Rational or Emotional? A Study on Organic Grocery Shopping

Phang Ing @ Grace[1] and Liew Fung Chai[2]
Faculty of Business, Economics and Accountancy,
Universiti Malaysia Sabah, Jalan UMS, 88400 Kota Kinabalu, Malaysia

[1]gracep@ums.edu.my, [2]jonellaliew@gmail.com

Received: 27 September 2019
Accepted: 22 November 2019
Published: 31 December 2019

ABSTRACT

This paper examined organic food purchase intention among Malaysian grocery shoppers. Adopting the Theory of Planned Behaviour and Norm Activation Model, self-interest and pro-social factors were examined. Self-identity was added to the framework as an additional variable in shaping the purchase intention of organic food and the mediating effects of the NAM were tested. A total of 131 valid responses were collected and analysed using SPSS v.24 and SmartPLS 3.0 software. The results indicated that purchases of grocery organic products are driven by both rational and emotional motives. There were significant impacts of perceived behavioural control, attitude, and personal norm on purchase intention of organic food. Interestingly, the results show that Malaysian shoppers did not use organic food as a mean to show socially desirable behaviours, but rather as a personal norm in which they were aware of the consequences and felt responsibilities to these negative consequences.

Keywords: *Self-interest; pro-social; NAM; TPB; organic food; retail grocery shopping*

INTRODUCTION

For decades, green product has been a vital academic research topic, either in term of business or health. Under the 'green' umbrella, organic food products (OFP) are defined as "green products" (produced in an environment friendly manner), which are safer (produce with fewer

herbicides and pesticides), or as generally more wholesome and nutritious (Jolly, 1991). Changes in consumers' lifestyle, health awareness toward healthy food consumption and the pressure of negative effects from chemical residuals in food intakes have led to the popularity of organic food. The general belief is that organic food is healthier than conventional food (Bonn, Cronin & Cho, 2016). The potential of organic food is increasing over the past years and it was reported exceeded billions in Europe, Australia, Japan and North America alone (Makatouni, 2002). The global organic food sales was estimated to have achieved USD375.98 billion in 2025, according to BlueWeave Consulting (Report Ocean, 5th August 2019). Even though the world organic food market is still dominated by the US and European countries (Wiler & Lernoud, 2017), the annual demand for organic food in Asia has increased 5%, with 11% of increment in the production area between the period of 2014 to 2015.

Fast-growing economies in Asia have led to a dynamic rise in financial-empowered consumers who are willing to pay extra to get better quality food. Asian consumers have become the primary targets for international green marketers (Lee, 2009). The previous environmental studies suggested the importance of self-interest and pro-social motives in pro-environmental behaviours (Harland, Staats & Wilke, 1999; Park & Ha, 2014; Han, Lee & Hwang, 2016). Individuals portray pro-environmental behaviours due to their personal interest (e.g. positive attitudes towards the behaviour; explained by the Theory of Planned Behaviour; Han et al., 2016) as well as the pro-social motivations (e.g. personal norms, awareness of the consequences, ascriptions of consequences, explained by Norm Activation Model; Schwartz, 1977). However, Asian consumers (especially the Chinese) have been criticised for being too price sensitive or even use green product as a socialization tool to show to others (Chen, 2013). Importantly, they prefer to choose cheaper food option. This raises a question of whether these Asian consumers are in fact true "green believers" (driven by self-interest motives) or just to conform to social trend or norm (driven by pro-social motives). Will this be the case in organic food consumption, particularly in a developing country like Malaysia?

The statistics show that organic food market in Malaysia remains to grow at a low percentage, with a relatively small market share compared to the overall food market. According to Neilson Global Survey of

Corporate Social Responsibility and Sustainability (Nielson, 2015), more than two thirds of Malaysians are comfortable purchasing products known for health and wellness benefits as well as products which are made from fresh, natural or organic ingredients. However, the Nielson's report showed that only 20 percent of consumers are willing to pay more for environmentally friendly products (The Edge, 2011), corroborate the findings of Noor, Muhammad, Kassim, Jamil, Mat, et al. (2012). Furthermore, researchers are arguing on the gaps between consumer awareness and their understanding of what organic food is in developing country (Saleki, Seyedeh & Rahimi, 2012) which further raises concerns on awareness of consequences and ascription to responsibility among Malaysian consumers. Despite being popular, there is insufficient empirical study examining the integrative model in predicting an individual's pro-organic behaviours, especially in a grocery retail context. Importantly, most Malaysian studies focus on green products in general rather than organic grocery products in specific (i.e. Chekima, Wafa, Igau, Chekima & Sondoh, 2016; Tang, 2014; Tsen, Phang, Hasan & Buncha, 2006). The study combining both rational (e.g. self-interest aspects) and emotional (e.g. pro-social motives) aspects in organic food studies are insufficient.

This research paper hence aims to investigate the purchase intention among consumers in choosing organic food during grocery shopping, by examining the self-interest motives suggested by the Theory of Planned Behaviour (TPB; attitude, subjective norm, perceived behavioural control) and the pro-social motives under norm activation model (awareness of consequences, ascription of responsibility, and personal norm). Extending Shin, Im, Jung and Severt's framework (2018), an additional variable namely self-identity (SI) was added to suit the study context and the mediating effects of the NAM were tested. The findings of this study will assist retailers to plan and implement effective retail marketing strategies to encourage more organic food consumption.

LITERATURE REVIEW

Despite the general belief that organic food has higher nutrition compared to conventional food, according to Dietitian Edna Loh (Mail, March 16th 2014), the health benefits of organic food are inconsistent because all

crops grown naturally would have slight variations in their nutritional composition. The good news is, Malaysian are becoming more interested in environmentally friendly products such as organic food (Ahmad & Juhdi, 2010) and hold positive attitudes toward green products (Yaccob & Zakaria, 2011). Ranked ninth in terms of consumer worries about the impact of air pollution and global warming; Malaysians expressed great concern over environmental issue and switched to consume environmentally friendly products. The review of the literature implied the consumers are drawn by both rational and emotional motives with regards to organic food consumption.

The Theory of Planned Behaviour (TPB; Azjen, 1991), an extension of Theory of Reasoned Action (TRA, Ajzen & Fishbein, 1980), is one of the most popular theories in social psychology. TPB postulates that when someone holds favourable attitude, with greater subjective norm and higher perceived control on his/her behaviour, the intention to perform behaviour should be higher (Ajzen, 1991). In food related studies, TPB has successfully been adopted to explain consumer preferences and tastes of food choices (e.g. Arvola, Vassollo, Dean et al., 2008; Dean, Raats, & Shepherd, 2008), to predict organic food product consumption (Teng, Golnaz, Razai & Shamsudin, 2011) as well as to predict intention to buy genetically modified foods in consumer grocery shopping (O'Fallon, Gursoy & Swanger, 2007).

