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Young Consumers Purchase Intention of Eco-Labelled Products: Evidence from Malaysia

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Abstract
Young Malaysian consumers represents the future of Malaysia and promoting sustainable behavior is vital in the research fields of green behavior and sustainable development. Many eco-labelled studies on food products have been studied in Western and developed countries, but there is lack of knowledge to observe purchase behavior toward eco labelled food products in Asia and ASEAN countries. The study attempts to investigate factors that influence the purchase intention towards eco-labelled food products among young Malaysian consumers. A quantitative study using a self-conducted online questionnaire, with 217 usable questionnaires was used. Data was analyzed using structural equation modeling (SEM). Results show health consciousness, subjective norms and perceived behavioral control influenced the attitude to purchase eco-labelled food products. In addition, attitude mediated subjective norms and perceived behavioral control in influencing purchase intention. Future research could integrate more product-related perceptual factors, and factors such as cultural effects and self-identity could be further investigated. Practical implications for food manufacturers have been discussed at the end of the study.

Keywords: Eco-Labels, Purchase Intention, Theory Of Planned Behavior, Malaysia, Young Adults

Introduction
Malaysia has almost 32.7 million citizens and is a huge and diverse country, resulting in a huge market for the food and beverage industry. Malaysia is one of the pioneers within the Asian countries in terms of promoting environmentally responsible behaviour. Also, the Malaysian government has embarked on many programs for consumers to go green through green campaigns and environmental education (Mohamed et al., 2014). Many various eco-labelling schemes have been introduced over the last years. In 1996 the Malaysian government launched the national eco-labelling program, which is called SIRIM (Standards and Industrial Research Institute of Malaysia). Companies can apply to the eco-label program and let their products be certified, provided the products adhere to specific environmental criteria.
The use of eco-labelled products is increasing, which shows the effectiveness of eco-labelling (Mohamed et al., 2014). The use of eco-labeling has increased awareness of green products. By having eco-labels on products consumers can recognize green products and the eco label increases transparency on environmental friendliness claims (Thøgersen & Ölander, 2002). The information on eco-labelled products facilitate consumers to have a stronger understanding of products’ intangible attributes. Also, data on manufacturing process and the pricing of the item is found on the eco-label of the food items (Cai et al., 2017; Prieto-Sandoval et al., 2016; Rex & Baumann, 2007).

Furthermore, a huge demand for sustainable food products is bought by consumers (Annuziata et al., 2019). People become more aware and concerned about what they eat and about their health (Latiff et al., 2016). Therefore, global demand for green food products is constantly rising (De Chiara, 2016). One study by Ritter et al., (2015) found a shift in the consumption patterns of consumers towards sustainable consumption. Consumers realize that one way to minimize the environmental impact of the products is to consume environmentally friendly food items. Meanwhile, due to increasing demand in consuming environmentally friendly products, many companies have added new business practices. Sustainable practices and green marketing strategies are used in their manufacturing production and business activities to respond to these changes (Nguyen & Le, 2020).

For many young consumers, the increase in environmental deterioration made them motivated to be more ecologically conscious consumers. The motivation saw young consumers indulging in green buying (Tan et al., 2019). One study found Malaysian consumers are increasingly concerned about their health and their surroundings as it impact their selection of food choices. The impact of food choices shows the effectiveness of eco-label on food items (Mohamed et al., 2014) as consumers make decisions from information found from food labels. However, the meaning of eco-label may be confusing to Malaysian consumers. The confusion is due to lack of awareness and understanding of the eco-labels found in many merchandise (Azizan & Skui, 2014; Rashid, 2009).

This study focuses on young adults (18-40 years old) living in Malaysia. The selection of young segment is because they represent the future of the nation and future consumers (Naderi and Steenburg, 2018; Annuziata et al., 2019). Meanwhile, young consumers are reportedly more concerned about the environment. This is because they may have been inspired or influenced by their own parents and other elders. Their parents emphasize the importance of sustainable consumption. Therefore, the objectives of this study is to investigate the factors that influence the purchase intention towards eco-labelled food items among young consumers in Malaysia.

