

# The Future of Green Food Consumption in Peninsular Malaysia

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## Abstract

Over the years, consumers' attitudes towards sustainable brands have increased significantly. Despite such development for environmental awareness, consumers' actions do not reflect their intention. Therefore, this study aims to examine Malaysians' intention to purchase green food in Peninsular Malaysia. Data were gathered from a total of 1200 questionnaires and Structural Equation Modelling was used to analyse the data. The study contributes to the advancement of knowledge in green food consumerism by expanding the Theory of Planned Behaviour into five components namely attitude (salient belief), attitude (evaluation of outcome), subjective norms (referents), subjective norm (motivation to comply), and perceived behavioural control to explore the future of green food specifically among consumers within Peninsular Malaysia. The result shows that attitude (salient belief), subjective norm (referents, motivation to comply), and perceived behavioural control influence consumers' intention to purchase green food. Surprisingly, attitude (evaluation of outcomes) does not influence consumers' intention.

**Keywords:** green consumerism, green consumer, green food, intention

## 1.0 Introduction

The ideology of environmentalism has long existed since the 19<sup>th</sup> century in the United States and Europe. Since then, the environmental movement especially in response to the increasing level of air pollution and sudden climate change have received attention in many parts of the world. However, the green advocacy in the Asia-

Pacific region did not gain momentum until the late 1990s (Tsubota, 2002). As population increases in most of the developing countries, scarcity of natural resources and environmental degradation problem is becoming more alarming. Consequently, the rapid economic growth in Asian countries has simultaneously contributed to the environmental problems, making Asia the world's largest greenhouse gas emitting region. One can no longer ignore the negative effect from climate change and other environmental issues which may reduce the survivability of mankind. This is because these problems have a direct impact on the livelihood and sustainability of the human population.

Human's unsustainable consumption of resources and continuous exploitation of natural resources has caused environmental crisis and among the pivotal environmental concern is the production and consumption of food. However, the concern for the sustainability of the environment, food security, and food safety is also increasing (Tsubota, 2002). The green food market had become one of the crucial market segments in the food sectors (Laureti and Benedetti, 2018). The growth and evolution of purchasing and consumption patterns of green food are crucial to alleviate the environmental problems. Furthermore, consumers have started to acquire details about the environment and food safety, thus seeks quality and safe wholesome food products to improve their health and overall well-being (Phuah et al., 2011). Such awareness and motivation towards self-improvement reflect an individual's view of mortality that would instigate a response.

Green food refers to foods that are safe to be consumed, healthy, do not use chemicals excessively, high in quality, contain better nutritious such as high in vitamin and mineral content, and grown or produced with higher sustainable standards of animal welfare (Lea and Worsley, 2005; Saleki and Seydsaleki, 2012). The term "green" is broadly replaced by "eco-friendly", "ecological", or "environmentally responsible," which describe the activities practised by a human being that is good for the environment (Aschemann-Witzel and Aagaard, 2014; Roberts, 1996).

Due to the rapid development in the world, Malaysia is facing a great challenge to balance environmental sustainability and development (Tan and Lau, 2010). To overcome the challenges and become a green country, the Malaysian government has made a strong commitment towards protecting, conserving, and preserving the environment (Rahman, 2018). In April 2009, the Ministry of Energy, Green Technology, and Water (KeTTHA) was formed to promote and

encourage green technology as well as eco-friendly products and services to grow a sustainable economy. By practising recycling, reduced packaging, and fuel-efficient trucks, millions of dollars were being saved by being more responsible towards the environment (Jamaliah, Gurmit, and Rashidah, 2013). To conserve and utilise the national resources on a sustainable basis, the Malaysian government has launched Good Agricultural Practices (GAPs) to ensure good quality and safe crop yields, address the environmental issues, and cultivate economic and social sustainability for an on-farm process in order to enhance sustainable agriculture (Department of Standards Malaysia, 2007). Malaysian Farm Accreditation Scheme (SALM) is another national program developed for the fresh fruits and vegetable sectors in encouraging farmers to adopt good agricultural practice by operating in a more sustainable and environmental friendly way (Department of Agriculture, 2005).

The study on green food consumption is widely explored among buyers from the region such as Europe and North America while scant research studies are found to measure green food purchase intention. Furthermore, many consumers are still unable to distinguish between organic and green food. Due to cultural and societal differences that influence the upbringing and education of Malaysian consumers, the finding of these studies may yield different results. Zeithaml et al. (1996) perceived intention as the variable which can forecast consumers' willingness to remain with a particular company; nonetheless, the intention on green consumption is found to ominously impact a person's actual buying behaviour.

Although the Theory of Planned Behaviour (TPB) is well established and used by many researchers to explore the role of attitude, subjective norm, and perceived behavioural control, little work has been carried out by dividing attitude and subjective norm into two different subgroups. Furthermore, previous works have not comprehensively considered attitude (salient belief), attitude (evaluation of outcome), subjective norms (referents), and subjective norm (motivation to comply) to measure consumer green behaviour. Application of the subgroups was used in explaining the health care industry. Thanh Nguyen, Anderson, Dunne, and Thanh Nguyen (2015) had divided attitude and subjective norm into subgroups to measure the health professionals' attitude to identify female victims of domestic violence. Arafat and Mohamed Ibrahim (2018) used the measurements to improve medication adherence while Pourmand et al. (2020) used

the application of TPB on self-care patients with hypertension. As such, the present study aims to contribute further by advancing the knowledge in green food consumerism by expanding and testing the TPB into five components of attitude (salient belief), attitude (evaluation of outcome), subjective norms (referents), subjective norm (motivation to comply), and perceived behavioural control in order to explore the future of green food that lies specifically among the consumers in Peninsular Malaysia.

## **2.0 Literature Review**

Green food can be viewed as the “controlled and limited use of synthesised fertiliser, pesticide, growth regulator, livestock and poultry feed additive, and gene engineering technology” (Liu et al., 2013, p.94). However, Gebisa et al. (2017) believe that green food is not identical to certified organic food. Green food label refers to foods that are grown in the ecologically sound matter (McCarthy et al., 2015) and it can be divided into two standards: grade “A” and grade “AA” (Eva, 2009; Gebisa et al., 2017). Grade A represents the traditional level between organic and conventional food where the use of limited amount of chemicals and pesticides is allowed to prevent pest and improve soil, along with GMO tolerated and certification of the food products. On the other hand, grade "AAA" represents a full organic status where no harmful chemicals or pesticides are allowed to be applied for at least two years for annual crops, no GMO is permitted, and certification of land and practices (Eva, 2009; Gebisa et al., 2017). A survey done in China shows that green food label and knowledge are more popular and widely known compared to organic food label (Zheng, 2009; Yin et al., 2010).

Consumer purchasing decision making is a complicated process that requires further understanding. Past researchers have applied the Theory of Planned Behaviour (TPB) in exploring the role of subjective norm (SN), attitude, and perceived behavioural control (PBC) towards behaviour intention (Ajzen, 1991). TPB is being utilised in this research where respondents' behaviour is influenced by their intention which is assumed to be predictive using variables like SN, attitude, and PBC. Attitude towards behaviour is perceived as an internal influence to determine green consumerism. On the other hand, SN acts as an external influencer whereas PBC signifies whether green food is conveniently available for purchase (Vermeir and Verbeke, 2008).

Purchase intention is defined by consumers' cognitive behaviour while making a purchase decision. Green purchase behaviour is a determination to act in a certain way by consumers (Ramayah et al., 2010) such as purchasing an environmentally friendly product (Lasuin and Ng, 2014).