Norm activation model (Schwarts, 1977) is used to predict a person's altruistic and prosocial behaviour. Prosocial behaviour defines a person's actions where they are intended to perform helping, sharing and cooperating behaviours. These actions are closely related to morality where it could determine prosocial behaviour. NAM is widely used to examine a diversity of prosocial intention and behaviours such as in donating bone marrow, donating blood, volunteering, and helping in emergency situations (Steg & de Groot, 2010). It is also adopted in hospitality and tourism studies, such as, the natural heritage tourism sites (Gao, Huang & Zhang, 2017), environmentally responsible conventions (Han, 2014), cruise tourism (Han et al., 2016), and lodging (Han, Hwang, Kim & Jang, 2015). By measuring individuals' pro-environmental behaviour or their intention using three (3) vital keys namely awareness of consequences (AC), ascription of responsibility (AR) and personal norms (PN; Schwarts, 1977), NAM could act as a mediator model (de Groot &

Steg, 2009) or a moderator model. In other words, a person must be aware of the consequences of his or her behaviour before feeling responsible for it and eventually engaging in pro environmental behaviours. The application of both TPB and NAM into the organic food consumption framework would enable a robust examination of the rational and emotional motives contributing to organic food consumption.

Attitude refers to "*the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question*" (Ajzen, 1991, p. 188), meanwhile intention refers an individual's willingness to perform his or her behaviour. It is an important factor to predict the consumer behaviour (Fishbein & Ajzen, 1975), while attitude is consistently a predictor of various behavioural intentions (i.e. Glassman, Dodd, Sheu, Rienzo & Wagenaar, 2010 for alcohol consumptions; Kozup, Creyer & Burton, 2003; Dreezens, Martijn, Tenbult & Vries, 2005). The significant relationship between attitude and intention is supported in many pro-environmental studies (e.g. Prakash & Pathak, 2017; Shin, et al., 2018; Suciarto, Hung, Ho & Sitohang, 2015). In the case of organic food consumption, positive attitude towards consuming organic food is postulated to increase intention to purchase. Based on this, the hypothesis is formulated as:

H1: Attitude is positively related to purchase intention on organic food.

Subjective norm is defined as "*the perceived social pressure to perform or not to perform the behaviour*" (Ajzen, 1991, p. 188). Higher intention to perform a behaviour should be formed when the behaviour is perceived as appropriate or acceptable to the reference groups (e.g. friends, family members and any other people) who are important to an individual (Jiang, Zhao, Sun, Zhang, Zheng et al., 2016). Dean et al. (2008) found that subjective norm positively influences consumer's intention to buy organic food as consumers always refer to their reference groups for opinions and information on what to buy and eat and to satisfy their expectations. Based on the above, the hypothesis is formulated as:

H2: Subjective norm is positively related to purchase intention on organic food.

Perceived behavioural control (PBC) refers to "*the perceived ease or difficulty of performing the behaviour*" (Azjen, 1991, p. 188), reflecting the ease of access to resources and chances needed to successfully perform a behaviour. It is viewed as the most powerful factor in influencing a behaviour, for instance employees' intentions to switch their computer off in a workplace setting and use a video (e.g.: conferencing) during travelling for a meeting (Armitage & Talibudeen, 2010). However, Gracia and Maza (2015) found no significant relationship between perceived behavioural control and intention to buy food such as mutton. Contradictory, PBC was found to have a significant impact on sustainable food purchase (e.g., Robinson & Smith, 2002; Vermeir & Verbeke, 2008). A person chooses organic food when he or she can easily identify the labelling on organic product and has a high degree of controllability or self-efficacy on his or her intention to purchase organic food. Therefore, the hypothesis is formulated as:

H3: Perceived behavioural control is positively related to purchase intention on organic food.

Expectations are formed in accordance with role-appropriate behaviour. Individuals perform appropriate behaviours to meet their expectations (Jiang et al*.,* 2016). Self-identity is the extent to which performing a behaviour that is vital to a person's self-concept (Conner & Armitage, 1998). Self-identity (Stryker, 1968) or also known as self-presentation often includes manipulating the signs or identity of the self, depending on the social environment. It is both a product of social interaction and a cause of subsequent behaviours (Gecas, 1982; Stryker, 1985) and hence used as a predictor of intention (Sparks and Guthrie, 1998; Stok, Verkooijen, Ridder & Vet, 2014; Terry, Hogg & White, 1999). Self-identification has been implicated as an important driver of general consumer behaviour (Johe & Bhullar, 2016) and pro-environmental behaviours (e.g. Devine-Wright, 2009 in Carfora, Caso, Sparks & Conner, 2017). According to Hwang (2016), self-identity or self-presentation plays an important role in organic food buying. Buying or consuming organic food is perceived as a socially desirable behaviour where it contributes to societal well-being and hence motivates an individual to present the self-image. In fact, some argue organic food consumption is both trendy and fashionable (Petrescu & Petrescu-Mag, 2015 in Shin et al., 2018). Therefore, the hypothesis is formulated as:

H4: Self-identity is positively related to purchase intention on organic food

Awareness of consequences describes "*whether someone is aware of the negative consequences for others or for other things one values when not acting pro-socially*" (de Groot & Steg, 2009, p. 426), while ascription of responsibility refers to the "*feelings of responsibility for the negative consequences of not acting pro-socially*" (de Groot and Steg, 2009, p. 426). Personal norm on the other hand, is defined as a person's feeling of a "*moral obligation to perform or refrain from specific actions*" (Schwartz and Howard, 1981, p. 191). In the case of organic food, it is postulated that when someone aware of the negative consequences of not consuming organic food and feels responsible for these consequences, he/she will feel morally oblige to consume organic food. Personal norm is less likely to influence behaviour when people deny the problem in their relationship to respond when awareness of consequences and ascription of responsibility are low (Schwartz, 1977). Previous study also conforms the relationship between personal norm and prosocial behaviour among candidates who are aware of the consequences of not acting prosocial and they feel responsible for the consequences (Zhang, Wang & Zhou, 2013).

In this study, ascription of responsibility is postulated to mediate the relationship between awareness of responsibility and personal norm (de Groot & Steg, 2009) and positively related to awareness of consequences (Han, 2014). Han (2014) also found significant impact of ascription of responsibility on personal norm. In another study, de Ryuter and Wetzels's (2000) also posit that personal norm mediated the relationship between ascription of responsibility and intention. Therefore, the hypothesis is formulated as:

H5: Awareness of consequences is positively related to ascription of responsibility.

H6: Ascription of responsibility is positively related to personal norm.