Literature Review

Theory of Planned Behavior

The theory of planned behavior (TPB) is the most frequently used model to understand better human behavior (Wong et al., 2018). The theory says that real behavior is dependent on the individual’s intention, and three determinants influence behavioral intention, namely the attitude towards the behavior, subjective norms, and perceived behavioral control. Using all three determinants together lead to the formation of a “behavioral intention” Subsequently, all the determinants in turn influence the behavior (Ajzen, 2002). In recent times additional constructs is evident from the psychological literature which has added constructs to the TPB (Read et al., 2013; Yazdanpanah and Forouzani, 2015). These constructs in various contexts
improve the predictive power of the framework. Further, it was also suggested that TPB framework can be deepened and broadened by adding new constructs or altering the path of the variables in it (Ajzen, 1991). Therefore, this study attempts to include two constructs in TPB namely environmental concern and health consciousness.

The theory says that the real behaviour is dependent on the individual intention. Therefore, when consumers choose products, they are strongly influenced by these factors. However, the relative importance of each factor can vary across different situations (Ajzen, 1991; Wong et al., 2018). One main factor in the TPB is the intention of everyone to perform a specific behaviour. Ajzen (1991) describes that “the stronger the intention to engage in a behaviour, the more likely should be its performance” (Ajzen, 1991, p. 181). However, various authors describe that even though intention is the best predictor for behaviour, there is an action gap between intention and behaviour, as the predictive power of the intention on the real behaviour is rather low (De Canniere et al., 2009). González (2020) findings show for eco-labelled food products there is a large gap between the purchase intention and behaviour.

Many researchers have used the TPB to explain consumers’ purchase intentions and decisions in a successful way (Wong et al., 2018). Previous research found that for eco-labelled products, the TBP was used successfully (Jin, Zhao, & Santibanez-Gonzalez, 2020; Mufidah et al., 2018; Wong et al., 2018). Moreover, the TPB has been widely used for explaining consumer purchase intention towards sustainable consumption, as well as for food products (Chen, 2009; Teng & Wang, 2015).

**Literature Review**

**Purchase Intention**

Purchase intention is defined as the “subjective tendency of affection that consumers have towards a product, which is an indication of consumers’ inclination to buy a product.” (Ajzen, 1991). Various variables have a strong influence on the purchase intention towards eco-labelled food products. In their study, Jin, Zhao & Santibanez-Gonzalez (2020) found that consumer’s purchase intention towards eco-labelled products is positively influenced by their health consciousness, attitude, subjective norm and perceived behavioural control. Furthermore, Wong et al (2018) examined the relationship between environmental concern and purchase intention, which had a positive and significant relationship. Lastly, Mufidah et al (2018) conducted a comparison study in Indonesia and Taiwan, where the behavioural attention towards eco-labelled products among respondents had a positive correlation with consumers’ attitude, and their perceived behavioural control.

**Health Consciousness**

Health consciousness refers to the “consumers’ concerns for their self-health status.” (Jin, Zhao, & Santibanez-Gonzalez, 2020, p. 7). Consumers, who are aware and concerned about their health will rather purchase eco-labelled products, as these products stand for a higher quality than normal products (Jin, Zhuang, & Zhao, 2018). In their research study, Jin, Zhao & Santibanez-Gonzalez (2020) found out that health consciousness of the consumer has a positive influence on the intentional buying behaviour of eco-labelled products. Furthermore, Azizan & Suki (2014) investigated health consciousness on the intention to choose greener products. The results indicated that there is a strong relationship between the variables. Choshaly (2017) determined health and safety as one of the main drivers for
the intention of purchasing organic products. Thus, the hypotheses for health consciousness are as follows:

**H1**: Consumers’ health consciousness has a positive influence on consumers’ attitude towards eco-labelled food products.

**Environmental Concern**

Wong et al (2018) defined environmental concern as the “the degree to which people are aware of problems regarding the environment and support efforts to solve them or indicate the willingness to contribute personally to their solution” (Wong et al., 2018, p. 4). Thøgersen (2000) found out in his study about consumer’s awareness of eco-labels that only consumers, who are eco-friendly consider eco-labels in their purchase decision. This corresponds with the findings of Paul (2016), who found out that environmental concern has a direct and indirect influence on green behavioural intention. The researcher Wong et al (2018), who incorporated environmental concern into an extended TPB model and could validate this construct, also support the finding as environmental concern had a positive significant effect on the purchase intention of suboptimal food. Based on the discussion above, it seems reasonable to include the variable into this research and thus, the following hypotheses can be formulated:

**H2**: Consumers’ environmental concern has a positive influence on consumers’ attitude towards eco-labelled food products.

