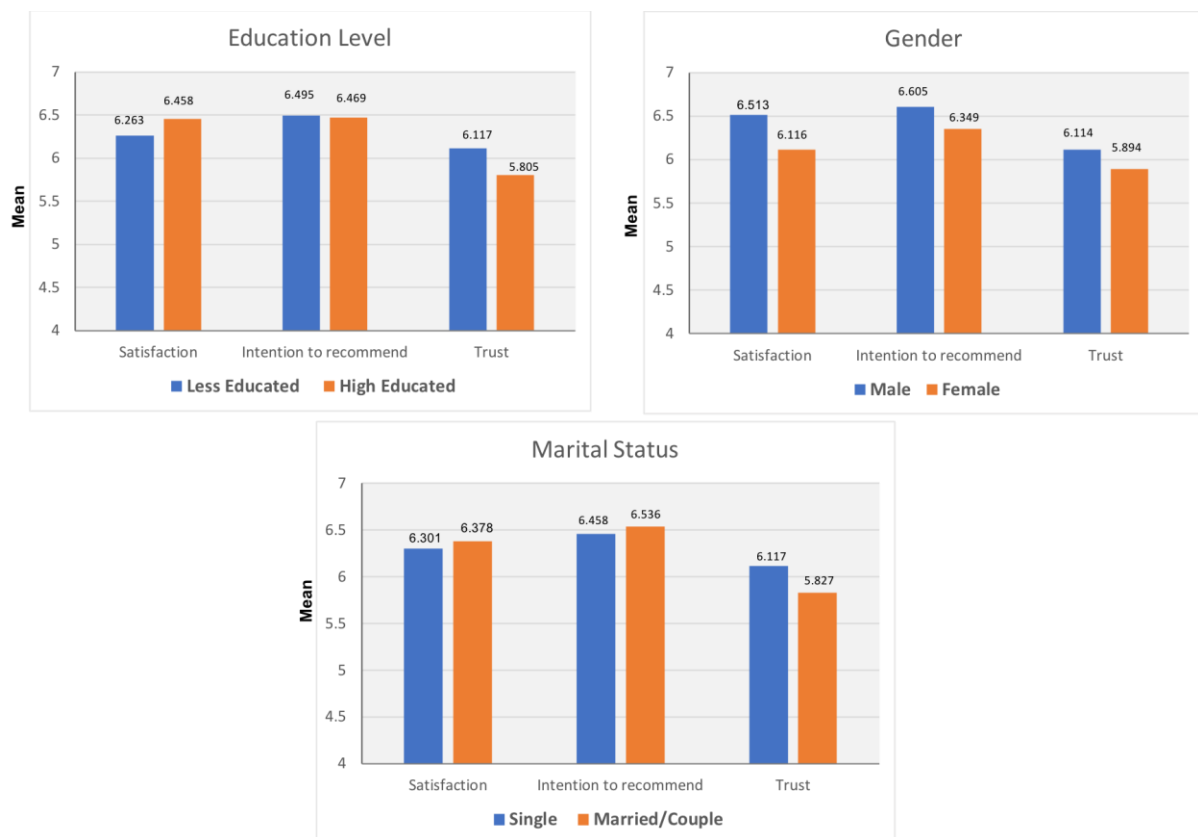


Fig. 2. Results of means comparison of model outcomes by demographics of halal customers

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Table 1
Psychometric properties of study measures

Scale Items	Loading	AVE	α	CR
<i>Intention to Recommend</i>		.786	.864	.917
I will recommend others to consume halal products	.863			
I will say positive things about halal products to others	.905			
I will encourage friends and relatives to consume halal products	.891			
<i>Satisfaction</i>		.822	.891	.932
I am pleased to consume halal items	.910			
I think that consuming halal items is a good idea.	.898			
I am satisfied with my overall experience of being a consumer of halal items.	.911			
<i>Trust</i>		.802	.938	.953
The providers of halal products are trustworthy	.876			
The providers of halal products do not make false claims with their products	.881			
I believe the information that the providers present to the consumer is accurate	.913			
I believe that the product labels are accurate	.919			
I believe that the product signage is reliable	.887			
<i>Health Risk</i>		.819	.926	.948
I worry about my health condition if I do not consume halal products	.871			
I worry about epidemic disease if do not consume halal products	.925			
I worry about consumption of non-halal products which are unhealthy	.895			
I worry about consumption of non-halal products which are harmful	.928			
<i>Psychological Risk</i>		.910	.950	.968
The thought of consumption of non-halal products gives me a feeling of unwanted anxiety	.957			
The thought of consumption of non-halal products makes me feel psychologically uncomfortable	.952			
The thought of consumption of non-halal products causes me to experience unnecessary tension	.953			
<i>Environmental Risk</i>		.819	.890	.932
I am concerned about environmental conditions of producing and processing the halal products	.883			
I am concerned about hygiene standards of halal products	.925			
I am concerned about physical conditions of storing and selling the halal products	.908			
<i>Social Risk</i>		.859	.918	.948
I am worried that halal products consumption would not be compatible with my self-image	.921			
I am worried that halal products consumption would change the way my friends think of me	.946			
I am worried that halal products consumption would not match my status in life (social class)	.912			