According to Schwartz (1977), an "activated personal norm" is experienced as feelings of moral obligation when a person act in a right or wrong way to a specific action. Social norm is more likely to guide a group of population to decide what is *"right or wrong; and what is the appropriate behaviour to be performed"* (Sexton & Sexton, 2014 in

Prakash & Pathak, 2017, p.387). Personal norm is formed when social norm is incorporated into a consistent personal value system (Jansson, 2011). Personal norm is referring to "*a strong moral obligation to engage in an altruistic behaviour or green behaviour*" (Moser, 2015; Schwartz, 1977 in Prakash & Pathak, 2017, p. 387). It is vital in influencing the intention to implement a pro-environmental behaviour (de Groot & Steg, 2009). In Prakash and Pathak (2017)'s study, young Indian consumers prefer pro eco-friendly packaging due to their strong ethical motives and high moral to protect the environment. A similar result was found in Shin et al. (2018)'s study. Contradictory, Khare (2015) found no support for such relationship among Indian consumers, with raises need for further examination of the role of personal norm in pro environmental behaviours, especially in developing country context. In this study, a strong personal norm is posited to change consumers' organic food consumption patterns. Therefore, the hypothesis is formulated as:

H7: Personal norm is positively related to purchase intention of organic food products.

METHODOLOGY

The framework builds on TPB and NAM to present a holistic examination of organic food purchase intention. It is postulated here that intention to buy organic food in grocery shopping is not only a rational decision, but also influenced by the emotional aspects. By extending Shin et al. (2018)'s study on organic food menu in a restaurant setting to organic food products in grocery retail shopping context, self-identity was introduced to the framework due to its relevancy in pro-environmental decisions such as organic food consumption. Adopting the purposive sampling technique, the respondents were anyone who had had the experience of buying green products (not necessarily organic food) and aged above 18 years old. These consumers were viewed as capable of making independent purchase decision. The research object referred to any organic food available in the market and respondents were approached at the entrance/exit of the supermarkets/minimarkets to ensure relevancy.

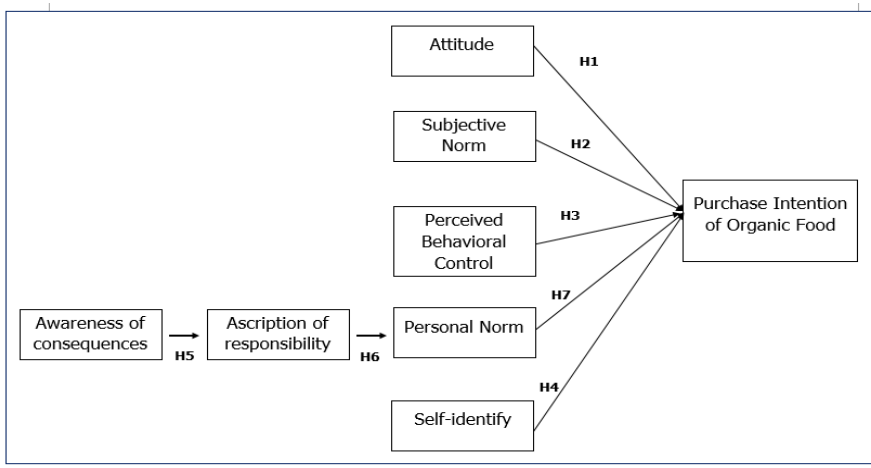

Figure 1: Conceptual Framework
Source: Adapted framework from Shin et al. (2018)

This study aims to examine the relationships between attitude, subjective norm, perceived behavioural control, personal norms and self-identity on purchase intention. G*Power Analysis with a priori test determined a minimum of 115 responses to be collected. A total of 160 questionnaires were distributed and 150 responses were collected. Only 131 valid responses were then used for data analysis due to incomplete questionnaires and doubtful answers.

The measurement items for attitude (8 items) and purchase intention (5 items) of organic food products were adapted from Grace and O'Cass (2005) and Yadav and Pathak (2016); meanwhile measurement items for subjective norm (3 items), perceived behavioural control (4 items), awareness of consequences (4 items) and ascription of responsibility (3 items) and personal norms (4 items) were adapted from Shin et al. (2018). Finally, measurement items for self-identity (5 items) were adapted from Thorbjornsen, Perdersen and Nysveen (2007).

Majority of the respondents were female Chinese (42.7%) consumers (51.1%) aged between 20-25 years old (30.5%). Most of them were single woman (51.9%) who earned an average monthly income of RM1500-RM2500, with a bachelor's degree.

Table 1: Profile of Respondents

Demographic Variables	Categories	Frequency	Percentage
Age	21-25	40	30.5
	26-30	25	19.1
	31-35	18	13.7
	36-40	22	16.8
	41-50	17	13.0
	51 and above	9	6.9
Gender	Female	67	51.1
	Male	64	48.9
Ethnicity	Malay	22	16.8
	Chinese	56	42.7
	India	10	7.6
	Other	43	32.8
Marital Status	Single	68	51.9
	Married	54	41.2
	Other	9	6.9
Education	PMR	9	6.9
	SPM/'O' Level	35	26.7
	STPM/'A' Level/Diploma	39	29.8
	Degree and above	47	35.9
	Other	1	0.8
Income	<RM800	16	12.2
	RM801-RM1500	24	18.3
	RM1501-RM2500	46	35.1
	RM2501-RM3500	27	20.6
	RM3501-RM4500	9	6.9
	>RM4501	9	6.9

Table 2: Descriptive Analysis for Variables

Variables	Mean	Std. Deviation
Attitude	3.92	0.51
Subjective Norm	3.69	0.69
Perceived Behavioural Control	3.64	0.58
Self-identity	2.88	0.87
Awareness of consequences	3.69	0.61
Ascription of responsibility	3.72	0.75
Personal Norm	3.35	0.89
Purchase Intention of organic food products	3.79	0.61

Based on Table 2, the total value of mean for all variables were above than three which implied rather positive responses among the respondents. The standard deviations were less than 1.

Table 3: Convergent Validity Test Results

Construct	Item	Loading	Cronbach's Alpha	CR	LVE
Awareness of Consequences (AC)	AC1	0.804	0.799	0.869	0.629
	AC2	0.906			
	AC3	0.827			
	AC4	0.606			
Ascription of responsibility (AR)	AR1	0.872	0.827	0.897	0.744
	AR2	0.899			
	AR3	0.813			
Attitude (A)	ATT1	0.64	0.825	0.871	0.531
	ATT2	0.729			
	ATT3	0.731			
	ATT6	0.764			
	ATT7	0.768			
	ATT8	0.734			
Purchase Intention (PI)	INT1	0.803	0.841	0.887	0.612
	INT2	0.763			
	INT3	0.835			
	INT4	0.758			
	INT5	0.75			
Perceived Behavioural Control (PCB)	PBC1	0.783	0.713	0.838	0.634
	PBC2	0.828			
	PBC3	0.777			
Personal Norm (PN)	PN1	0.729	0.736	0.852	0.659
	PN2	0.905			
	PN3	0.792			
Self-identity (SI)	SI1	0.876	0.922	0.939	0.72
	SI2	0.829			
	SI3	0.849			
	SI4	0.808			
	SI5	0.889			
	SI6	0.839			
Subjective Norm (SN)	SN1	0.767	0.817	0.89	0.732
	SN2	0.93			
	SN3	0.86			