**Subjective Norms**

The second determinant influencing behavioural intention refers to subjective norm, which is the “individual’s perception about the particular behaviour, which is influenced by the judgment of significant others” (Jin, Zhao, & Santibanez-Gonzalez, 2020, p. 6). It indicates how positive social image is important to a person and how he or she feels morally responsible towards buying eco-labelled products (Barber et al., 2014). Subjective norms are determined by the expectations and concerns on individuals, such as one’s family, friends, or significant others (Wang, 2015).

Different research studies found out that subjective norms positively influence the behaviour intention to purchase sustainable or green products. Jin, Zhao & Santibanez-Gonzalez (2020) noted that subjective norm has a positive effect on the purchase intention to buy eco-labelled products. Nam et al. (2017) observed that subjective norm directly influences the purchase intention of green sportswear. Wang (2015) found out that subjective norms have a significant influence on organic food purchase intention. In the context of cultural comparison, subjective norm is interesting as well, as it was conceptualized within collectivistic culture-related space, which shows a strong influence of the cultural circumstances within a country (Jin, Zhao, & Santibanez-Gonzalez, 2020). Thus, because of the reviewed previous studies, the hypotheses developed for this study are the following:

**H3**: Consumers’ subjective norm has a positive influence on consumers’ attitude towards eco-labelled food products.

**Perceived Behavioural Control**

As one of the antecedents in TPB, the perceived behavioral control is important when behaviors are partially under volitional control. In predicting consumer’s purchasing intention of green products, perceived behavioral control is considered as a good predictor (Chen and Peng, 2012) Perceived behavioural control refers to “ease or difficulty perceived by an
individual when he/she performs a particular behaviour” (Jin, Zhao, & Santibanez-Gonzalez, 2020, p. 6), such as having the right resources or opportunities, which refers to a reasonable price or the availability to buy the product”. Many studies show perceived behavioural control is significantly linked with intention in different research contexts. Perceived behavioural control has been used in green hotels (Chang et al., 2014), organic food (Thøgersen, 2000) and green products in general (Moser, 2015). Perceived behavioural control may influence the purchase intention and has therefore been recognized as a critical antecedent of purchase intention. Research studies by Mufidah et al. (2018) as well as Jin et al (2020) came to the conclusion that perceived behavioural control has a positive influence on the purchase intention towards eco-labelled products. From the discussion above, the hypotheses for perceived behavioural control are as follows:

**H4: Consumer’s perceived behavioural control has a positive influence on consumers’ attitude towards eco-labelled food products.**

**Consumer Attitude as Mediator**

A ground-breaking study on consumer green choice explored the characteristics of ecologically caring consumers (Kinnear et al., 1974). Since then, many studies examined consumer attitudes towards green products. This leads to a generally accepted finding among researchers that awareness of consumers about their environment has increased. Furthermore, Awad (2011) found that green consumers with a high orientation towards environmental conservation and natural resources are influenced in their purchase intention. Meanwhile, Tang et al. (2014) observed that consumers’ environmental concern is a key factor influencing the consumer attitude towards environmentally friendly products.

Consumer attitude, which is the first determinant of the TPB, is used as a mediating variable in this study. Consumer attitude itself refers to “the degree to which a person has a favourable evaluation of a certain behaviour” (Wong et al., 2018, p. 2). It is assumed that consumer attitude is the mediating variable between the independent variables and the dependent variable, the purchase intention towards eco-labelled food products. Mufidah et al. (2018) found out that there is a significant connection between environmental concern and the consumers’ favourable attitude towards eco-labelled products. Jin, Zhao & Santibanze-Gonzalez (2020) use attitude as well as a mediating variable between various independent variables and the dependent variable, intentional purchasing behaviour. They found that perceived behavioural control, environmental awareness and health consciousness have a positive influence on consumers’ attitude towards purchasing eco-labelled products. Furthermore, Nyguen & Le (2020) also use consumer attitude as a mediator in their study. Also, according to the TPB, attitude plays a significant role in predicting the purchase intention, which was confirmed in various research (Jin, Zhao, & Santibanze-Gonzalez, 2020; Mufidah et al., 2018; Nam et al., 2017; Wang, 2015; Wong et al., 2018).