The internal influencers related to attitude are inclusive of salient beliefs and outcomes evaluation whereby individual values act as a stimulus for consumers to have the urge to buy green food. Environmental attitude or ecological conscious behaviour is assumed to possess a significant relationship with purchase intention (Vermeir and Verbeke, 2008; Omar et al., 2015). For example, individuals who support environmental friendly products and acceptable by green consumers will become "green-savvy" if they have positive attitude towards the environment (Ng, 2009). This is because they treat the green purchase as one of their responsibilities towards the community (Syaidatina and Norazah, 2013). The term "environmental attitude" and "environmental concern" are interchangeable as consumers will translate their positive environmental attitude or concern into an actual purchase of ecological products to help reduce environmental degradation (Dunlap and Jones, 2002).

Referent and drive to conform with social pressure has been proposed to have significant positive influence towards the purchase of green products by green consumers (Lee, 2008). As mentioned by Wahid, Rahbar, and Tan (2011), social influence is a proxy of subjective norms. The changes in an individual's feeling, attitudes, or belief may influence the decision-making process of others (Rashotte, 2007). Therefore, social influence is evident to interlink with green purchase behaviour (Joshi and Rahman, 2015). Perceived behavioural control stipulates either the easiness or difficulties towards green food accessibility (Vermeir and Verbeke, 2008). Consumers' confidence and ability in financial or physical effort is predominantly required to indicate the existence of purchase intention.

### **3.0 Methodology**

#### **3.1 Conceptual Framework**

In Malaysia, the promotional efforts and execution of green consumption depend on the consideration of daily life. For instance, the idea of green consumption behaviour is usually related to various demands of spiritual and material life. Many scholars and practitioners

have used Ajzen and Fishbein's Theory of Planned Behaviour to accommodate consumers' attitudinal perspective towards green purchasing (Steenis et al., 2017; Prakash and Pathak, 2017; Martinho et al., 2015; Koenig-Lewis et al., 2014; Van Birgelen et al., 2009; Bech-Larsen, 1996). However, scarce investigation has been conducted by dividing attitude and subjective norm into two different subgroups. Furthermore, the majority of previous works have not comprehensively considered attitude (salient belief), attitude (evaluation of outcome), subjective norms (referents), and subjective norm (motivation to comply) to measure consumers' green behaviour. Therefore, this study is using TPB (Fishbein and Ajzen, 1975) to explain consumer purchase intention and its strong power of prediction for a wide range of consumer behavioural attributes. The adopted TPB model (Figure 1) postulates five conceptually independent factors of consumer purchase intention towards consumption of green food which includes attitude (salient belief), attitude (evaluation of outcome), SN (referents), SN (motivation to comply), and PBC.

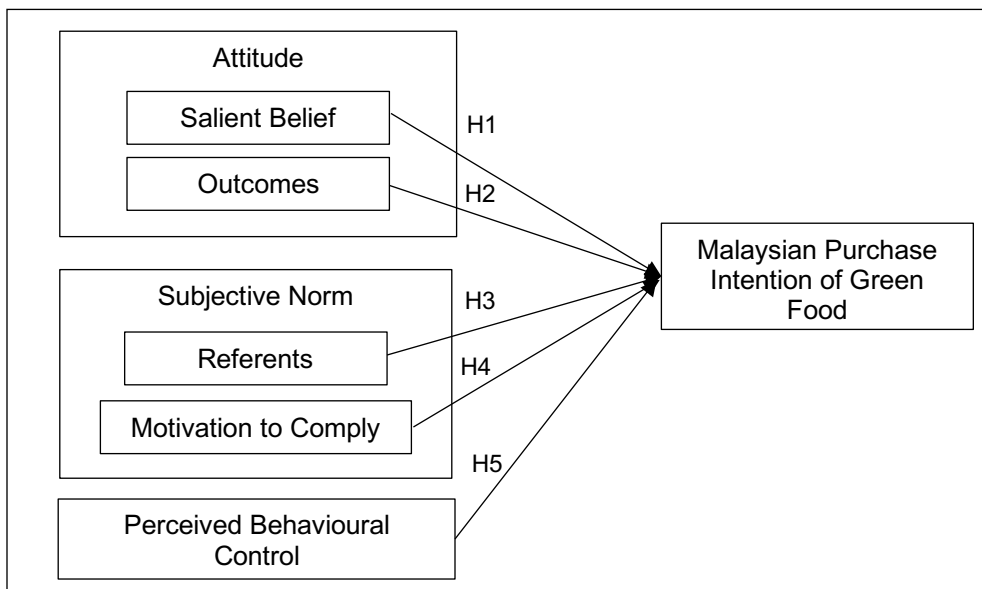


Figure 1 : Conceptual framework using TPB in assessing purchase intention of green food among consumers in Peninsular Malaysia  
(Adapted model from Ajzen, 1991)

## 3.2 Hypothesis Testing

This study aims to evaluate the relationship between the TPB variables - attitude (salient belief and outcome evaluation), SN (referents and motivation to comply), and PBC which influence Malaysian consumers' purchase intention towards green food. Five hypotheses have been designated to distinguish the relationship between the five constructs and purchase intention from a different perspective.

### 3.2.1 The Effect of Attitude on Consumers' Purchase Intention

Attitude is one's personal belief about a particular outcome if the person adopts a certain behaviour and the importance of the outcome is weighted (Bruijn, 2010). This means that attitude can be defined as whether a person has an unfavourable or favourable assessment of the given behaviour when consumers obtain adequate information for purchasing green food decisions (Ajzen, 1991; Ekinci et al., 2008). Consumer will start to develop a positive attitude if they believe that purchasing green food will produce a good outcome. They will have higher positive attitude and purchase intention towards green products if their perceived value meets their expectation (Han et al., 2017, p. 187). Research shows that consumers who are positive and possess favourable environmental attitude often have higher level of purchase intention towards green products (Menozzi et al., 2017; Pipatptapa et al., 2017; Worsely et al., 2015; Phuah et al., 2018). Numerous studies have proven that attitude is a good predictor of customers' purchase intention towards green products (Lin, 2001; Tan, 2013; Rashid and Shaharudin, 2017). It is reasonable to point out that potential consumers can accept green food because it is aimed to improve human health and the natural environment. Past research has shown that health contributes to encouraging consumers to consume green food (Lidew et al., 2015). This can be done by using reasonable application of pesticide, chemical fertilizer, insecticide, and additives to prevent pollutant materials from harming the environment. As such, it can be assumed that individuals with favourable attitude pose a higher level of purchase intention.

H1: Attitude (salient belief) has a direct impact on consumers' purchase intention.

H2: Attitude (outcomes of evaluation) has a direct impact on consumers' purchase intention.

### 3.2.2 The Effect of Subjective Norm on Consumers' Purchase Intention

Subjective norm is an individual's judgment from the social pressure by performing a specific target behaviour (Hee, 2000). It is influenced by the motivation to conform and normative belief. In general, a person will experience social pressure when he or she believes on the need to behave in a specific manner as required by relevant social referents (Chen, 2007; Haugtvedt et al., 2008). Such social pressure will motivate people to behave or conduct their action which is perceived as important to others (León, 2004). For example, social influence is significantly influencing consumers' green purchase intention towards home electrical products (Hasim et al., 2018). On the other hand, normative belief involves salient referents such as parents, relatives, neighbours, lecturers, and friends thinking that an individual should or should not behave and the individual motivation to satisfy with these referents' expectation (Ajzen and Fishbein, 1980). Goldstein et al. (2008) also mentioned that social norm such as family, custom, and cultural traditions will shape consumers' attitude and purchasing behaviour. Besides, there is another argument regarding subjective norm when it applies to green behaviour. Based on a meta-analytic review of the TPB, subjective norm is commonly viewed as a weak indicator of intentions (Armitage and Conner, 2001). Similarly, subjective norm is also defined as a feeble predictor of intention in numerous reviews on food choice decision (Sparks et al., 1992; Thompson et al., 1994; Tuorila, 1987). In contrast, Kim et al. (2013), Chin et al. (2018), Ko and Jin (2017), Mohd Noor et al. (2012), and Smith and Paladino (2010) discovered that subjective norm has a positive impact on green food purchase behaviour.