Note: Measurement items for ATT4, ATT5 and PBC4 was deleted due to low or weak loading (<0.50)

Hair, Ringle and Sarstedt (2011) suggested using factors loadings, composite reliability (CR) and average variance extracted (AVE) to assess convergence validity. According to Fornell and Larcker (1981), the loadings for each variable should be exceeding 0.50. For attitude variables, two measurement items were removed due to low loadings 'ATT4. Overall, I think organic food products is very desirable' and 'ATT5. Overall, I think an organic food product is extremely likeable'. Meanwhile, one

measurement item for perceived behavioural control was removed due to low loading (PBC4. I have enough time to choose an organic food product when I buy groceries). According to Ramayah, Cheah, Chuah, Ting and Menon (2016) and Hair et al. (2011), the recommended value for CR is above 0.70. All variables in Table 3 were found to have CR higher than 0.70, indicated that all items had sufficient convergence or internal consistency. Secondly, the Cronbach's alpha coefficients (α) for all items were sufficient because the values were ranged between 0.713 and 0.922.

According to Bagozzi and Yi (1988) and Fornell and Larcker (1981), the value of AVE must exceed 0.5 in order to suggest sufficient convergent validity. All AfornellVE values in Table 3 were exceeding 0.5. Convergent validity is hence assured in this study. Next, discriminant validity was determined by examining the cross loadings and Fornell and Larcker's Criterion. Appendix 1 shows the results for the cross-loading analysis. The results indicated that the loading of an indicator on its assigned latent variable was higher than the loading on other latent variables. Fornell and Larcker (1981) stated that a latent variable of the same indicator should be better than the variance of other latent variables. The AVE of a latent variable must exceed the squared correlations between latent variables and all other variables (Chin, 2010). From Table 4, the squared AVE for each latent variable among the same indicator was higher than the variance of other latent variables. Hence discriminant validity is assured. A threshold value of 0.90 has been suggested for HTMT (Henseler, Ringle & Sarstedt, 2015). Above 0.90 shows a lack of discriminant validity and the confidence interval of the HTMT should not involve the value of 1. Table 5 shows that HTMT criterion has been fulfilled.

Table 4: Fornell & Larcker's Criterion

	AR	ATT	AC	PBC	PN	INT	SI	SN
AR	0.862							
ATT	0.319	0.729						
AC	0.535	0.318	0.793					
PBC	0.150	0.420	0.301	0.796				
PN	0.294	0.383	0.346	0.291	0.812			
INT	0.319	0.533	0.396	0.557	0.487	0.782		
SI	0.191	0.327	0.255	0.443	0.551	0.437	0.849	
SN	0.059	0.337	0.063	0.422	0.300	0.265	0.364	0.855

Table 5: HTMT

	AR	A	AC	PBC	PN	PI	SI	SN
AR								
A	0.380							
AC	0.642	0.382						
PBC	0.208	0.524	0.396					
PN	0.374	0.511	0.447	0.393				
PI	0.381	0.615	0.485	0.704	0.621			
SI	0.221	0.376	0.291	0.534	0.664	0.491		
SN	0.156	0.426	0.106	0.547	0.380	0.326	0.410	

Path coefficients (β) for hypothesis testing were obtained by running the SmartPLS algorithm and bootstrapping with 5000 samples, based on t-value. The R^2 explained was 0.491 and the adjusted R^2 was 0.47. The results indicated five supported hypotheses (H1, H3, H5, H6, and H7) and two unsupported hypotheses (H2 and H4). In other words, subjective norms and self-identity were found to have no significant relationships with purchase intention, while attitude, perceived behavioural control and personal norm did. Awareness of consequences had a significant impact on ascription of responsibility and later on personal norm.

The effect size was measured according to a guideline by Cohen (1988) in which the value of 0.01, 0.20, 0.50, and 0.80 represents very small, small, medium, and large effect respectively. The effect sizes for all the relationships tested were considered as very small, except the relationship between awareness of consequences on ascription of responsibility which has a close to medium size effect size (f^2=0.402). The VIF values for all hypotheses were ranged from 1 to 1.673, indicating that lateral multicollinearity is not a concern in this study (Hair, Sarstedt, Hopkins & Kuppelwieser, 2014).

Table 6: Significance Testing Results of the Structural Model Path Coefficients

Hypo-thesis	Relationship	Std. Beta	Std. Error	t-values	p-values	f^2	Results
H1	Attitude -> Purchase Intention	0.287	0.076	3.771**	0.001	0.119	Supported
H2	Subjective Norm -> Purchase Intention	-0.09	0.079	1.14	0	0.012	Not Supported
H3	Perceived Behavioural Control -> Purchase Intention	0.368	0.077	4.784**	0	0.179	Supported
H4	Self-identity -> Purchase Intention	0.071	0.076	0.938	0	0.006	Not Supported
H5	Awareness of Consequences -> Ascription of responsibility	0.535	0.072	7.405**	0	0.402	Supported
H6	Ascription of responsibility -> Personal Norm	0.294	0.093	3.143**	0.174	0.094	Supported
H7	Personal Norm -> Purchase Intention	0.258	0.071	3.639**	0.127	0.085	Supported

Note: t-values > 1.65* (p<0.05); t-values >2.33** (p<0.01)

Table 7: Mediating Analysis

Relationship	Indirect Effect Beta	Std. Error	t-values	p-values	LL	UL	Results
AC -> AR -> PN	0.157	0.06	2.618	0.009	0.047	0.277	Supported
AC -> AR -> PN -> PI	0.041	0.02	2.068	0.039	0.012	0.087	Supported

Table 7 shows that ascription of responsibility (AR) is a mediator between awareness of consequences (AC) and personal norm (PN) and the bootstrapping analysis showed an indirect effect, t-value= 2.618, p<.05

with no 0 value in between. For second hypothesis for mediation effect where personal norm (PN) is also found a valid mediator between ascription of responsibility and purchase intention, t=2.068, p<.05, with no 0 value in within.

According to Hair et al. (2014), Q^2 value should be included in explaining predictive relevance. According to Fornell and Cha (1994), a Q^2 value of > 0 indicates that there is predictive relevance whereas a value of < 0 indicates the model lack of predictive relevance. Table 8 shows that result for Q^2 predictive relevance in this study was more than 0, indicated sufficient predictive power.