Interestingly, literature on eco-labelled food has established that there is no single factor influencing consumers’ attitude or intent. Instead, several factors and their intertwined relationship among themselves, which influences their intent. Therefore, attitude needs further in-depth attention and the following hypothesis is developed:

**H5: Consumer’s attitude towards eco-labelled food products has a positive influence on the purchase intention towards eco-labelled food products.**

Based on the above literature review, Figure 1 shows the framework of the study.
Data Collection

The data collection of the research used a self-conducted online questionnaire in April 2021, after conducting a pretest to ensure the content and face validity. A total of 300 questionnaires were sent via google form and 217 usable questionnaires were used for further analysis. In this study, the target population incorporates all young Malaysians, aged 18 – 40 years old. This age group were chosen, as the Generation Y and Z consist of people aged 18 – 40 years (people born between January 1981 and April 2003). No further geographical restrictions are considered for this research to obtain a sufficiently high number of completed questionnaires. An appropriate sample size can be justified with the existing literature. Tabachnik & Fidel (2013) suggest the following guideline for appropriate sample sizes: N < 200 is poor, N = 200 is fair and N > 200 is good (Tabachnik & Fidel, 1996). They declare a sample over 200 as a large sample size (2013, p. 80). Furthermore, the literature on comparable research, which was as well used for the theoretical framework can offer some reference points for the justification of the chosen sample size. For the data analysis, SPSS and AMOS were used. The descriptive and inferential analysis techniques (correlation analysis and multiple regression) were both employed to determine the relationship between the variables.

Measurements

The survey questionnaires were adapted from previously related literature on a 5-point Likert-type scale ranging from strongly disagree to agree strongly. Table 1 shows the details of the definitions, measurement items, and the sources of each construct.

Table 1 Measures for the current study

<table>
<thead>
<tr>
<th>Constructs and measuring items</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health Consciousness</strong></td>
<td></td>
</tr>
<tr>
<td>HC1: I regard myself as a health consciousness consumer.</td>
<td>Abdulsahib (2019),</td>
</tr>
<tr>
<td>HC2: I reflect about my health a lot.</td>
<td>Jin et al. (2020)</td>
</tr>
<tr>
<td>HC3: I seek to choose products that are good for my health.</td>
<td></td>
</tr>
<tr>
<td>HC4: I believe that I am what I eat.</td>
<td></td>
</tr>
</tbody>
</table>
Environmental Concern
EC1: The balance of nature is very fragile. (Abdulsahib, 2019)
EC2: Humans are very often damaging the environment. (Mufidah et al., 2018)
EC3: I am worried about the worsening quality of the environment. (Wong et al., 2018)
EC4: It is important to raise environmental awareness among the people. (2018)

Subjective Norms
SN1: Most people who are important to me would approve of purchasing eco-labelled food products. (Jin et al., 2020)
SN2: Most people who are important to me want me to purchase eco-labelled food products. (Wong et al., 2018)
SN3: Most people who are important to me think I should purchase eco-labelled food products. (2018)
SN4: People whose opinion I value would prefer that I should buy eco-labelled food products.

Perceived Behavioral Control
PBC1: I have financial resources, time and willingness to purchase eco-labelled food products. (Nam et al. 2018)
PBC2: There are many opportunities in my life to buy eco-labelled food products.
PBC3: If I wanted, I could easily purchase eco-labelled food products.
PBC4: Purchasing eco-labelled food products depends entirely on me.

Consumer Attitude
AT: Buying eco-labelled food products is a good idea. (Wong et al., 2018)
AT2: Buying eco-labelled food products is a wise choice.
AT3: I like the idea of buying eco-labelled food products.
AT4: Buying eco-labelled food products would be pleasant.

Purchase Intention
PI1: If eco-labelled food products are available for purchase, I am willing to consume them. (Wong et al., 2018)
PI2: If eco-labelled food products are available for purchase, I intend to consume them.
PI3: If eco-labelled food products are available for purchase, I plan to consume them.
PI4: If eco-labelled food products are available for purchase, I will try to consume them.

