The Influence of Green Skepticism, Environmental Knowledge and Environmental Concern on Generation Z’s Green Purchase Intentions in Indonesia

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Abstract

As environment become a prominent issue throughout the world, consumer behaviour significantly changed and adapted to be more sustainable. This interest around environment has led to aspiring business opportunities of green product or environmentally friendly product. Firms started to produce green product as a way to remain competitive in the market. With the number of green product increased, there’s a skeptical believe that companies started to present misleading and false information about their green product to merely boost profit or reputation. This consumers’ believe is alarming to firms as it is considered to detriment consumer’s purchase intention. In addition, young generation are more likely to be open to new information and are considered as potential environmentally friendly product consumers. Alongside with green skepticism, two most - studied indicators of green purchase intention notably environmental knowledge and environmental concern were analysed on young consumers’ green purchase intention. Research was conducted using quantitative approach to 403 Generation Z respondents and analysed using Partial Least Square (PLS) – SEM method. The result of this research shows that green skepticism has insignificant negative influence on green purchase intention while both environmental knowledge and environmental concern have positive and significant influence on green purchase intention. These findings might be useful for companies to understand the green purchase behaviour among young consumers and better developed their marketing strategies.

Keywords: green skepticism, environmental knowledge, environmental concern, green purchase intention, structural equation modelling

Introduction

Massive and rapid consumption of goods and services across the world has recently become a major concern as it is resulting in the degradation of natural resources and bring significant damage to the environment (Barretta, 2016; Booi Chen & Teck Chai, 2010). The issue has caught public concern in developed countries and become a wakeup call for developing countries as well (Booi Chen & Teck Chai, 2010). Nowadays, goods and services are expected to be good not only for the firm's profit but also for the people and the planet. There are many examples found by (V.N, Yean, Ru & Yin, 2012) concerning the increase of environmental related awareness around the globe for instance Sustainability of Environment Investment Plan of Clean Energy, Hybrid Cars and Renewable Power by the US, The Malaysian Green Technology Policy, and sustainable action taken by firms like Jusco and Carrefour with “No Plastic Bag Day”. The environmental issue has become a universal problem where all people are expected to take part in tackling it.
Changes in the environment have effectively shifted the way people think about their life (Cherian & Jacob, 2012). People are becoming more aware about their life choices and essentially their lifestyle. (Barretta, 2016) identified that there’s a recent call for a new attitude towards consumers’ consumption which will shift nowadays’ overconsumption to responsible consumption, suggesting that in recent times consumers recognize that their intention to purchase can influence the environment. With knowing the risk of harming the planet on their hands, consumers are trying to be more accountable about their buying activities (Cherian & Jacob, 2012).

These changes around consumers’ preferences resulted in new - product demand where one leads to green products or eco-friendly products (Yadav & Pathak, 2016). The referred products are likely to be seen as more attractive due to the consumer’s concern with regards to the restoration of ecological balance (Cherian & Jacob, 2012). Such finding is in line with Indonesian consumers that has changed to become socially-conscious about the products they’re buying. It is said that 62 percent of Indonesians examine a product's packaging before buying it to make sure the brand is committed to a positive social and environmental impact (Nielsen, 2014). Moreover, it is believed that the interest around green product in Indonesia is rising (Adhitiya & Astuti, 2019) as many companies started to apply green products in their producing activity (Arafah, 2018).

While some firms are compiled by the nature of the environmental issue, there’s a skeptical concern that other businesses decide to take the issue as a mere profit advantage. This happened as firms provide unclear or ambiguous information about green products as a way to get through the expanding green products market (Leonidou & Skarmeas, 2015). Not all firms are capable of performing eco-friendly marketing procedures and have been neglectfully using it as a promotion tool or a company’s reputation boost, claiming that they are environmental friendly companies when they’re actually not (Nguyen, Yang, Nguyen, Johnson, & Cao, 2019). It has been found that those firms are likely to use false and misleading environmental information in their activities as a mere marketing tool to captivate their consumers into buying their product (Leonidou & Skarmeas, 2015).