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<i>Quality Risk</i>		.818	.926	.947
I worry about integrity of producers and sellers about the quality of products	.886			
I am concerned with the lower quality of the products than I expected	.914			
I worry about quality of the products are unmatched with the descriptions given on products package or ads	.904			
I worry about fulfilment of requirements of halal products	.914			
<i>Financial Risk</i>		.830	.898	.936
I worry that the halal products consumption would involve unexpected extra expenses	.900			
I worry that the halal products would be more expensive than non-halal products	.908			
I worry that an additional fee must be paid for getting the halal products	.925			
<i>Time-loss Risk</i>		.755	.974	.902
I am worried that the consumption of halal products would be a waste of time	.974			
I am worried that planning for the purchasing of halal products would take too much time	.843			
I am worried that halal products preparation would take too much time	.779			

Note: CR stands for Composite Reliability, α is Cronbach's alpha coefficient.

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Table 2

Results of Fornell and Larcker Criterion for checking discriminant validity

Constructs	1	2	3	4	5	6	7	8	9	10
1. Environmental risk	.905									
2. Financial risk	.260 (.067)	.911								
3. Health risk	.731 (.534)	.167 (.027)	.905							
4. Intention to recommend	.571 (.326)	.068 (.004)	.592 (.350)	.886						
5. Psychological risk	.642 (.412)	.026 (.000)	.635 (.403)	.544 (.295)	.954					
6. Quality risk	.567 (.321)	.595 (.354)	.416 (.173)	.312 (.097)	.266 (.070)	.904				
7. Satisfaction	.668 (.446)	.176 (.030)	.763 (.582)	.728 (.529)	.593 (.351)	.432 (.186)	.906			
8. Social risk	.239 (.057)	.476 (.226)	.117 (.013)	.103 (.010)	.055 (.003)	.639 (.408)	.177 (.031)	.927		
9. Time-loss risk	-.083 (-.006)	.389 (.151)	-.091 (-.008)	-.099 (-.009)	-.136 (-.018)	.136 (.018)	-.129 (-.016)	.176 (.030)	.869	
10. Trust	.650 (.422)	.237 (.056)	.689 (.474)	.546 (.298)	.505 (.255)	.388 (.150)	.604 (.364)	.134 (.017)	.020 (.000)	.895

Note: Square root of correlations values are within parentheses; AVE values are shown on the main diagonal (Bolded).

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Table 3

Goodness-of-Fit (GoF) Index

Constructs	AVE	R² Adj
Intention to Recommend	.786	.541
Satisfaction	.822	.555
Trust	.802	.447
Health	.819	
Psychological	.910	
Environmental	.819	
Social	.859	
Quality	.818	
Finance	.830	
Time-Loss	.755	
Average Scores	.822	.514
AVE*R ²	.422	
$(GoF = \sqrt{(AVE * R^2)})$.649	

Al-ansi, A., Olya, H., & Han, H., (2018). Effect of general risk on trust, satisfaction, and recommendation intention for halal food, *International Journal of Hospitality Management*, 1-10. Doi: [10.1016/j.ijhm.2018.10.017](https://doi.org/10.1016/j.ijhm.2018.10.017).

Table 4

The results of structural equation analysis

Hypothesis	β	Std.Dev	t	p	Status
H1: General risk → satisfaction	.595	.061	9.820	.000	Supported**
H2: General risk → trust	.671	.045	14.790	.000	Supported**
H3: General risk → intention to recommend	.025	.085	.300	.764	Not Supported
H4: Trust → satisfaction	.204	.060	3.377	.001	Supported**
H5: Trust → intention to recommend	.158	.069	2.297	.022	Supported*
H6: Satisfaction → intention to recommend	.614	.075	8.229	.000	Supported**

Note: *: $p < .01$; **: $p < .001$.