Data Analysis
As shown in Table 2, the respondents consist of 141 female respondents (65%) and 76 male respondents (35%). Most of the respondents make up young adults in Malaysia and 41% of the respondents aged between 24 to 26 years old. Many respondents (126 respondents or 58.1%) have a bachelor’s degree and most of the respondents in this study are students (47.5%). From Table 2, 87 are employed while 16 are self-employed with 11 respondents stating their occupation as others.
**Table 2 Respondent’s profile**

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Number (N= 217)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 – 20 years</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>21 – 23 years</td>
<td>26</td>
<td>12.0</td>
</tr>
<tr>
<td>24 – 26 years</td>
<td>89</td>
<td>41.0</td>
</tr>
<tr>
<td>27 – 30 years</td>
<td>52</td>
<td>24.0</td>
</tr>
<tr>
<td>31 – 34 years</td>
<td>24</td>
<td>11.1</td>
</tr>
<tr>
<td>35 – 38 years</td>
<td>19</td>
<td>8.8</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>76</td>
<td>35</td>
</tr>
<tr>
<td>Female</td>
<td>141</td>
<td>65</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocational training</td>
<td>5</td>
<td>2.3</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>126</td>
<td>58.1</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>79</td>
<td>36.4</td>
</tr>
<tr>
<td>Doctorate / PhD</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>103</td>
<td>47.5</td>
</tr>
<tr>
<td>Employed</td>
<td>87</td>
<td>40.1</td>
</tr>
<tr>
<td>Self employed</td>
<td>16</td>
<td>7.4</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
<td>5.1</td>
</tr>
</tbody>
</table>

**Measurement model: Reliability and Validity**

Exploratory factor analysis (EFA) of the data generated six factors. Bahkia et al., (2019) recommended a minimum acceptable value for factor loading is 0.60. Therefore, any loading below 0.6 in this study was deleted. As a result, four items were deleted: HC4 with a loading of 0.593, EC1 with a loading of 0.572, EC4 with a loading of 0.533 and PCB4 with a loading of 0.593. Subsequently, two items from the factor of environmental concern were deleted. Thus, the entire factor was deleted as Osborne & Costello (2009) identified a factor with fewer than three items is generally weak and unstable.

Thus, after deletion of items from environmental concern, only five factors was used. The entire new factors were checked for reliability: Health consciousness (.868), subjective norms (.903), perceived behavioural control (.829), attitude (.877) and purchase intention (.928). CFA was used to develop and test a measurement model of the five constructs. To measure the internal consistency among items, Cronbach’s alpha was used with, a value above 0.6. For established items, the factor loading for every item should be 0.6 or higher (Awang, 2014). The study shows adequate reliability, as value ranges from 0.67 to 0.90. Construct reliability was measured using composite reliability. The value ranges from 0.81 to 0.92, which shows that all value exceed the recommended level of 0.6 and higher (Bagozzi and Yi, 1988) (Table 3).

Further, convergent validity and discriminant validity were also assessed. Convergent validity was measured using factor loading, average variance extracted. The value of factor loadings of all items was above the recommended level of 0.6 (ranges from 0.60 to 0.86) as suggested by Chin (1998). The value of average variance extracted (AVE) was close to 0.5 and higher (Fornell and Larcker, 1981) (Table 3).

Table 4 displays the value of discriminant validity. A factor correlation below 0.8 represents adequate discriminant validity (Brown, 2006). Further the square root of AVE of
each construct was found higher than its correlation value, which also ensures discriminant validity (Chin, 1998). Summarizing all, the theoretical model represents an adequate validity (convergent and discriminant) and reliability.

Table 3 Composite reliability, Cronbach alpha and Average variance extracted for all construct

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Cronbach’s alpha</th>
<th>Variables</th>
<th>Factor Loading</th>
<th>AVE</th>
<th>CR</th>
<th>SMC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Consciousness</td>
<td>.868</td>
<td>HC1</td>
<td>.788</td>
<td>.686</td>
<td>.867</td>
<td>.726</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HC2</td>
<td>.857</td>
<td>.729</td>
<td></td>
<td>.729</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HC3</td>
<td>.838</td>
<td>.726</td>
<td></td>
<td>.614</td>
</tr>
<tr>
<td>Social Norm</td>
<td>.903</td>
<td>SN1</td>
<td>.675</td>
<td>.669</td>
<td>.889</td>
<td>.507</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SN2</td>
<td>.891</td>
<td></td>
<td></td>
<td>.811</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SN3</td>
<td>.880</td>
<td></td>
<td></td>
<td>.737</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SN4</td>
<td>.808</td>
<td></td>
<td></td>
<td>.771</td>
</tr>
<tr>
<td>Perceived Behavioral</td>
<td>.829</td>
<td>PCB1</td>
<td>.670</td>
<td>.625</td>
<td>.832</td>
<td>.473</td>
</tr>
<tr>
<td>Concern</td>
<td></td>
<td>PCB2</td>
<td>.840</td>
<td></td>
<td></td>
<td>.706</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PCB3</td>
<td>.849</td>
<td></td>
<td></td>
<td>.718</td>
</tr>
<tr>
<td>Attitude</td>
<td>.877</td>
<td>AT1</td>
<td>.707</td>
<td>.558</td>
<td>.835</td>
<td>.623</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AT2</td>
<td>.761</td>
<td></td>
<td></td>
<td>.611</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AT3</td>
<td>.796</td>
<td></td>
<td></td>
<td>.699</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AT4</td>
<td>.722</td>
<td></td>
<td></td>
<td>.660</td>
</tr>
<tr>
<td>Purchase Intention</td>
<td>.928</td>
<td>PI1</td>
<td>.785</td>
<td>.658</td>
<td>.885</td>
<td>.729</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PI2</td>
<td>.837</td>
<td></td>
<td></td>
<td>.858</td>
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<tr>
<td></td>
<td></td>
<td>PI3</td>
<td>.845</td>
<td></td>
<td></td>
<td>.812</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PI4</td>
<td>.775</td>
<td></td>
<td></td>
<td>.662</td>
</tr>
</tbody>
</table>