In addition, environmental knowledge is considered to be important to green product’s purchase intention (Goh & Balaji, 2016). It is identified that environmental knowledge is one of the factors that positively impacts consumer’s trust and attitudes towards green products (Goh & Balaji, 2016). As most people with insufficient knowledge don’t know how to behave environmentally responsible, knowledge is viewed to be important in developing pro-environmental behaviour (Lakra, 2014). At the same time, environmental concerns have been described as another major indicator of the green products purchase behaviour (Albayrak, Caber, Moutinho, Herstein, 2011; Leonidou & Skarmeas, 2017; Schmuck, Matthes & Naderer, 2018). Environmental concern serves as a fundamental point to understand the intentions of buying green products (Albayrak, Tahir; Caber, Meltem; Moutinho, Luiz; Herstein, 2011). Through environmental concern, consumers will positively develop their interests toward green products. Therefore, it is important for the company to have better understanding on how green skepticism, environmental knowledge and environmental concern is affecting consumer’s purchase decision.

**Literature Review**

**Green Purchase Intention**

Intention is a behavioral inclination that will later result in action (Eles, 2017). It captures the motivational factors that encourage a person to do particular behaviour and indicates the willingness and effort of doing it (V.N et al., 2012). The green purchase intention is demonstrated to be the consumer's initial phase of a potential green product purchase (Ayoun, Ben Cheikh, Abdellatif & Ghallab, 2015). It is believed that the green purchase intention is a conscious set of actions that requires activation (Maichum, Parichatnon & Peng, 2017). Consumers can be activated to perform the green products buying activity by creating a sense of responsibility that carried into their action (Zarei & Maleki, 2018).
Green Skepticism

Skepticism in the business and management context is closely related to the belief that the companies' information is misleading (Zarei & Maleki, 2018). Generally, skepticism arises when there is a discrepancy between what the company claims to have and their actual performance (Zarei & Maleki, 2018). As a consequence, information sources and credibility of authentication are found to be critical factors on skepticism (Zarei & Maleki, 2018). Consumers may distrust the companies when they’re seeing inconsistency of what the company advertises and their true executions (Nguyen et al., 2019).

Subjective Environmental Knowledge

Environmental knowledge can be described as an understanding individuals have regarding the environmental issue (Yadav & Pathak, 2016). It also defines as how much an individual knows about the environmental issue (Eles, 2017). The study (Zarei & Maleki, 2018) found that there are multi discovery results in terms of determining the relationship between environmental knowledge with environmental friendly behaviour and green product purchase intention. These contradictory results seem to have happened due to different constructs of environmental knowledge namely: subjective environmental knowledge and objective environmental knowledge (Goh & Balaji, 2016; Zarei & Maleki, 2018). Subjective knowledge is people’s self-perceived knowledge while objective knowledge is more to a factual and accurate information about a product (Zarei & Maleki, 2018). Whereas consumers use both constructs of the knowledge, subjective environmental knowledge is found to be more relevant in determining the pro-environmental behaviour (Goh & Balaji, 2016).

Environmental Concern

Environmental concern is identified as a strong approach to take care of the environment (Yadav & Pathak, 2016). Lakra (2014) recognized environmental concern as a strong attitude towards conserving the environment. Another definition of environmental concern is an individual's environmental awareness that displays in their concerned and protective activities to the environment (Schmuck et al., 2018). Environmental concern will be a good starting point when it comes to examine consumers’ environmentally friendly view and consumers’ green products purchased (Yadav & Pathak, 2016). It is suggested that environmental concern is a fundamental aspect of environmental study and it impacts consumers' environmentally-friendly decision making (Lakra, 2014; Yadav & Pathak, 2016). Individuals' environmental concern reflects their degree of involvement in relation with the environment. People who are concerned about the environment will relatively show more willingness to buy and pay more for eco-friendly products (Albayrak, Caber, Moutinho & Herstein, 2011).