H3: Subjective norm (referents) has a direct impact on consumers' purchase intention.

H4: Subjective norm (motivation to comply) has a direct impact on consumers' purchase intention.



### 3.2.3 The Effect of Perceived Behavioural Control on Consumers' Purchase Intention

Perceived behavioural control reflects consumers' belief in perceived ease or difficulty when executing specific behaviour (Chiou, 1998). Madden, Ellen, and Ajzen (1992) suggest that perceived behavioural control can assist business organisations to predict consumers' purchase intention. Most past research indicate that perceived behaviour control does impact consumers' buying intention towards green products due to food safety (Hsu et al., 2016; Zhang et al., 2018; Chen and Deng, 2016; Padel and Foster, 2005; Rousseau and Vranken, 2013), health (Magnusson et al., 2003), environmental friendly (Gracia and de Magistris, 2008), and concern on animal welfare (Miele and Lever, 2013; Miranda-de et al., 2013). Liang (2016) argues that monetary value could be the crucial factor responsible for consumers' favourable attitude. In other words, if the green food price exceeds the reasonable cost, it will reflect unfavourable attitudes from consumers (Gottschalk and Leistner, 2013).

H5: Perceived behavioural control has a direct impact on consumers' purchase intention.

### 3.3 Sampling and Questionnaire

Quantitative approach and correlational research were used in this study to determine the relationship between the five TPB components of attitude (salient belief), attitude (evaluation of outcome), subjective norms (referents), subjective norm (motivation to comply), and perceived behavioural control to explore the future of green food among consumers in Peninsular Malaysia. A self-administrated questionnaire was developed by incorporating the six main constructs of the TPB with some modifications to fit with the scope of this study. A pre-test was then conducted where 20 questionnaires were distributed to green product marketers staying in Peninsular Malaysia. Based on the feedback and recommendations gathered from the pre-test, the questions were fine-tuned predominantly with regards to the length of the questionnaire, the sequence, and confusing questions. The final version of the questionnaire was then pilot tested whereby 200 questionnaires were distributed among Malaysian consumers to examine the internal consistency. Cronbach's Alpha was used to measure the reliability of the items for each construct. The result shows

that all constructs' reliability (Cronbach's  $\alpha$  coefficients) have a value exceeding the recommended value of 0.7.

A five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree" was used as the degree of agreement to predict consumers' intention in this study. The questionnaire consisted of seven sections and contained statements that portrayed the components of TPB. Questions regarding the socio-demographic information of the respondents such as their gender, race, age, education level, area, marital status, household income, and household size were placed at the end of the questionnaire as the seventh variable group. The western region, known as Peninsular Malaysia, comprises 11 states and 2 federal territories. Using the sample size determination model by Krejcie and Morgan (1970), at a 95% confidence level and 5% margin of error, the estimated sample size for this study is 384 respondents for each region. The northern region comprises four states namely Perlis, Kedah, Penang, and Perak while the east coast region consists of Kelantan, Terengganu and Pahang. Whereas the central region is formed by the state are Selangor as well as the federal territories of Kuala Lumpur and Putrajaya while the southern region comprises Negeri Sembilan, Melaka and Johor.

The targeted respondents for this study are consumers who shop at supermarkets in Malaysia such as Giant, AEON, Mydin, and Jaya Grocer. Supermarkets are chosen in this study as it is where green food is available, and the patronage is consumers from a diverse background who shop at supermarkets. Systematic random sampling was utilised as the sampling method. This was done via the mall intercept method of data collection where every fourth customer who visited the supermarket was invited to participate in the research. A total of 1350 questionnaires were distributed. Double-barrelled and misleading questions were eliminated from the questionnaire and 1200 responses remained which were utilised for further analysis. From 1200 respondents, 33.9% of the respondents were originally from the northern region (100% response rate), 17.9% were from the east coast region (56% response rate), 29.5% were from the central region (92.2% response rate), and 18.7% were from the southern region (58.3% response rate).

### 3.4 Method of Analysis

This study proposed a full TPB model on the likelihood of purchasing green food which contains five constructs of attitude

(salient belief), attitude (evaluation of outcome), subjective norm (referents), subjective norm (motivation to comply), and perceived behavioural control. Exploratory factor analysis (EFA) was conducted before performing the confirmatory factor analysis (CFA) and structural equation modelling (SEM) via AMOS to test the hypotheses. EFA was tested to determine the variables' structure and the correlation among the five constructs (Field, 2013) while CFA was performed to confirm the factor structure (Hair et al., 2013). Finally, SEM specified how each of the five constructs is related to one another.

## **4.0 Findings**

The questionnaire obtained a Cronbach's Alpha ( $\alpha$ ) value of 0.946 which is within an acceptable range. It shows consistency among the items of the TPB such as attitude (salient belief), attitude (evaluation of outcome), subjective norm (referents), subjective norm (motivation to comply), perceived behavioural control, and purchase intention.

### **4.1 Descriptive Analysis**

Data regarding the respondents' demographic information (Table 1) show that their gender comprises 53% female and 47% male. Malaysia is formed by a complex multiracial population where this study consists of the three major ethnic groups which are 53.9% Malay, 33.3% Chinese, and 12.8% Indian. The data also indicate that the majority of the respondents are married (62.5%), live in the urban area (71.6%), and have at least a bachelor's degree (44.6%). Most of the respondents belong to the M40 group where 57.7% earn RM3,001 and RM8,000 per month while 42.6% belong to the B40 group where their household income is below RM3,000 per month. From Table 2, 44.8% of the respondents aged between 26 to 40 years old and 63.2% have at least 4 to 6 people living in the same household.

Table 1 : Demographic Information (n=1,200)

<b>Demographic Variables</b>	<b>Description</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Gender	Male	564	47
	Female	636	53
Race	Malay	647	53.9
	Chinese	399	33.3
	Indian	154	12.8
Age	Below 25	179	14.9
	26-40	538	44.8
	41-60	408	34
	61 and above	75	6.3
Education Level	Never been to school	20	1.7
	Primary Education	39	3.3
	Secondary Education	440	36.6
	Tertiary Education	701	58.4
Area	Urban	859	71.6
	Suburban	341	28.4
Marital Status	Single	450	37.5
	Married	750	62.5
Household Income	B40 (Less than RM 3,000)	512	42.3
	M40 (RM 3,001- RM 8,000)	688	57.7
Household Size	1-3	259	21.6
	4-6	758	63.2
	7-9	158	13.2
	10 and above	25	2.1

## 4.2 Structural Equation Modelling

### 4.2.1 Indicator Reliability

Construct with loading below 0.4 indicates that the associated indicators have not much in common and must be removed from the scale (Hair et al., 2013). The standardised parameter estimations for other constructs are more than the recommended value of 0.5 (Hair et al., 2010) ranging between 0.647 to 0.820 (Table 2). In this study, attitude (salient belief) was removed from the scale as the composite reliability (CR) was below 0.7 (loading range between 0.4 to 0.7). Removing the construct has improved the CR and average variance extracted (AVE) value (Hair et al., 2011).

#### 4.2.2 Convergent Validity

Convergent validity of this study was measured using average variance extracted (AVE). An AVE value below 0.5 signifies that the items contain more error, and the construct is only able to explain less than half of the indicator variance (Hair et al., 2013). The AVE values for attitude (evaluation of outcome) (0.560), subjective norm (referents) (0.519), subjective norm (motivation to comply) (0.50), perceived behavioural control (0.559), and purchase intention (0.513) indicate that the full model construct is fulfilled since all AVE values are within the acceptable range (>0.50) (Table 2).

#### 4.2.3 Construct Reliability and Indicator Reliability

As recommended by Kannana and Tan (2005) and Fornell and David (1981), the recommended level of Cronbach's Alpha and composite reliability should be 0.6 and above. As shown in Table 2, the level of both Cronbach's Alpha (ranging from 0.718 to 0.861) and composite reliability (ranging from 0.817 to 0.955) are above the recommended value of 0.6, subsequently indicating that all four main constructs are considered as error-free.