Table 8: Q^2 Predictive Relevance

	SSO	SSE	Q^2 (=1-SSE/SSO)
Ascription of responsibility	393	318.166	0.19
Attitude	786	786	
Awareness of Consequences	524	524	
Perceived Behavioural Control	393	393	
Personal Norm	393	372.674	0.052
Purchase Intention	655	478.026	0.27
Self-identity	786	786	
Subjective Norm	393	393	

DISCUSSION, IMPLICATION, LIMITATIONS AND CONCLUSION

The findings of this study supported the previous pro-environmental behaviour studies (Han et al., 2015; Han et al., 2016; Shin et al., 2018) that a person's intention to purchase organic food is driven by self-interest and pro-social motives. In line with Shin et al. (2018)'s view that the salience of these motives could differ according to study contexts. For instance, Han, Meng and Kim (2017) found personal norm to have marginal effect on intention to participate in bicycle tourism, while Han et al. (2015) found attitude and subjective norm have comparatively lesser influence than moral norm in choosing a green hotel. Shin et al. (2018). on the other hand, found attitude, subjective norm and perceived behavioural control to play significant roles in organic food menu choices, along with personal norm. Attitude played the most important role in Shin et al.'s study. In this study,

self-interest motives were represented by attitude, subjective norm and perceived behavioural control, while pro-social motives were represented by ascription of responsibility, awareness of consequences and personal norm. Self-identity was added to the framework as an additional variable in shaping the purchase intention of organic food. The results showed significant impacts of perceived behavioural control, attitude, and personal norm on purchase intention of organic food.

Attitude is found to be a valid determinant of organic food purchase intention among Malaysian organic food consumers, corroborated the findings of Suciarto et al. (2015) in the case of green products. The findings also supported Prakash and Pathak's (2017) findings on the relationship between attitude and purchase intention on eco-friendly packaging as well as Shin et al. (2018)'s study in the organic food menu. In this study, attitude was found to be the second most influential factor after perceived behavioural control. Having positive attitudes toward buying of organic food would increase the intention to buy organic food.

The significant relationship between perceived behavioural control and purchase intention was consistent with Carfora et al. (2017)'s and Sjoberg, Kim and Reicks (2004)'s studies. In Carfora et al. (2017) study, those who have stronger perceived behavioural control tend to have higher pro-environmental behaviour intentions than any other variables in TPB. This finding also supporting Armitage and Talibudeen (2010)'s argument that perceived behavioural control is the most important determinant of purchase intention. In other words, Malaysian grocery food consumers must believe that they have the control on the type of food consume to draw more purchase intention. This could be due to higher assurance and perceived control over the safety of their food intakes.

Surprisingly, subjective norm was not significantly influencing purchase intention, contradicting Shin et al. (2018)'s study. In Shin's study, subjective norm served as an important driver on intention to choose organic menu items in the US. However, in this study, reference group influence on organic food selection is insignificant, consistent with Gracia and Maza (2015) and Carfora et al. (2017). In other words, despite their importance, purchase of organic food is very much related to what a person believes to be his/her personal norm and what he could do

(perceived behavioural control), rather than being influenced by other people. This could be due to the differences in purchase situation and the type of customers. In Shin's study where organic food menu in a restaurant setting is concerned, subjective norm matters most because most people don't dine in restaurant alone, and the food choice is more of a collective decision than individual. On the contrary, this study revealed that majority of the respondents are single young women who tend to make their grocery shopping alone. This makes meeting reference group's expectation to be minimal.

Unfortunately, the findings did not support the relationship between self-identity and intention, corroborated Gardner, de Bruijn and Lally (2012)'s study in the case of binge-drinking behaviour among students in United Kingdom. In other words, purchase intention is affected by whether a person is self-identified as a "green consumer" or not. This is contradictory to a study by Barbarossa, De Pelsmacker and Moons (2017) who found green self-identity has a positive impact on consumer intention to use eco-friendly alternatives such as electric cars in Belgium. A possible explanation could be the emphasis consumer placed on the personal benefits of the organic food more than to treat organic food consumption as a socially desirable behaviour, implied by the significant effect of personal norm and insignificant effect of subjective norm. The other reason could be the possible moderating role of self-identity. In Carfora et al. (2017)'s study, self-identity was tested as a moderator in the relationship between perceived behavioural control and pro-environmental intention rather than having a direct relationship with intention.

A significant relationship was found between awareness of consequences and ascription of responsibility, supporting Shin et al. (2018). The results show that consumers feel responsible to the environment shall they are aware of the consequences of their actions. In addition, the significant relationship between ascription of responsibility and personal norm also supported Shin et al. (2018)'s findings that personal norm is activated by knowing and feeling responsibility for the negative consequences. Besides, ascription of responsibility mediated the relationship between personal norm and awareness of consequences in this study, supported Han (2014). The significant mediating effects of ascription of responsibility and personal norm are inconsistent with a study by Shin et al. (2018) study which found significant direct effects of

ascription of responsibility and awareness of consequences on personal norm. In this study, consumer awareness of consequences affects their personal norm through ascription of responsibility and further influences their purchase intention of organic grocery food.

Finally, personal norm is found to have a significant relationship with purchase intention of organic grocery food, corroborating the findings of Prakash and Pathak (2017) and Shin et al. (2018). In Prakash and Pathak (2017) study, the authors concluded that young Indian consumers have strong ethical motives and high moral values that favour environment protection. Similarly, in this study, the respondents were mostly young woman who aged between 25-30 years old also implied that young consumers are aware of and feel personally responsible of the negative consequences of environment deterioration and hence treating pro-environmental behaviours as a personal norm. This leads to higher intention to purchase organic grocery food products. The significant influence of personal norm on purchase intention reflected the emotional component of the pro-environmental behaviours such as consuming organic food by either evoking anticipated guilt and anticipated pride of failing or achieving pro-environmental action (Shin et al., 2018).

IMPLICATIONS

This study provides empirical indication supporting the relationship between TPB, NAM, self-identity and purchase intention in the context of organic grocery food. The mediating roles of ascription of responsibility and personal norms were also confirmed in this study, corroborating Shin et al. (2018). Consumers who show positive environment behaviour would have higher probability to purchase green products more often (Straughan & Roberts, 1999). They did not use organic food as a mean to show socially desirable behaviours, but rather as a personal norm in which they were aware of the consequences and felt responsible towards these negative consequences. They were driven by their perceived control on their own behaviours. The outcomes for current study provide a better understanding for marketers about the potential of organic food products in the grocery stores. Marketers should aware that consumers do associate certain determinants in influencing their purchase intention in green products (Oii, Kwek & Tan, 2012). In Malaysia, purchases of grocery

organic food are driven by both rational and emotional motives, especially among the younger consumers. Better market segment and targeting strategies could be drawn specifically to reach this niche market. For instance, retailers could provide information on the sources, ingredients and supply chain to convince the consumers. It is important for organic retailers or marketers to link the consumption of organic food to the altruistic and pro-environmental behaviours. It is also critical for retailers and marketers to realize that awareness on the negative consequences of ones' behaviours on environment might not be strong enough to establish a pro-environment norm. It is important for consumers to have high ascription of responsibility to their behaviours to form a pro-environmental norm and later, higher purchase intention to buy organic food products. Extra information on the benefits of organic food to one self and to the environment should be provided either on the labels of the package, point of purchase or through barcodes which consumers could scan and access. In-store displays and promotional messages should strongly and clearly suggest the pro-environmental messages to induce the pro-environmental personal norm and later, their purchase intention.