Conceptual Framework and Hypotheses

Figure 1 shows this research conceptual framework. The conceptual framework depicts the relationship between Green Skepticism (GS), Environmental Knowledge (EK), and Environmental Concern (EC) towards Green Purchase Intention (GPI).

![Figure 1: Conceptual Framework](https://example.com/figure1.png)
Based on the literature review and conceptual framework, the hypotheses are:

H1: Green Skepticism negatively influence Green Purchase Intention

H2: Subjective Environmental Knowledge positively influence Green Purchase Intention.

H3: Environmental Concern positively influence Green Purchase Intention.

**Methodology**

**Research Design**

Method taken to collect data in this research is questionnaire-based survey. Researcher used quantitative method and developed questionnaire to collect the respondent’s data. Structural Equation Modelling was used to analyse the gathered data.

**Population**

In this study, the target population destined is the Generation Z that falls into the age range of 18 to 24 years old by 2020 favorably the ones who live in Java Island.

**Sampling Procedures**

Sampling method can be divided into two variations, notably probability and non-probability sampling. The non-probability sampling uses chance selection procedure that rely on researcher’s personal judgement (Shukla, 2008). It uses non-randomized methods to gain the sample. Commonly known non-probability sampling are convenience sampling, judgement sampling, quota sampling and snowball sampling (Maholtra, 2015). In this study, the sampling method used was the judgement or purposive sampling where researcher with researcher’s own judgement belief that the sample will meet the requirements needed. This research used this method to 18-24 years old respondents who live in Java Island.

In this study, researcher used Slovin Formula that was commonly used in determining the sample size. Based on the Slovin Formula with the accepted error limit of 0.05, 95% confidence level with the total population of college age consumers (18-24 years old) are 6,628,700 the sample size appropriate for this research were minimum of 399.99 ≈ 400 people who live in Java.

**Data Collection**

In order to measure the answers generated by the questionnaire, researcher used non-comparative scaling technique. The non-comparative scaling technique used for this research was the Likert scale. Likert scale is an interval scale that concentrates on the degree of respondent’s agreement or disagreement. Based on the study conducted by (Weijters, Cabooter & Schillewaert, 2010) 5-point items with endpoint labels was best used for general population while 7-point items were found to generate better answers with younger and more educated respondents as for instance university students, thus researcher used 7-point items for this study. In addition, researcher used Bahasa Indonesia for the questions with approximate 5-7 minutes time length for completion.

There are three items from Green Skepticism adopted from Kahraman & Kazançoğlu (2019), three items from Goh & Balaji (2016), three items from Albayrak, Caber, Moutinho & Herstein (2011) and one item from Richards (2013). Environmental concern was measured using three items from Yadav & Pathak (2016), two items from Goh & Balaji (2016), two items from Ayoun et al. (2015), two items from Albayrak et al. (2010) and one item from Maichum et al. (2017). Subjective Environmental Knowledge was measured using three items from Zarei & Maleki (2018), two items from Yadav & Pathak (2016), one item from Siddique & Hossain (2018) and one item from Goh & Balaji (2016).
Eight items were used to measure Green Purchase Intention; three items from Ayoun et al. (2015), one item from Yadav & Pathak (2016), one item from Zarei & Maleki (2018), one item from Goh & Balaji (2016), one item from Maichum et al. (2017) and one item from Kanchanapibul et al. (2014).