Table 2 : Summary of Structural Model

Item Code	Statement	Standardised Regression Weight	Cronbach Alpha	CR	AVE
<b>Attitude (Evaluation of Outcomes)</b>			0.718	0.849	0.560
ATT OUT 1	Doing something positive to the environment is	0.734			
ATT OUT 2	Purchasing food that is high quality and safe to be consumed is	0.763			
<b>Subjective Norm (Salient Referents)</b>			0.767	0.817	0.519
SNR 1	Environmentalists encourage me to go green foods by respecting the green products.	0.667			
SNR 2	I can understand the green concept as I am surrounded by the green society.	0.731			
SNR 3	The green movement such as no plastic bag day makes me aware of going green.	0.761			
<b>Subjective Norm (Motivation to Comply)</b>			0.819	0.902	0.500
SNMC 1	How society perceived my purchasing behaviour does matter to me.	0.666			

Item Code	Statement	Standardised Regression Weight	Cronbach Alpha	CR	AVE
SNMC 2	My purchasing decision is easily affected by my close friends' advice and suggestions.	0.647			
SNMC 3	Following environmentalist's behaviour encourage me to go green.	0.820			
SNMC 4	A persuasive green advertisement was able to convince me to go green.	0.678			
<b>Perceived Behavioural Control</b>			0.861	0.955	0.556
PBC 1	I am in favour to buy green foods if I can get more green information.	0.703			
PBC 2	I will purchase green foods if I know that green foods are healthier and safer to be consumed.	0.793			
PBC 3	The reason I buy green foods is due to the concern about the pesticide residue in conventional foods.	0.767			
PBC 4	I will purchase green foods if I know they are more nutritious compared to conventional food.	0.790			
PBC 5	I am confident that I can pay for green food.	0.681			
<b>Intention</b>			0.851	0.953	0.513
INT 1	Food safety is one of the concerns that influence me to purchase green foods.	0.685			
INT 2	I want to buy green foods as I can help the environment.	0.740			
INT 3	I plan to consume green foods because I am concern about animal welfare.	0.765			
INT 4	To practice a long-term healthy lifestyle, I will try to consume green foods.	0.693			
INT 5	I will consider a switch from conventional foods to green foods because it benefits society.	0.694			

#### 4.2.4 Discriminant Validity

According to Samah (2012), the purpose of testing discriminant validity is to assess whether a construct is truly distinguishable from

others. When testing discriminant validity, the means for all constructs need to have large AVE estimates as compared to the corresponding squared inner construct (SIC) correlation estimates (Paswan, 2009). Based on the output, all AVE values are higher than the SIC values which indicates that all constructs for this study are distinctive yet correlated with one another. Since the value for each pair of the latent exogenous construct is less than 0.85, no multi-correlation issues have occurred in this study (Table 3).

Table 3 : Discriminant Validity

		<b>Innerconstruct Correlations</b>	<b>Squared Interconstruct Correlations (SIC)</b>	<b>Support (AVE&gt;SIC)</b>
ATT OUT	<--> PBC	0.487	0.237	Yes
ATT SB	<--> ATT OUT	0.226	0.051	Yes
ATT SB	<--> SNR	0.309	0.095	Yes
ATT SB	<--> SNMC	0.391	0.152	Yes
ATT SB	<--> PBC	0.390	0.152	Yes
ATT OUT	<--> SNR	0.321	0.103	Yes
ATT OUT	<--> SNMC	0.221	0.049	Yes
SNR	<--> SNMC	0.628	0.394	Yes
SNR	<--> PBC	0.598	0.358	Yes
SNMC	<--> PBC	0.489	0.239	Yes

#### 4.2.5 Model Fit Indicators

Table 4 shows indicators of the goodness-of-fit indices together with the respective acceptable level of the index value. A total of three fitness indexes were used in this study, namely absolute fit measure, incremental fit, and parsimonious fit. As recommended by Hair et al. (2010), a minimum of one fitness index from each category of model fit is needed before explaining the relationship of each construct in the structural equation modelling.

The absolute fit indices indicate a good fit for this study as results of the Root Mean Square Error of Approximation (RMSEA), the Standardised Root Mean Square Residual (SRMS), the Goodness of Fit (GFI), and the Adjusted Goodness of Fit Index (AGFI) coefficient are 0.050, 0.037, 0.953, and 0.936, respectively. Also, all four tests in incremental fit indices reported a good fit since the Comparative Fit Index (CFI) and the Incremental Fit Index (IFI) are 0.956 and 0.959, respectively; followed by the Normed Fixed Index (NFI) with 0.946 and

the Tucker-Lewis Index (TLI) with 0.950. Lastly, the parsimony fit measure shows a good model fit with  $x^2/df$  value of 4.014, the Parsimony of Goodness of Fit Index (PGFI) value of 0.697, and the Parsimony Normed Fit Index (PNFI) value of 0.769.

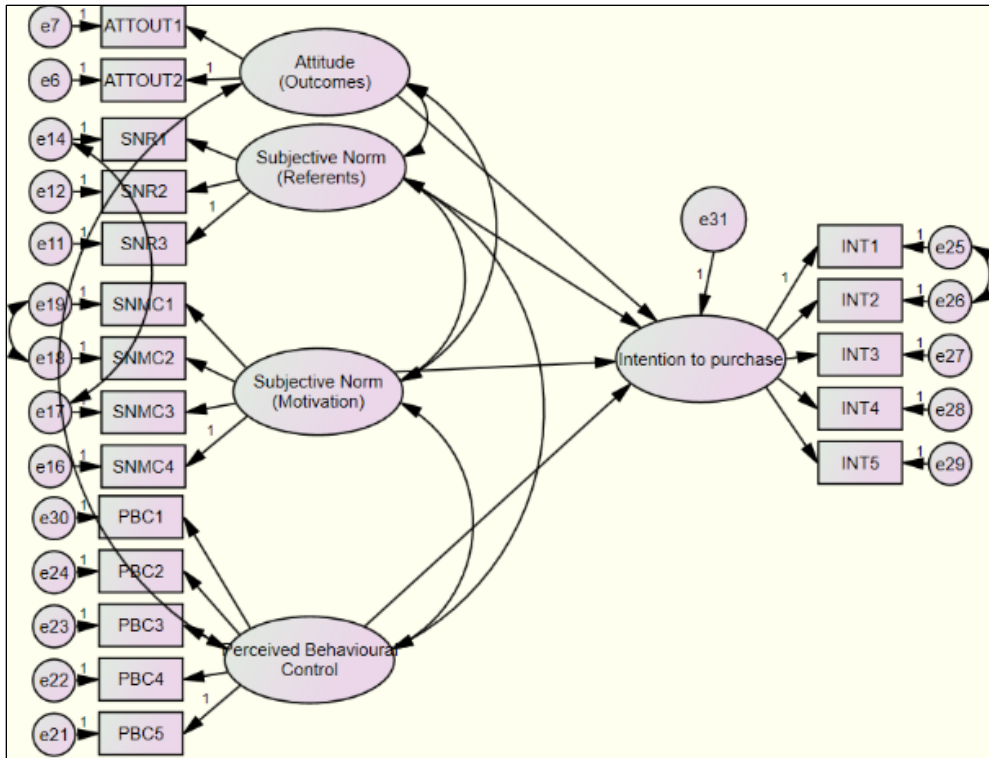
Table 4 : Goodness-of-Fit-Model Fit Index

<b>Name of Category</b>	<b>Name of Index</b>	<b>Index Value</b>
Absolute Fit Measure	Root Mean Square Error of Approximation (RMSEA)	0.050
	Standardized Root Mean Square Residual (SRMS)	0.037
	The Goodness of Fit (GFI)	0.953
	Adjusted Goodness of Fit Index (AGFI)	0.936
Incremental Fit Measure	Comparative Fit Index (CFI)	0.956
	Incremental Fit Index (IFI)	0.959
	Normed Fixed Index (NFI)	0.946
	Tucker-Lewis Index (TLI)	0.950
Parsimonious Fit Measure	Chisq/df	4.014
	The Parsimony of Goodness of Fit Index (PGFI)	0.697
	The Parsimony Normed Fit Index (PNFI)	0.769

#### 4.2.6 Hypothesis Testing

SEM examined the relationships between attitudes (outcome evaluation), SN (referents and motivation to comply), PBC, and intention (IN). The hypothesis testing result is shown in Table 5 while Figure 2 shows the structural model of consumer purchase intention. From the R square value, the four factors contributed 43.7% of the variation in consumers' intention to purchase green food.