LIMITATIONS AND FUTURE RESEARCH

Several limitations have been identified in this study. First, this study is a cross-sectional study where the data collection was conducted only at one point of time. A longitudinal study would be able to provide a more robust assessment of the organic food consumption. Secondly, the respondents in this study were mainly single young women which limit the generalizability of result. The findings showed that consumers could have emphasised on the personal benefits of organic food rather than treating organic food consumption as a socially desirable behaviour, implied by the significant effect of personal norm and insignificant effect of subjective norm. This suggests that consumers are known to be driven by different motives at different life stages or even the user status (e.g. first time users, repeat users, heavy user etc.) for food consumption. Future studies could focus on a comparison across different demographic as well as behavioural variables to better identify the core followers of organic grocery food.

By integrating the TPB and NAM, the current study extended the framework by Shin et al. (2018) to identify purchase intention of organic

food in a grocery retail context. Malaysian organic grocery food consumers who are mostly young single women are influenced by their attitude toward consuming organic food, perceived behavioural control and personal norms in their organic grocery food consumption. The study also confirmed the mediation effects of personal norm and ascription of responsibility in the relationships between awareness of consequences and purchase intention. In brief, marketers should tailor their marketing messages to not only focus on building positive attitudes and perceived behavioural control, but also by making consumers aware of the negative consequences to the environment as well as making them responsible to it to form pro-environment personal norm. This could eventually help to increase their organic grocery food consumption.

REFERENCES

Ahmad, S. N. B., & Juhdi, N. (2010). Organic food: A study on demographic characteristics and factors influencing purchase intentions among consumers in Klang Valley, Malaysia. *International Journal of Business and Management*, *5*(2), 105-118.

Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, *50*(2), 179-211.

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour*. NJ, Englewood Cliffs: Prentice-Hall.

Armitage, C. J., & Talibudeen, L. (2010). Test of a brief theory of planned Behavioural-based intervention to promote adolescent safe sex itentions. *British Journal of Psychology*, 101(1), 155-172.

Arvola, A., Vassallo, M., Dean, M., Lampila, P., Saba, A., Lähteenmäki, L., & Shepherd, R. (2008). Predicting intentions to purchase organic food: The role of affective and moral attitudes in the theory of planned behaviour. *Appetite, 50*(2), 443-454.

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, *16*(1), 74-94.

Barbarossa, C., De Pelsmacker, P. & Moons, I. (2017). Personal values, green self-identity and electric car adoption. *Ecological Economics*, 140, 190-200.

Bonn, M. A., Cronin, J. J., & Cho, M. (2016). Do environmentally sustainable practices of organic wine suppliers affect consumers' behavioural intentions? The moderating role of trust. *Cornell Hospitality Quarterly*, *57*(1), 21-37.

Carfora, V., Caso, D., Sparks, P., & Conner, M. (2017). Moderating effects of pro-environmental self-identity on pro-environmental intentions and behaviour: A multi-behaviour study. *Journal of Environmental Psychology*, *53*, 92-99.

Chekima, B., Wafa, S. A. W. S. K., Igau, O. A., Chekima, S., & Sondoh Jr, S. L. (2016). Examining green consumerism motivational drivers: Does premium price and demographics matter to green purchasing? *Journal of Cleaner Production*, *112*, 3436-3450.

Chin, W. W. (2010). Bootstrap cross-validation indices for PLS path model assessment. In *Handbook of partial least squares* (pp. 83-97). Berlin, Heidelberg: Springer.

Chen, L. (2013). A study of green purchase intention comparing with collectivistic (Chinese) and individualistic (American) consumers in Shanghai, China. *Information Management and Business Review, 5*(7), 342-346. doi: https://doi.org/10.22610/imbr.v5i7.1061

Cohen, J. (1988). *Statistical power analysis for the behavioural sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

Conner, M., & Armitage, C. J. (1998). Extending the theory of planned behavior: A review and avenues for further research. *Journal of Applied Social Psychology*, *28*(15), 1429-1464.

Dean, M., Raats, M. M., & Shepherd, R. (2008). Moral concerns and consumer choice of fresh and processed organic foods. *Journal of Applied Social Psychology*, *38*(8), 2088-2107.

de Groot, J. I. & Steg, L. (2009). Morality and prosocial behaviour: The role of awareness, responsibility, and norms in the norm activation model. *The Journal of Social Psychology*, *149*(4), 425-449.

de Ruyter, K., & Wetzels, M. (2000). With a little help from my fans– Extending models of pro-social behaviour to explain supporters' intentions to buy soccer club shares. *Journal of Economic Psychology*, *21*(4), 387-409.

Devine‐Wright, P. (2009). Rethinking NIMBYism: The role of place attachment and place identity in explaining place‐protective action. *Journal of Community & Applied Social Psychology*, 19(6), 426-441.

Dreezens, E., Martijn, C., Tenbult, P., & Vries, N. D. (2005). Food and values: An examination of values underlying attitudes towards genetically modified- and organically grown food products. *Appetite*, *44*(1), 115-122.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, behaviour: An introduction to theory and research.* Reading. MA: Addison-Wesley.

Fornell, C., & Larcker, D. F. J. Cha (1994). Partial Least Squares. *Advances Methods of Marketing Research*, 52-78.

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, *18*(3), 382-388.

Gao, J., Huang, Z., & Zhang, C. (2017). Tourists' perceptions of responsibility: An application of norm-activation theory. *Journal of Sustainable Tourism*, *25*(2), 276-291.

Gardner, B., de Bruijn, G. J., & Lally, P. (2012). Habit, identity, and repetitive action: repetitive action: A prospective study of binge-drinking in UK students. British Journal of Health Psychology, 17(3), 565-581.

Gecas, V. (1982). The self-concept. *Annual Review of Sociology, 8,* 1-33.

Glassman, T. J., Dodd, V. J., Sheu, J. J., Rienzo, B. A., & Wagenaar, A. C. (2010). Extreme ritualistic alcohol consumption among college students on game day. *Journal of American College Health*, *58*(5), 413-423.

Grace, D., & O'cass, A. (2005). Examining the effects of service brand communication on brand evaluation. *Journal of Products and Brand Management*, *14*(2), 106-116.

Gracia, A., & Maza, M.T. (2015). Determinants of the intention to purchase an autochthonous local lamb breed: Spanish case study. *Mean Science*, *110*, 212-219.