Table 5

The results of t-test for means comparisons by demographic characteristics

Variables	Gender	N	Mean	Std. Dev	F	P
Satisfaction	Male	110	6.513	.705	18.078	.001**
	Female	95	6.116	1.038		
Intention to recommend	Male	110	6.605	.680	13.572	.022**
	Female	95	6.349	.896		
Trust	Male	110	6.114	.941	2.565	.118
	Female	95	5.894	1.065		
Variables	Marital status	N	Mean	Std. Dev	F	P
Satisfaction	Single	131	6.301	.891	.732	.559
	Married/Couple	74	6.378	.907		
Intention to recommend	Single	131	6.458	.736	.000	.501
	Married/Couple	74	6.536	.896		
Trust	Single	131	6.117	.935	5.255	.046**
	Married/Couple	74	5.827	1.097		
Variables	Education level	N	Mean	Std. Dev	F	P
Satisfaction	Less educated	136	6.263	.858	.019	.141
	High educated	69	6.458	.958		
Intention to recommend	Less educated	136	6.495	.755	.135	.826
	High educated	69	6.469	.877		
Trust	Less educated	136	6.117	.885	19.101	.035**
	High educated	69	5.805	1.184		
Variables	Age	N	Mean	Std. Dev	F	P
Satisfaction	18-27 Years	124	6.257	.868	1.263	.153
	28 years & older	81	6.440	.930		
Intention to recommend	18-27 Years	124	6.435	.760	.816	.259
	28 years & older	81	6.564	.847		
Trust	18-27 Years	124	6.058	.924	6.004	.424
	28 years & older	81	5.943	1.117		
Variables	Income level	N	Mean	Std. Dev	F	P
Satisfaction	Under \$19,999	135	6.335	.823	1.070	.904
	\$20,000 & more	70	6.319	1.026		
Intention to recommend	Under \$19,999	135	6.464	.735	.011	.581
	\$20,000 & more	70	6.529	.907		
Trust	Under \$19,999	135	6.093	.917	8.450	.110
	\$20,000 & more	70	5.857	1.143		

Note: Less educated: Not complete high school & Some Colleges; High educated: Colleges degree, Master degree & PhD degree.

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Appendix A. Results of cross loadings for cross-checking the discriminate validity

FACTORE	ENV	FIN	HLT	INT	PSY	QUA	SAT	SOC	TIM	TRU
ENV1	.883	.207	.615	.467	.613	.454	.533	.187	-.052	.577
ENV2	.925	.264	.677	.542	.549	.550	.619	.245	-.093	.605
ENV3	.908	.234	.691	.539	.584	.531	.658	.216	-.078	.583
FIN1	.287	.900	.190	.135	.063	.593	.251	.465	.293	.275
FIN2	.195	.908	.131	.009	.003	.502	.093	.411	.355	.180
FIN3	.218	.925	.129	.027	-.004	.518	.117	.416	.425	.181
HLT1	.607	.113	.871	.575	.565	.323	.687	.085	-.047	.650
HLT2	.701	.130	.925	.574	.603	.385	.690	.101	-.067	.656
HLT3	.616	.175	.895	.462	.561	.370	.671	.107	-.120	.580
HLT4	.717	.186	.928	.535	.571	.422	.715	.130	-.094	.614
INT1	.415	.049	.469	.863	.478	.213	.587	.079	-.084	.441
INT2	.502	.056	.550	.905	.489	.247	.666	.076	-.099	.493
INT3	.589	.075	.549	.891	.479	.359	.677	.116	-.080	.513
PSY1	.617	.063	.635	.542	.957	.281	.605	.049	-.120	.503
PSY2	.611	.003	.577	.521	.952	.222	.551	.081	-.120	.461
PSY3	.608	.005	.604	.492	.953	.258	.538	.028	-.149	.479
QUA1	.530	.502	.399	.334	.308	.886	.421	.549	.062	.354
QUA2	.470	.513	.350	.243	.232	.914	.344	.572	.134	.320
QUA3	.484	.574	.313	.253	.189	.904	.366	.589	.151	.348
QUA4	.560	.564	.433	.295	.232	.914	.427	.600	.148	.380
SAT1	.600	.168	.696	.643	.539	.391	.910	.175	-.132	.578
SAT2	.622	.209	.641	.682	.533	.407	.898	.185	-.100	.486
SAT3	.595	.103	.736	.655	.539	.378	.911	.122	-.118	.576
SOC1	.256	.434	.164	.124	.133	.573	.225	.921	.160	.186
SOC2	.235	.464	.103	.104	.056	.612	.155	.946	.165	.136
SOC3	.162	.422	.044	.048	-.060	.593	.097	.912	.165	.030
TIM1	-.103	.415	-.118	-.126	-.171	.160	-.160	.224	.974	-.007
TIM2	-.115	.412	-.149	-.157	-.195	.165	-.206	.270	.843	-.040
TIM3	-.128	.402	-.146	-.153	-.216	.188	-.181	.279	.779	-.059
TRU1	.485	.142	.545	.445	.423	.282	.505	.071	-.021	.876
TRU2	.551	.149	.615	.505	.434	.323	.500	.110	-.009	.881
TRU3	.615	.260	.648	.515	.457	.373	.567	.159	.022	.913
TRU4	.586	.245	.608	.505	.436	.351	.563	.106	-.006	.919
TRU5	.658	.251	.661	.471	.506	.397	.562	.146	.093	.887

Note: ENV: Environmental risk; FIN: Financial risk; HLT: Health risk; INT: Intention to recommend; PSY: Psychological risk; QUA: Quality risk; SAT: Satisfaction; SOC: Social risk; TIM: Time-loss risk; TRU: Trust.