- Notes:
- ATTSB = Attitude (Salient belief)
  - ATTOUT = Attitude (Evaluation of outcomes)
  - SNR = Subjective norm (Referents)
  - SNMC = Subjective norm (Motivation to comply)
  - PBC = Perceived behavioural control
  - INT = Purchase intention

Figure 2 : Structural Model of Consumer Purchase Intention to Green Food

The result of this study shows that the main factor influencing consumers' purchase intention is PBC ( $\beta=0.433$ ), followed by SN (motivation to comply) ( $\beta=0.258$ ), and subjective norm (referents) ( $\beta=0.119$ ). However, attitude (evaluation of outcome) has no significant influence on consumers' intention to buy green food ( $\beta=0.032, p>0.05$ ). This indicates that attitude (evaluation of outcome) such as buying high-quality food and doing something positive for the environment will not influence consumers' purchase intention. A possible reason for such lack of environmental awareness in Malaysia may be due to poor cultural upbringing by parents and the tendency for children to copy and inherit negative influence from their parents. For instance, children are prone to copy any bad habits done by their parents like littering or

throwing rubbish out of the car for convenience, assuming that it is fine to do so. Some parents will defend their action by believing that such action is commonly done, while enforcement of the law is poor to curb such behaviour. These circumstances then manifest other bad habits and behaviour like food wastage, open burning, and being insensitive to improper usage of public facilities. The attitude of Malaysian consumers can be explained using the broken window theory by Wilson and Kelling (n.a). Malaysians are used to the less than pristine environment that they surround themselves in due to their poor environmental sensitivity upbringing. Despite believing that ongoing green can help the environment, they are unable to see the outcome since there is no strong action.

Furthermore, the result reported in Table 5 shows that research hypothesis H3 is supported ( $\beta=0.122$ ,  $p < 0.001$ ) since the SN (referents) regression weight is significantly different from zero at the 0.001 level when the prediction of consumer purchase intention (Critical ratio in absolute value= 3.561 < 0.001). When SN (referents) drops by 1, purchase intention will also drop by 0.122. This posits that consumers' purchase intention will increase with the availability of referents as guidance. The result indicates that factors like availability of environmentalist, green society, and green movement as referents to the consumers will spark their buying intention towards environmental friendly products. This is due to the effort of showing concern for the environment along with the attempt to protect it from being damaged by human activities. Many NGOs are concentrating their efforts to create consciousness among Malaysian consumers and assist in protecting the environment in Malaysia. For example, Eco-Knight is partnering with Langkawi and Kuala Lumpur Eco film festival to keep up with the community engagement. It is achieved through workshops such as buzzing with eco-energy and Project H2O which help to deliver safe drinking water. Meanwhile, Free Tree Society distributed free tree seeds to those who want to plant trees to increase Malaysian suburban and city greenspace as well as educating the public on the correct way to plant trees. These activities hence serve as good referents for consumers to start practising green behaviour.

Meanwhile, hypothesis H4 which predicts consumers' purchase intention, is also supported ( $\beta=0.216$ ,  $p < 0.001$ ) as the regression weight for SN (motivation to comply) is significantly different from zero (at 0.001 level) (Critical ration in absolute value= 6.185 < 0.001). Therefore, when SN (motivation) drops by 1, the intention will drop by

0.216 or vice versa. Consumers' purchase intention will increase if they are motivated by green society, environmentalists, friends, and advertisements. Such result is similar to Sudiyanti (2009) where subjective norm is the primary predictor of women's intention to buy green food products.

Similarly, research hypothesis H5 is also supported ( $\beta=0.393$ ,  $p < 0.001$ ). When perceived behavioural control increases by 1, purchase intention will increase by 0.393. This indicates that if consumers perceive that the behaviour to purchase green food is nutritious, healthy, concern about animal welfare at a reasonable price, they are more likely to buy green food. The result is consistent with several past studies where PBC influences consumers' buying behaviour as they are concerned with environmental friendly products, food safety, and animal welfare (Gracia and de Magistris, 2008; Miele and Lever, 2013; Miranda-de la Lama et al., 2013).

Table 5 : Result of Hypothesis Testing

Hypothesis	$\beta$	Standard Error (S.E)	Critical Ratio (C.R)	p-value	Decision
Attitude (outcomes of evaluation) has a direct impact on consumers' purchase intention.	0.032	0.043	0.741	0.458	Not Supported
Subjective norm (referents) has a direct impact on consumers' purchase intention.	0.119	0.035	3.424	***	Supported
Subjective norm (motivation to comply) has a direct impact on consumers' purchase intention.	0.258	0.035	7.357	***	Supported
Perceived behavioural control has a direct impact on consumers' purchase intention.	0.433	0.043	10.083	***	Supported

## 5.0 Conclusion and Recommendations

Green food has gained its importance in the F&B industry worldwide. Some buyers are confident that green food provides benefits like food safety, being more environmental friendly, contains higher nutrition, and concern for animal well-being. One of the most significant aspects in promoting consumers' confidence in a product is educating them with relevant details that can assist them in making purchasing decisions. Therefore, food manufacturers need to take consumers' buying decision into consideration when deciding between

conventional and green food as consumers' buying pattern varies across countries.

In total, 1,200 consumers were surveyed using the structured questionnaire in measuring their intention to purchase green food. This study contributes to the theory by consolidating the application of the TPB model on consumers' purchase intention on green food. Furthermore, the findings are able to help marketers to develop effective marketing strategies as the results suggest that it is important to emphasise the advantages of consuming green food among consumers. Like most countries, the price of foods and household costs in Malaysia are inflating; however, it does not pose a challenge to green purchase as the demand for healthy eating and concern on the environment are increasing by following the healthy trends as a result of globalisation, liberalisation of the market, and growing concerns on health and safety among consumers.

Malaysia is undergoing the dietary, nutritional, and concentrating on environmental sustainability transition where it is taking place at an accelerated pace. Thus, the government needs to create environmental awareness among members of the public by highlighting the consumers' role and responsibility in preserving the environment. Government policy and halal green consumerism are among the predictors of Muslim lifestyle in consuming halal products (Mat, Sulaiman, Abdul Ghani, and Mohamad, 2020). More environmental campaigns and green promotional efforts are required by public and private institutions to generate substantial consciousness on green food and green logo. In order to generate cautiousness and demand for green food, effective product awareness campaigns can be done through public exhibitions, symposiums, and trade shows with the aim of promoting green food to the market. Such move can support the establishment of positive perception and encourage a favourable attitude towards green food. With adequate information emphasising on the impact of green food towards the environment and health, it can meet consumers' ecological expectation and gain confidence to practice green behaviour through marketing communication. This information will enable consumers to recognise their conservation responsibility and environmental value which will lead to more engagement in green purchasing behaviour. Therefore, numerous marketing communication channels such as mass media and social media should be employed to stress the relationship between environmental and health issues with consumers' purchasing

behaviour. This can assist the consumers socially and emotionally for them to comprehend the relevance of green food and utilise it for their future purchasing decision.