Han, H. (2014). The norm activation model and theory-broadening: Individuals' decision-making on environmentally responsible convention attendance. *Journal of Environmental Psychology*, *40*, 462-471.

Han, H., Hwang, J., Kim, J., & Jung, H., (2015). Guests' pro-environmental decision-making process: Broadening the norm activation framework in a lodging context. *International Journal of Hospitality Management*, *47*, 96–107.

Han, H., Lee, M. J., & Hwang, J. (2016). Cruise travellers' environmentally responsible decision-making: An integrative framework of goal-directed behaviour and norm activation process. *International Journal of Hospitality Management, 53*, 94–105.

Han, H., Meng, B., & Kim, W. (2017). Emerging bicycle tourism and the theory of planned behavior. *Journal of Sustainable Tourism*, *25*(2), 292-309.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, *19*(2), 139-152.

Hair Jr, J., Sarstedt, M., Hopkins, L., & G. Kuppelwieser, V. (2014). Partial least squares structural equation modelling (PLS-SEM): An

emerging tool in business research. *European Business Review*, *26*(2), 106-121.

Harland, P., Staats, H., & Wilke, H.A. (1999). Explaining pro environmental intention and behaviour by personal norms and the theory of planned behaviour. *Journal of Applied Social Psychology*, *29*(12), 2505-2528.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modelling. *Journal of the Academy of Marketing Science*, *43*(1), 115-135.

Hwang, J. (2016). Organic food as self-presentation: The role of psychological motivation in older consumers' purchase intention of organic food. *Journal of Retailing and Consumer Services*, *28*, 281-287.

Jiang, C., Zhao, W., Sun, X., Zhang, K., Zheng, R., & Qu, W. (2016). The effects of the self and social identity on the intention to microblog: An extension of the theory of planned behaviour. *Computers in Human Behaviour*, *64*, 754-759.

Johe, M. H., & Bhullar, N. (2016). To buy or not to buy: The role of self-identity, attitudes, perceived behavioural control and norms in organic consumerism. *Ecological Economics, 128*, 99-105.

Jolly, D. A. (1991). Differences between buyers and nonbuyers of organic produce and willingness to pay organic price premiums. *Journal of Agribusiness*, *9*(1), 97-111.

Khare, A. (2015). Antecedents to green buying behaviour: A study on consumers in an emerging economy. *Marketing Intelligent and Planning*, *33*(3), 309-329.

Kozup, J. C., Creyer, E. H., & Burton, S. (2003). Making healthful food choices: The influence of health claims and nutrition information on consumers' evaluations of packaged food products and restaurant menu items. *Journal of Marketing, 67*(2), 19-34.

Lee, K. (2009). Gender differences in Hong Kong adolescent consumers' green purchasing behaviour. *Journal of Consumer Marketing*, *26*(2), 87-96.

Makatouni, A. (2002). What motives consumers to buy organic food in the UK? Results from a Qualitative Study. *British Food Journal, 104*(3/4/5), 345-352.

Mail, R. (2014, March 16). Pesticides - A double-edged sword. *The Borneo Post.* Retrieved from http://www.theborneopost.com/2014/ 03/16/pesticides-a- double-edged-sword/.htm

Moser, A. K. (2015). Thinking green, buying green? Drivers of pro-environmental purchasing behavior. *Journal of Consumer Marketing*, 32(3), 167-175.

Nielson (2015). Sustainability continues to gain momentum among Malaysia consumers. *Nielsen Global Survey.* Retrieved from http://www.nielsen.com/my/en/insights/news/2015/sustainability-continues-gaining-momentum-among-malaysians.html on 08 May 2018.

Noor, N. A. M., Muhammad, A., Kassim, A., Jamil, C. Z. M., Mat, N., & Salleh, H. S. (2012). Creating green consumers: How environmental knowledge and environmental attitude lead to green purchase behaviour? *International Journal of Arts & Sciences*, *5*(1), 55-71.

O'Fallon, M. J., Gursoy, D., & Swanger, N. (2007). To buy or not to buy: Impact of labelling on purchasing intentions of genetically modified foods. *International Journal of Hospitality Management*, *26*(1), 117-130.

Oii, M. J., Kwek, C. L., & Tan, P. H. (2012). The antecedents of green purchase intention among Malaysian consumers. *Asian Social Science*, *8*(13), 248-263.

Park, J., & Ha, S. (2014). Understanding consumer recycling behaviour: Combining the theory of planned behaviour and the norm activation

model. *Family and Consumer Science Research Journal*, *42*(3), 278-291.

Petrescu, D., & Petrescu-Mag, R. (2015). Organic food perception: fad, or healthy and environmentally friendly? A case on Romanian consumers. *Sustainability*, 7(9), 12017-12031.

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.

Ramayah, T., Cheah, J., Chuah, F., Ting, H., & Memon, M. A. (2016). *Partial least squares structural equation modeling (PLS-SEM) using SmartPLS 3.0: An updated and practical guide to statistical analysis*, Thousand Oaks, CA: Sage.

Report Ocean (August 5th, 2019). Organic food market worth US$375.98 billion by 2025 | 15.5% CAGR. Retrieved from https://pioneerreporter.com/organic-food-market-worth-us375-98-billion-2025-15-5-cagr/

Robinson, R., & Smith, C. (2002). Psychosocial and demographic variables associated with consumer intention to purchase sustainably produced foods as defined by the Midwest Food Alliance. *Journal of Nutrition Education and Behaviour*, *34*(6), 316-325.

Saleki, Z. S., Seyedeh, M. S., & Rahimi, M. R. (2012). Organic food purchasing behaviour in Iran. *International Journal of Business and Social Science*, *3*(13), 278-285.

Schwartz, S. H. (1977). Normative influences on altruism. In *Advances in Experimental Social Psychology* (Vol. 10, pp. 221-279). Academic Press.

Schwartz, S. H., & Howard, J. A. (1981). A normative decision-making model of altruism. In Rushton, J. P., Sorrentino, R. M. (Eds.), *Altruism and Helping Behaviour* (pp. 189-211). Hillsdale, NJ: Erlbaum.

Sexton, S. E., & Sexton, A. L. (2014). Conspicuous conservation: The Prius halo and willingness to pay for environmental bona fides. *Journal of Environmental Economics and Management*, 67(3), 303-317.

Shin, Y. H., Im, J., Jung, S. E., & Severt, K. (2018). The theory of planned behaviour and the norm activation model approach of consumer behaviour regarding organic menu. *International Journal of Hospitality Management*, *69*, 21-29.

Sjoberg, S., Kim, K., & Reicks, M. (2004). Applying the theory of planned behaviour to fruit and vegetable consumption by older adults. *Journal of Nutrition for the Elderly*, *23*(4), 35-46.

Sparks, P., & Guthrie, C. (1998). Self-identity and the theory of planned behaviour: A useful addition or an unhelpful artifice? *Journal of Applied Social Psychology*, *28*(15), 1393-1410.