Table 1: Distribution of Respondent Demographics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
<td>235 (58%)</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>168 (42%)</td>
</tr>
<tr>
<td>Domicile</td>
<td>Bandung</td>
<td>299 (74%)</td>
</tr>
<tr>
<td></td>
<td>Jabodetabek</td>
<td>89 (22%)</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>15 (4%)</td>
</tr>
<tr>
<td>Occupation</td>
<td>Students</td>
<td>403 (100%)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>27 (7%)</td>
</tr>
<tr>
<td>Green Product Ownership</td>
<td>Yes</td>
<td>376 (93%)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>27 (7%)</td>
</tr>
<tr>
<td>Frequency of Purchasing</td>
<td>1 time a month</td>
<td>239 (59%)</td>
</tr>
<tr>
<td></td>
<td>2 – 5 times a month</td>
<td>114 (28%)</td>
</tr>
<tr>
<td></td>
<td>&gt;5 times a month</td>
<td>23 (6%)</td>
</tr>
</tbody>
</table>

Data Analysis

This research used PLS–SEM for data analysis. Structural equation modelling is a statistical methodology that provides extensive method for testing out theories and quantification analysis (Raykov & Marcoulides, 2000). Advantages that come with it contains how compared to other disciplines it shows the measurement error and measures latent variable as well (Raykov & Marcoulides, 2000).

Results

Convergent Validity

Outer loadings and average variance extracted (AVE) are two approaches in evaluating convergent validity (Hair, Ringle & Sarstedt, 2011). Acceptable outer loadings value are 0.7 and above while AVE value are 0.5 and above (Hair Jr, Hult, Ringle & Sarstedt, 2017; Wong, 2013).

Factor Loading

Based on Table. 2 all outer loadings of Green Skepticism, Environmental Concern, Subjective Environmental Knowledge and Green Purchase Intention are above 0.7 meaning that the indicators are valid.

Table 2: Factor Loading

<table>
<thead>
<tr>
<th>Construct</th>
<th>Indicator</th>
<th>Outer Loading</th>
<th>Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Skepticism</td>
<td>GS1</td>
<td>0.762</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>GS2</td>
<td>0.753</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>GS3</td>
<td>0.787</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>GS4</td>
<td>0.846</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>GS6</td>
<td>0.894</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>GS7</td>
<td>0.710</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>GS8</td>
<td>0.727</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>GS10</td>
<td>0.726</td>
<td>Valid</td>
</tr>
<tr>
<td>Environmental Concern</td>
<td>EC5</td>
<td>0.735</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>EC6</td>
<td>0.752</td>
<td>Valid</td>
</tr>
</tbody>
</table>
Construct Reliability and Validity

The internal consistency reliability can be measured with various techniques but one that frequently mentioned is with the use of Cronbach’s Alpha and Composite Reliability. The acceptable internal reliability for explanatory research has values of 0.6 to 0.7 while considered as satisfactory in more advanced research if reached 0.7 to 0.9 (Hair et al., 2011). The Composite Reliability value are considered as favorable if reached 0.7 and above (Wong, 2013).

Table 3: Construct Reliability & Validity

<table>
<thead>
<tr>
<th>Construct</th>
<th>Cronbach’s Alpha</th>
<th>Composite Reliability</th>
<th>Average Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Skepticism</td>
<td>0.925</td>
<td>0.924</td>
<td>0.605</td>
</tr>
<tr>
<td>Subjective Knowledge</td>
<td>0.878</td>
<td>0.878</td>
<td>0.590</td>
</tr>
<tr>
<td>Environmental Knowledge</td>
<td>0.873</td>
<td>0.873</td>
<td>0.578</td>
</tr>
<tr>
<td>Environmental Concern</td>
<td>0.873</td>
<td>0.873</td>
<td>0.578</td>
</tr>
<tr>
<td>Green Purchase Intention</td>
<td>0.952</td>
<td>0.952</td>
<td>0.715</td>
</tr>
</tbody>
</table>

Based on Table 3, the result of both Cronbach’s Alpha and Composite Reliability values are above 0.7 meaning that all constructs taken in this research are reliable. Moreover, the AVE values of all construct are found successfully exceed the acceptable value of 0.5.

Discriminant Validity

To assess the discriminant validity, the square root of AVE value of each construct has to be higher than any of its cross loadings on other construct to be concluded as valid (Wong, 2013).