Past researches have indicated that subjective norm is the most relevant factor that impacts consumers' intention in purchasing green food. However, if companies place profit as the main priority compared to environmental protection, consumers will have negative impression, thus purchase intention will reduce drastically (D'Souza et al., 2006). The trustworthiness of a reliable environmental advertisement statement to consumers' daily life is important to determine their purchase intention towards green products (Chan, 2004). The global pandemic which leads to the emerging of a "new normal" life shows that personal attitude, perceived social pressure, and perceived green trust correspondingly impact consumers' purchase intention of organic food (Latip et al., 2020). In this regard, it is suggested for marketing managers to portray their organisations' goodwill by implementing more environmental conservation activities and become environmental friendly. Corporate public relation can be effective if it integrates the corporates' social responsibility information on environmental records and their commitment towards the environment. For instance, simple mottos like "Go green - stop pretending actions don't have consequences." or "You don't need to have superpowers to be a hero, go green now" are some of the promotional taglines that marketing managers can utilise to improve their overall green image and environmental portrayal. Besides, these taglines also help to express the message to consumers that every action taken by the business organisation is meant to motivate the consumers to purchase green food and not merely a marketing gimmick to improve sales.

## References

- Ajzen, I., & Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behaviour*, Englewood Cliffs, NJ: Prentice-Hall Inc.
- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50 (2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)

- Aschemann-Witzel, J., & Aagaard, E. M. N. (2014). Elaborating on the attitude–behaviour gap regarding organic products: young Danish consumers and in-store food choice. *International Journal of Consumer Studies*, 38(5), 550-558. <https://doi.org/10.1111/ijcs.12115>
- Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour: a meta-analytic review. *British Journal of Social Psychology*, 40 (4), 471-499. <https://doi.org/10.1348/014466601164939>
- Arafat, Y., & Mohamed Ibrahim, M. I. (2018). Chapter 4- The use of measurements and health behavioural models to improve medication adherence. *Social and Administrative aspects of pharmacy in low- and middle-income countries*. Academic Press, 53-69. <https://doi.org/10.1016/B978-0-12-811228-1.00004-2>
- Bech-Larsen, T. (1996). Danish consumers' attitudes to the functional and environmental characteristics of food packaging. *Journal of Consumer Policy*, 19, 339–363.
- Brujin, G.J. (2010). Understanding college students; fruit consumption. Integrating habit strength in the theory of planned behaviour. *Appetite*, 54 (1), 16-22. <https://doi.org/10.1016/j.appet.2009.08.007>
- Chan, R.Y.K. (2004). Consumer responses to environmental advertising in China. *Marketing Intelligence & Planning*, 22 (4), 427-437. <https://doi.org/10.1108/02634500410542789>
- Chen, K., & Deng, T. (2016). Research on green purchase intentions from the perspective of product knowledge. *Sustainability*, 8 (943), 1-16. <https://doi.org/10.3390/su8090943>
- Chen, M. (2007). Consumer attitudes and purchase intentions concerning organic foods in Taiwan: Moderating effects of food-related personality traits. *Food Quality and Preference*, 18 (7), 1008-1021. <https://doi.org/10.1016/j.foodqual.2007.04.004>
- Chin, J., Bernard, C. J., Mufidah, I., Persada, S. F., & Noer, B. A. (2018). The investigation of consumers' behaviour intention in using green skincare products: A pro-environmental Behaviour Model Approach. *Sustainability*, 10 (11), 1-15. <https://doi.org/10.3390/su10113922>
- Chiou, J.S. (1998). The effects of attitude, subjective norm, and perceived behavioural control on consumers' purchase intentions: The moderating effects of product knowledge and attention to social comparison information. *Proceedings of National Science Council, Republic of China*, 9 (2), 298-308.

- Department of Standards Malaysia (2007). Good agricultural practice (GAP)- Part 7: Fruits and vegetables. <https://law.resource.org/pub/my/ibr/ms.1784.7.2007.pdf> (accessed 15 July 2020)
- Department of Agriculture (2005). Malaysian farm certification scheme for good agricultural practice (SALM). <https://law.resource.org/pub/my/ibr/ms.gap.2005.pdf> (accessed 15 July 2020)
- Dunlap, R.E., & Jones, R.E. (2002). Environmental concern: Conceptual and measurement issues. In: R.E. Dunlap and W. Michelson, Editors, *Handbook of Environmental Sociology*. Greenwood Press, Westport, CT, pp. 482–524.
- D'Souza, C., Taghian, M., Lamb, P., & Peretiatkos, R. (2006). Green products and corporate strategy: An empirical investigation. *Society and Business Review*, 1 (2), 144-157. <https://doi.org/10.1108/17465680610669825>
- Eva, S. (2009). Organic Food “Made in China”, EU-China Civil Society Forum. [https://www.asienhaus.de/uploads/tx\\_news/27\\_Organic\\_Food\\_Made\\_in\\_China\\_01.pdf](https://www.asienhaus.de/uploads/tx_news/27_Organic_Food_Made_in_China_01.pdf) (accessed 15 July 2020)
- Ekinci, Y., Dawes, P., & Graham, R. (2008). An extended model of the antecedents and consequences of consumer satisfaction for hospitality services. *European Journal of Marketing*, 42 (1/2), 35-68. <http://dx.doi.org/10.1108/03090560810840907>
- Fornell, C., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18 (1), 39-50. <https://doi.org/10.2307/3151312>
- Field, A. (2013). *Discovering Statistics Using IBM SPSS Statistics*, 4th ed., Sage Publications Ltd, London.
- Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intentions and Behaviour: An Introduction to Theory and Research*. Addison-Wesley, Reading, MA.
- Gottschalk, I., & Leistner, T. (2013). Consumer reactions to the availability of organic food in discount supermarkets. *International Journal of Consumer Studies*, 37 (2), 136-142. <https://doi.org/10.1111/j.1470-6431.2012.01101.x>
- Gebisa, E. B., Deyi, Z., Assefa, A. K., & Atinkut, B. H. (2017). Analysis of organic and green food production and consumption trends in China. *American Journal of Theoretical and Applied Business*, 3 (4), 64-70. <https://doi.org/10.11648/j.ajtab.20170304.11>

- Goldstein, N.J. Cialdini, R.B., & Griskevicius, V. (2008). A Room with a Viewpoint: Using Social Norms to Motivate Environmental Conservation in Hotels. *Journal of Consumer Research*, 35 (3), 472–482. <https://psycnet.apa.org/doi/10.1086/586910>
- Gracia, A., & de Magistris, T. (2008). The demand for organic foods in the South of Italy: A discrete choice model. *Food Policy*, 33 (5), 386-396. <https://doi.org/10.1016/j.foodpol.2007.12.002>
- Hashim, N. H., Yahya, W. K., Abu Bakar, S., & Asrul, S. A. (2018). Social influence and eco-label factors towards purchase intention of home products: A PLS approach. *Journal of Emerging Economies and Islamic Research*, 6(3), 1-9.
- Han, L., Wang, L., Zho, S., & Li, J. (2017). The intention to adopt electric vehicles: driven by functional and non-functional values. *Transportation Research Part A*, 103, 185-197. <https://doi.org/10.1016/j.tra.2017.05.033>
- Hsu, W. C., Huang, K. H., Hsu, S. M., & Huang, C. H. (2016). A study of the behavioural model on green consumption. *Journal of Economics, Business and Management*, 4 (5), 372-377. <https://doi.org/10.5539/ijms.v6n5p119>
- Haugtvedt, C., Herr, M., & Kardes, F. (2008). *Handbook of Consumer Psychology*. New York: Routledge.
- Hair, J. F., Black, W. C., Balin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: Maxwell Macmillan International Editions*, New York.
- Hair, J.F., Ringle, C.M., & Starstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19 (2), 139-151. <https://doi.org/10.2753/MTP1069-6679190202>
- Hair, J.F., Hult, G.T.M., Ringle, C.M., & Sarstedt, M. (2013). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, Sage Publications, CA.
- Hee, S.P. (2000). Relationships among attitudes and subjective norm: Testing the theory of reasoned action across cultures. *Communication Studies*, 51 (2), 162-175. <https://doi.org/10.1080/10510970009388516>
- Jamaliah, M. Y., Gurmit, K. B. Singh., & Rashidah, A. R. (2013). Purchase Intention of the environment-friendly automobile. *Procedia-Social and Behavioural Sciences*, 85 (1), 400-410. <https://doi.org/10.1016/j.sbspro.2013.08.369>
- Joshi, Y., & Rahman, Z. (2015). Factors affecting green purchase behaviour and future research directions. *International Strategic Management Review*, 3 (1-2), 128-143. <https://doi.org/10.1016/j.ism.2015.04.001>