Steg, L., & de Groot, J. (2010). Explaining pro-social intentions: Testing causal relationships in the norm activation model. *British Journal of Social Psychology*, *49*(4), 725-743.

Stok, F. M., Verkooijen, K. T., Ridder, D. T., Wit, J. B., & Vet, E. (2014). How norms work: Self-identification, attitude, self-efficacy mediates the relationship between descriptive social norms and vegetable intake. *Applied Psychology of Health Well Being*, *6*, 230-250.

Straughan, R. D., & Roberts, J. A. (1999). Environmental segmentation alternatives: A look at green consumer behaviour in the new millennium. *Journal of Consumer Marketing*, *16*(6), 558-575.

Stryker, S. (1968). Identify salience and role performance: The relevance of symbolic interaction theory for family research. *Journal of Marriage and the Family*, 558-564.

Stryker, S. (1985). Symbolic interaction and role theory. In G. Lindzey and E. Aronson (Eds.), *Handbook of Social Phycology I* (pp. 311-378).

Suciarto, A. S., Hung, W. S., Ho, S. H., & Sitohang, P. S. (2015). Influence of green marketing towards green purchase intention of green products through attitude: Survey on Indonesia and Taiwanese students. *International Journal of Humanities and Management Science* (IJHMS), *3*(4), 198-202.

Schwartz, S. H. (1977). Normative influences on altruism. *Advances in Experimental. Social Psychol*ogy, *10*, 221-279.

Tang, S. M. (2014). *Factors that influence green purchase behaviour of Malaysian consumers* (Doctoral dissertation, UTAR).

Teng, P. K., Golnaz Rezai, Z., & Shamsudin, M. N. (2011). Consumers' intention to purchase green foods in Malaysia. *International Conference on Innovation, Management and Service, 14*, 112-118.

Terry, D. J., Hogg, M. A., & White, K. M. (1999). The theory of planned behaviour: Self-identity and group norms. *British Journal of Social Psychology*, *38*(3), 225-244.

The Edge, T. E. (2011, September 08). Malaysians shy away from eco-friendly buys. *The Edge Financial Daily*. Retrieved from https://www.theedgemarkets.com/article/m%E2%80%99sians-shy-away-eco-friendly-buys

Thorbjornsen, H., Perdersen, P. E., & Nysveen, H. (2007). This is who I am: Identify expressiveness and the theory of planned behaviour. *Psychology & Marketing*, *24*(9), 763-785.

Tsen, C. H., Phang, G., Hasan, H., & Buncha, M. R. (2006). Going green: A study of consumers' willingness to pay for green products in Kota Kinabalu. *International Journal of Business and Society*, *7*(2), 40-54.

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.

Yaacob, M. R., & Zakaria, A. (2011). Customers' awareness, perception and future prospects of green products in Pahang, Malaysia. *The Journal of Commerce*, *3*(2), 1-10.

Yadav, R., & Pathak, G. S. (2016). Young consumers' intention towards buying green products in a developing nation: Extending the theory of planned behaviour. *Journal of Cleaner Production, 135*, 732-739.

Wiler, H., & Lernoud, J. (2017). The world of organic agriculture. *Research Institute of Organic Agriculture (*FiBL). Switzerland: FiBL. Retrieved from https://www.ifoam.bio/sites/default/files/press-release-world-2017-english.pdf

Zhang, Y., Wang, Z., & Zhou, G., (2013). Antecedents of employee electricity saving behaviour in organizations: An empirical study based on norm activation model. *Energy Policy*, *62*, 1120-1127.

Appendix

Loadings and Cross Loadings

	AR	ATT	AC	PBC	PN	INT	SI	SN
AC1	0.456	0.270	**0.804**	0.206	0.339	0.369	0.300	0.093
AC2	0.495	0.325	**0.906**	0.217	0.254	0.360	0.251	0.032
AC3	0.429	0.254	**0.827**	0.346	0.340	0.353	0.135	0.033
AC4	0.286	0.116	**0.606**	0.191	0.136	0.121	0.081	0.041
AR1	**0.872**	0.272	0.457	0.087	0.291	0.328	0.218	0.035
AR2	**0.899**	0.311	0.404	0.084	0.238	0.260	0.183	0.038
AR3	**0.813**	0.246	0.510	0.207	0.226	0.235	0.097	0.075
ATT1	0.194	**0.640**	0.248	0.222	0.296	0.291	0.132	0.249
ATT2	0.219	**0.729**	0.296	0.299	0.334	0.326	0.259	0.185
ATT3	0.158	**0.731**	0.180	0.110	0.338	0.367	0.292	0.254
ATT6	0.366	**0.764**	0.262	0.436	0.211	0.487	0.239	0.203
ATT7	0.193	**0.768**	0.211	0.292	0.314	0.415	0.225	0.211
ATT8	0.227	**0.734**	0.206	0.419	0.222	0.395	0.272	0.384
INT1	0.240	0.462	0.404	0.511	0.373	**0.803**	0.375	0.203
INT2	0.336	0.321	0.299	0.354	0.367	**0.763**	0.317	0.091
INT3	0.316	0.519	0.308	0.479	0.403	**0.835**	0.344	0.222
INT4	0.112	0.441	0.213	0.412	0.357	**0.758**	0.277	0.351
INT5	0.241	0.310	0.314	0.399	0.408	**0.750**	0.395	0.162
PBC1	0.145	0.435	0.275	**0.783**	0.337	0.496	0.387	0.353
PBC2	0.051	0.313	0.269	**0.828**	0.165	0.422	0.315	0.289
PBC3	0.159	0.230	0.164	**0.777**	0.172	0.400	0.348	0.363
PN1	0.221	0.386	0.330	0.234	**0.729**	0.360	0.247	0.156
PN2	0.277	0.307	0.287	0.170	**0.905**	0.412	0.516	0.296
PN3	0.214	0.248	0.232	0.311	**0.792**	0.412	0.558	0.268
SI1	0.092	0.332	0.168	0.507	0.376	0.438	**0.876**	0.358
SI2	0.113	0.291	0.140	0.407	0.350	0.334	**0.829**	0.329
SI3	0.253	0.189	0.204	0.303	0.468	0.349	**0.849**	0.264
SI4	0.098	0.301	0.213	0.284	0.531	0.316	**0.808**	0.297
SI5	0.211	0.273	0.328	0.409	0.543	0.381	**0.889**	0.300
SI6	0.211	0.273	0.241	0.313	0.550	0.386	**0.839**	0.299
SN1	-0.054	0.374	0.077	0.303	0.251	0.188	0.246	**0.767**
SN2	0.011	0.266	0.030	0.409	0.242	0.201	0.317	**0.930**
SN3	0.151	0.246	0.055	0.365	0.271	0.272	0.352	**0.860**