Note. C.R. = composite reliability; AVE = averaged variances expected; SMC = squared multiple correlation
### Table 4. Assessment of discriminant validity

<table>
<thead>
<tr>
<th>Construct</th>
<th>CR</th>
<th>AVE</th>
<th>MSV</th>
<th>ASV</th>
<th>HC</th>
<th>SN</th>
<th>PCB</th>
<th>Attitude</th>
<th>PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>HC</td>
<td>.868</td>
<td>.686</td>
<td>.220</td>
<td>.186</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SN</td>
<td>.903</td>
<td>.669</td>
<td>.220</td>
<td>.179</td>
<td>.383</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCB</td>
<td>.829</td>
<td>.625</td>
<td>.291</td>
<td>.208</td>
<td>.411</td>
<td>.363</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>.877</td>
<td>.558</td>
<td>.422</td>
<td>.256</td>
<td>.334</td>
<td>.384</td>
<td>.529</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PI</td>
<td>.928</td>
<td>.658</td>
<td>.422</td>
<td>.271</td>
<td>.415</td>
<td>.430</td>
<td>.480</td>
<td>.590**</td>
<td></td>
</tr>
</tbody>
</table>

Note. C.R. = composite reliability; AVE = averaged variances expected; MSV = maximum shared variance; ASV = average shared variance ** Correlation is significant at the 0.01 level

### Structural Model: Goodness of Fit Statistic and Hypotheses Testing

The proposed model represents a good model fit $\chi^2 = 243.611$, $\chi^2$/df= 1.903, GFI=0.888, TLI = 0.948, CFI=0.956, IFI ¼ 0.949, RMSEA= 0.065 (Refers to Figure 2).

### Table 5. Path Analysis Result and Hypotheses Testing

<table>
<thead>
<tr>
<th>Path direction</th>
<th>Standardized Coefficient</th>
<th>SE</th>
<th>CR (t value)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 Health Consciousness</td>
<td>.14*</td>
<td>.055</td>
<td>1.828</td>
<td>Accepted</td>
</tr>
<tr>
<td>H2 Social Norm → Attitude</td>
<td>.23***</td>
<td>.051</td>
<td>3.03</td>
<td>Accepted</td>
</tr>
<tr>
<td>H3 Perceived Behavioral Control → Attitude</td>
<td>.42****</td>
<td>.045</td>
<td>5.170</td>
<td>Accepted</td>
</tr>
<tr>
<td>H4 Attitude → Purchase Intention</td>
<td>-.67****</td>
<td>.081</td>
<td>9.124</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Note *p <0.1, **p<0.05, ***p<0.01, ****p<0.001

Table 5 shows the results regarding the postulated hypothesis. All the variables health consciousness ($\beta = 0.14, t = 1.828 p < 0.1$), subjective norms ($\beta = 0.23, t = 3.030 p < 0.01$), perceived behavioural control ($\beta = 0.42, t = 5.170, p < 0.001$) and attitude ($\beta = 0.67, t = 9.124$)
p < 0.001) were significantly related to the consumer’s intention to purchase eco-labelled food products, which supported the hypothesis H1, H2, H3 and H4 respectively (Refers Figure 3).