- Kannana, V.R., & Tan, K.C. (2005). Just in time, total quality management, and supply chain management: understanding their linkages and impact on business performance. *Omega*, 33 (2), 153-162. <https://doi.org/10.1016/j.omega.2004.03.012>
- Koenig-Lewis, N., Palmer, A., Dermody, J., & Urbye, A. (2014). Consumers' evaluations of ecological packaging – Rational and emotional approaches. *Journal of Environment Psychology*, 37, 94–105. <https://doi.org/10.1016/j.jenvp.2013.11.009>
- Ko, S.B., & Jin, B.H. (2017). Predictors of purchase intention towards green apparel products: A cultural investigation in the USA and China. *Journal of Fashion Marketing and Management*, 21 (1), 70-87. <https://doi.org/10.1108/JFMM-07-2014-0057>
- Kim, Y. J., Njite, D., & Hancer, M. (2013). Anticipated emotion in consumers' intentions to select eco-friendly restaurants: Augmenting the theory of planned behaviour. *International Journal of Hospitality Management*, 34 (0), 255-262. <https://doi.org/10.1016/j.ijhm.2013.04.004>
- Krejcie, R. V., & Morgan, D. W. (1970). *Determining Sample Size for Research Activities*. Emmitsburg, MD: National Emergency Training Center.
- Latip, M. S. A., Newaz, F. T., Ramasamy, R., Tumin, S. A., & Noh, I. (2020). How do food safety knowledge and trust affect individual's green considerations during the covid-19 pandemic in Malaysia?. *Malaysian Journal of Consumer and Family Economics*, 24, 261-285.
- Laureti, T., & Benedetti, I. (2018). Exploring pro-environmental food purchasing behaviour: an empirical analysis of Italian consumers. *Journal of Cleaner Production*, 172, 3367-3378.
- Lasuin, C.A., & Ng, Y.C. (2014). Factors influencing green purchase intention among university students. *Malaysian Journal of Business and Economics*, 1 (2), 1-14. <https://www.ums.edu.my/mjbe/images/mjbe/vol1/number2/1.pdf> (accessed 15 July 2019)
- Lee, K. (2008). Opportunities for green marketing: young consumers. *Marketing Intelligence and Planning*, 26 (6), 573-586. <https://doi.org/10.1108/02634500810902839>
- Lea, E., & Worsley, T. (2005). Australians' organic food beliefs, demographics and values'. *British Food Journal*, 107 (11), 855-869. <https://doi.org/10.1108/00070700510629797>
- León, J. M. (2004). *Psicología de la Salud y de la Calidad de Vida*. Barcelona: UOC.

- Lidew, L., Jusoh, Z. M., Sulaiman, N., Rahim, H. A., Bakar, E. A., & Jamaluddin, A. (2015). Food choice factors affecting green food attitude in Klang Valley. *Malaysian Journal of Consumer and Family Economics*, 18, 104-113.
- Lin, Y.G. (2001). *The Green Consumption Awareness, Attitude and Behaviour for Teenagers*. Master thesis, National Taiwan Normal University, Taiwan.
- Liu, R., Pieniak, Z., and Verbeke, W. (2013). Consumers' attitudes and behaviour towards safe food in China: a review. *Food Control*, 33 (1), 93-104. <https://doi.org/10.1016/j.foodcont.2013.01.051>
- Liang, R.D. (2016). Predicting intentions to purchase organic food: the moderating effects of organic food prices. *British Food Journal*, 118 (1), 183-199. <https://doi.org/10.1108/BFJ-06-2015-0215>
- Mat, N. K. N., Sulaiman, Y., Abdul Ghani, N. H., & Mohamad, M. (2020). Halal Consumption Determinants: The Mediating Role of Risk Perception and Muslim Lifestyle. *Malaysian Journal of Consumer and Family Economics*, 24, 63-78.
- McCarthy, B. L., Liu, H. B., & Chen, T.Z. (2015). Trends in organic and green food consumption in China: Opportunities and challenges for regional Australian exporters. *Journal of Economic and Social Policy*, 17 (1), 1-24. <https://doi.org/10.13140/RG.2.2.25964.59529>
- Martinho, G., Pires, A., Portela, G., & Fonseca, M. (2015). Factors affecting consumers' choices concerning sustainable packaging during product purchase and recycling. *Resources Conservation and Recycling*, 103, 58–68. <https://doi.org/10.1016/j.resconrec.2015.07.012>
- Madden, T. J., Ellen, P. S., & Ajzen, I. (1992). A comparison of the theory of planned behaviour and the theory of reasoned action. *Personality and Social Psychology Bulletin*, 18 (1), 3-9. <https://doi.org/10.1177%2F0146167292181001>
- Magnusson, M. K., Arvola, A., Hursti, U.-K. K., Åberg, L., & Sjödén, P.-O. (2003). Choice of organic foods is related to perceived consequences for human health and environmentally friendly behaviour. *Appetite*, 40 (2), 109-117. [https://doi.org/10.1016/S0195-6663\(03\)00002-3](https://doi.org/10.1016/S0195-6663(03)00002-3)
- Miele, M., & Lever, J. (2013). Civilizing the market for welfare-friendly products in Europe? The techno-ethics of the Welfare Quality assessment. *Geoforum*, 48 (0), 63-72. <https://doi.org/10.1016/j.geoforum.2013.04.003>

- Menozzi, D., Sogari, G., Veneziani, M., Simoni, E., & Mora, C. (2017). Eating novel foods: an application of the theory of planned behaviour to predict the consumption of an insect-based product. *Food Quality and Preference*, 59, 27-34. <https://doi.org/10.1016/j.foodqual.2017.02.001>
- Miranda-de la Lama, G. C., Sepúlveda, W. S., Villarroel, M., & María, G. A. (2013). Attitudes of meat retailers to animal welfare in Spain, *Meat Science*, 95 (3), 569-575. <https://doi.org/10.1016/j.meatsci.2013.05.046>
- Mohd Noor, N.A., Jamil, C.Z.M., Mat, N., Mat, N., Kasim, A., Muhammad, A., & Salleh, H. S. (2012). The relationships between environmental knowledge, environmental attitude and subjective norm on Malaysian consumers green purchase behaviour. *Malaysian Journal of Consumer and Family Economics*, 15, 1-20.
- Ng, Y.L. (2009). Environmentally Friendly Products and Malaysian Consumers. Unpublished Master thesis, University of Malaya, Kuala Lumpur.
- Omar, N.A., Osman, L.H., Alam, S.S., Sanusi, A. (2015). Ecological conscious behaviour in Malaysia: The case of environmentally friendly products. *Malaysian Journal of Consumer and Family Economics*, 18, 17-34.
- Pipatprapa, A., Huang, H., & Huang, C. (2017). The role of quality management & innovativeness on green performance. *Corporate Social Responsibility and Environmental Management*, 24, 249-260. <https://doi.org/10.1002/csr.1416>
- Pourmand, G., Doshmangir, L., Ahmadi, A. et al. (2020). An application of the theory of planned behaviour to self-care in patients with hypertension. *BMC Public Health* 20 (1290). <https://doi.org/10.1186/s12889-020-09385-y>
- Paswan, A. (May 2009). Confirmatory factor analysis and structural equations modelling: An introduction. <https://www.scribd.com/presentation/100903527/Cfa-sem-Intro-may-18-2009> (accessed 3 February 2019)
- Padel, S., & Foster, C. (2005). Exploring the gap between attitudes and behaviour: Understanding why consumers buy or do not buy organic food. *British Food Journal*, 107 (8), 606-625. <https://doi.org/10.1108/00070700510611002>
- Prakash, G., & Pathak, P. (2017). Intention to buy eco-friendly packaged products among young consumers of India: A study on developing nation. *Journal of Cleaner Production*, 141, 385–393. <https://doi.org/10.1016/j.jclepro.2016.09.116>

- Phuah, K.T., Rezai, G., Mohamed, Z., & Shamsuddin, M.N. (2011). Consumers' awareness and consumption intention towards green foods. *Proceedings of the International Conference on Management, Malaysia*, pp 917-926.
- Phuah, K. T., Ow, M. W., Sandhu, S. K., & Kassim, U. K. (2018). Green attitude and purchase intention towards the environmentally friendly product. *Journal of Emerging Economies and Islamic Research*, 6 (1), 17-25.
- Rashotte, L. (2007). *Social Influence*. Blackwell Encyclopaedia of sociology, New Jersey: Blackwell Publishing.
- Ramayah, T., Lee, J.W.C., & Mohamad, O. (2010). Green product purchase intention: some insights from a developing country. *Resources, Conservation, and Recycling*, 54 (12), 1419-1427. <https://doi.org/10.1016/j.resconrec.2010.06.007>
- Rahman, H. A. (2018). Green Consumerism. *Asian Journal of Environment, History and Heritage*, 2 (2), 43-54. <http://spaj.ukm.my/ajehh/index.php/ajehh/article/viewFile/71/105> (accessed July 2019)
- Rashid, N.A.N.R., & Shaharudin, M.R. (2017). Customer's purchase intention for a green home. *International Journal of Procurement Management*, 10 (5), 581-599. <https://doi.org/10.1504/IJPM.2017.086402>
- Roberts, J. A. (1996). Green consumers in the 1990s: Profile and implications for advertising. *Journal of Business Research*, 36 (3), 217-231. [https://doi.org/10.1016/0148-2963\(95\)00150-6](https://doi.org/10.1016/0148-2963(95)00150-6)
- Rousseau, S., & Vranken, L. (2013). Greenmarket expansion by reducing information asymmetries: Evidence for labelled organic food products. *Food Policy*, 40 (0), 31-43. <https://doi.org/10.1016/j.foodpol.2013.01.006>
- Steenis, N.D., van Herpen, E., van der Lans, I.A., Ligthart, T.N., & van Trijp, H.C.M. (2017). Consumer response to packaging design: The role of packaging materials and graphics in sustainability perceptions and product evaluations. *Journal of Cleaner Production*, 162, 286–298. <https://doi.org/10.1016/j.jclepro.2017.06.036>
- Saleki, Z. S., & Seydsaleki, S. M. (2012). The main factors influencing the purchase behaviour of organic products in Malaysia. *Interdisciplinary Journal of Contemporary Research in Business*, 4 (1), 98–116.

- Smith, S., & Paladino, A. (2010). Eating clean and green? Investigating consumer motivations towards the purchase of organic food. *Australasian Marketing Journal*, 18 (2), 93-104. <https://doi.org/10.1016/j.ausmj.2010.01.001>
- Sparks, P., Hedderley, D., & Shepherd, R. (1992). An investigation into the relationship between perceived control, attitude variability and the consumption of two common foods. *European Journal of Social Psychology*, 22 (1), 55-71. <https://doi.org/10.1002/ejsp.2420220107>
- Samah, B.A. (2012). Structural equation modelling using AMOS. <http://www.psm.upm.edu.my/TrainingMaterials.htm> (accessed 3 February 2019)
- Syaidatina, A. M. A., & Norazah, M. S. (2013). Consumers' intention to purchase a green product: insight from Malaysia. *World Applied Sciences Journal*, 22 (8), 1129-1134. <https://doi.org/10.5829/idosi.wasj.2013.22.08.616>
- Sudiyanti, S. (2009). Predicting Women Purchase Intention for Green Food Products in Indonesia. Master Dissertation, University of Agder, Indonesia.
- Tan, B. C., & Lau, T. C. (2010). Attitudes towards the environment and green products,' *Management Science and Engineering*, 4 (2), 27-39. <http://dx.doi.org/10.3968/j.mse.1913035X20100402.002>
- Tan, T. H (2013). Use of structural equation modelling to predict the intention to purchase green and sustainable homes in Malaysia. *Asian Social Science*, 9 (10), 181-191. <https://doi.org/10.5539/ass.v9n10p181>
- Thanh Nguyen, H.T., Anderson, D.J., Dunne, M.P., & Thanh Nguyen, H. (2015). Development and validation of a questionnaire to measure health professionals' attitudes towards identification of female victims of domestic violence. *Health*, 7, 596-605. <https://dx.doi.org/10.4236/health.2015.75071>
- Thompson, K. E., Haziris, N & Alekos, P. J. (1994). Attitudes and food choice behaviour, *British Food Journal*, 96 (11), 9-13. <https://doi.org/10.1108/00070709410074632>
- Tsubota, K. (2002). Views on Food Production: Towards a New Green Revolution. Paper Presented at the 13th International Farm Management Congress. 7-12 June 2002. Wageningen, The Netherlands.
- Tuorila, H. (1987). Selection of milk with varying fat contents and related overall liking, attitudes, norms and intentions. *Appetite*, 8 (1), 1-14. [https://doi.org/10.1016/S0195-6663\(87\)80022-3](https://doi.org/10.1016/S0195-6663(87)80022-3)

- Van Birgelen, M., Semeijn, J., & Keicher, M. (2009). Packaging and Proenvironmental Consumption Behavior. *Environment and Behaviour*, 41 (1), 125–146.  
<https://doi.org/10.1177%2F0013916507311140>
- Vermeir, I., & Verbeke, W. (2008). Sustainable food consumption among young adults in Belgium: theory of planned behaviour and the role of confidence and values. *Ecological Economics*, 64 (3), 542-553. <https://doi.org/10.1016/j.ecolecon.2007.03.007>
- Wahid, N. A., Rahbar, E., & Tan, S. S. (2011). Factors influencing the green purchase behaviour of Penang environmental volunteer. *International Business Management*, 5 (1), 38 – 49.  
<http://dx.doi.org/10.3923/ibm.2011.38.49>
- Worsley, A., Wang, W., & Burton, M. (2015). Food concerns and support for environmental food policies and purchasing Appetite, 91, 48-55.  
<https://doi.org/https://doi.org/10.1016/j.appet.2015.02.040>
- Wilson, J. Q., and Kelling, G. L. (n.a) Broken Window. The police and neighbourhood safety. [https://www.manhattan-institute.org/pdf/\\_atlantic\\_monthly-broken\\_windows.pdf](https://www.manhattan-institute.org/pdf/_atlantic_monthly-broken_windows.pdf) (accessed 2 February 2019)
- Yin, S., Linhai, W., Lili, D., & Chena M. (2010). Consumers' purchase intention of organic food in China. *Journal of the Science of Food and Agriculture*, 90 (8), 1361–1367.  
<https://doi.org/10.1002/jsfa.3936>
- Zheng, Y. (2009). Empirical analysis of consumer awareness of organic food and buying behaviour. *Jiangsu Commercial Forum*, 12, 44–45.
- Zhang, L., Chen, L.W., Wu, Z.Z., Zhang, S.Z., & Song, H.B. (2018). Investigating young consumers' purchasing intention of green housing in China. *Sustainability*, 10 (1044), 1-15.  
<https://doi.org/10.3390/su10041044>
- Zeithaml, V. A., Berry, L. L. & Parasuraman, A. (1996). The behavioural consequences of service quality. *Journal of Marketing*, 60 (Apr), 31-46.