**Figure 3. Path analysis result and hypothesis testing**

**Table 6. Mediation Analysis Result and Hypotheses Testing**

<table>
<thead>
<tr>
<th>Mediation Direction</th>
<th>Indirect effect</th>
<th>SE</th>
<th>Sobel test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H5 Health Consciousness  ⇓ Attitude ⇓ Purchase Intention</td>
<td>.056</td>
<td>.029</td>
<td>1.484</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H6 Subjective Norms  ⇓ Attitude ⇓ Purchase Intention</td>
<td>.096**</td>
<td>.026</td>
<td>2.460</td>
<td>Supported</td>
</tr>
<tr>
<td>H7 Perceived Behavioural Control  ⇓ Attitudes ⇓ Purchase Intention</td>
<td>.191****</td>
<td>.035</td>
<td>3.377</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Note: **p<0.05, ***p<0.01, ****p<0.001

Table 6 indicates results of the mediation analysis. Hypotheses H6 and H7 proposed were supported with the exception to health consciousness (t=1.484, p=0.056) in affecting purchasing behavior. Subjective norms (t=2.460, p=0.096) and perceived behavioral control (t= 3.377, p=0.191)have indirect effect to purchase intention (Refers Figure 4).
Discussion and Recommendations

This study has investigated the direct and indirect relationships of health consciousness, social norms and perceived behavioral control and the mediation role of attitude on purchase intention of eco-labelled food products. Environmental concern as the findings highlighted is insignificant as an independent factor in influencing attitude towards eco-labelled food products in Malaysia. However, health consciousness, subjective norms and perceived behavioral control showed direct relationship towards attitude. The present study reveals young consumers are more conscious for their own health instead of the environment. This result is consistent with findings by Jin, Zhao, & Santibanez-Gonzalez (2020) that confirms consumers pay more attention to their health compared to the environment. Thus, it is important when labelling food products to focus on the health benefits of a product. Information on the labels focusing on benefits of the food product can increase consumer knowledge and awareness towards the food products.

This study found family and friends to be important to young consumers in influencing them to purchase eco-labelled food products. Wang (2015) also found that family or friends as well as the media or the government do influence the purchase of food products. Meanwhile, in Germany opinions from family and friends is important to German young adults as buying healthy and eco-friendly products is seen as a status symbol in Germany (Bielinska, 2020). Green marketers representing food manufacturers should exploit more on social media marketing. This is because young consumers today have at least one social media account to stay connected with their family or friends. Young influencers also act as opinion leaders to young consumers and marketers can hire these influencers to promote eco-labelled food products. The availability of products and ability to buy is the prime factor contributing to perceived behavioural control respectively. Eco-labelled food products must be readily available and the prices of the products must be affordable for young consumers to buy. Eco-labelled products must sold online as online platforms are used by many young consumers due to the convenience and competitive pricing of products.

Meanwhile, the findings found the significant role of attitude through the use of TPB in this study. Also, findings of this study show the importance of attitude in influencing the intention of young consumers in purchasing eco-labelled food products, and indirectly mediating subjective norms and perceived behavioral control on young consumers purchasing intention. Similar studies (Nyguen & Le (2020), Wang et al., 2018) also show the role of attitude as the direct and mediating role of the consumers towards purchase intention.
Conclusion
This study investigated factors that influence purchase intention of eco-labelled food products of young consumers in Malaysia. Based on the findings of this study, manufacturers of eco-labelled food products should pay attention to increase food product benefits in their marketing strategy. Further customer segmentation should be increased on eco-labelled food products as different customer segments may have different health issues which could be included in eco food labels. The use of social media marketing is vital for food manufacturers as young consumers use social media everyday. Social media such as Instagram, Twitter and Tik Tok have huge young followers and food manufacturers need to use these social media tools to gain a wider market.

This study has some limitations as this study only measures the intention of young and educated consumers. Therefore, the findings cannot be generalized. Future studies may consider respondents from a diverse demographic population. Also, the limited number of constructs used for the study may limit the scope of study. The empirical evidence provided by this study could integrate more product-related perceptual factors for future studies. Factors such as cultural effects and self-identity could be further investigated.

Acknowledgement
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References
Barber, N., Bishop, M., & Gruen, T. (2014). Who pays more (or less) for pro-environmental consumer goods? Using the auction method to assess actual willingness-to-pay. Journal
of Environmental Psychology, 40, 218-227.


Thøgersen, J. (2000, September). Psychological Determinants of Paying Attention to Eco-Labels