Table 4: Discriminant Validity Fornell-Larcker

<table>
<thead>
<tr>
<th></th>
<th>EC</th>
<th>GPI</th>
<th>GS</th>
<th>SEK</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC</td>
<td>0.760</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPI</td>
<td>0.703</td>
<td>0.845</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GS</td>
<td>0.357</td>
<td>0.305</td>
<td>0.778</td>
<td></td>
</tr>
<tr>
<td>SEK</td>
<td>0.575</td>
<td>0.733</td>
<td>0.278</td>
<td>0.768</td>
</tr>
</tbody>
</table>
The numbers of square root shown in bold line are used to assess the discriminant validity. The numbers in bold line show larger value than the value of correlation both in rows and columns signifying that all of the variables are valid.

Table 5: Hypothesis Testing Result

| Hypotheses                                                      | Path Coefficient | T Statistics (|O/STDEV|) | P Values | Decision |
|-----------------------------------------------------------------|------------------|----------------|----------|----------|----------|
| H1 = Green Skepticism negatively influence Green Purchase Intention | -0.082           | 1.796          | 0.073    | Rejected |
| H2 = Subjective Environmental Knowledge positively influence Green Purchase Intention | 0.466            | 6.763          | 0.000    | Accepted |
| H3 = Environmental Concern positively influence Green Purchase Intention | 0.338            | 4.673          | 0.000    | Accepted |

Based on Table 5, the first hypothesis is rejected while two hypotheses taken in this research are accepted. Green Skepticism indeed negatively influences Green Purchase Intention (H1) but it found to be insignificant, Subjective Environmental Knowledge positively and significantly influences Green Purchase Intention (H2), and Environmental Concern positively and significantly influences Green Purchase Intention (H3). The most significant predictor for Green Purchase Intention is Subjective Environmental Knowledge.

From the PLS-SEM analysis, it is found that all of the constructs are reliable and valid. It also shows that all of the indicators used in this research are representative to its variables as the T-Significant value of the outer loadings are all above 1.96. This signifies that the indicators significantly influence the constructs.

The influence between Environmental Concern towards Green Purchase Intention found to be positive and significant as the path coefficient shows positive value with T-Statistics value above 1.96. This indicates that the more people feel concerned about the environment the more they have high intention to purchase green product. This finding is in correspondence with (Albayrak, Aksoy & Caber, 2013; Butt, 2017; Kahraman & Kazancoğlu, 2019) that stated consumers with environmental concern tend to purchase environmentally friendly product. Furthermore, (Yadav & Pathak, 2016) stated that environmental concern significantly influences green purchase intention among youth in India while (Maichum et al., 2017) stated that environmental concern has significant influence on green purchase intention among young generation in Thailand.

Correspondingly, the influence between Subjective Environmental Knowledge towards Green Purchase Intention was found to be positive with positive value of path coefficient. This means that people with higher level of environmental knowledge will have more intention to purchase green products. The T-Statistics for Subjective Environmental Knowledge towards Green Product is higher than 1.96 signifies that the influence is significant. This finding is supported by (Goh & Balaji, 2016; Nguyen et al., 2019; Promotosh & Sajedul, 2011) that stated environmental knowledge is a strong predictor of Green Purchase Intention. Thus, it can be concluded that both environmental concern and environmental knowledge relationship towards green purchase intention are positive and significant.
The relationship between Green Skepticism towards Green Purchase Intention examined to be negative with negative value of path coefficient. This points out that people with Green Skepticism will show less intention to buy green products. This is supported by previous findings (Albayrak et al., 2011; Kahraman & Kazancoğlu, 2019; Leonidou & Skarmeas, 2015). However, The T-Statistics for this relationship is under 1.96 which is considered as having insignificant influence. This finding is in correspondence with (Do Paço & Reis, 2012; Goh & Balaji, 2016; Albayrak, Caber & Aksoy, 2010) that found Green Skepticism negatively influence Green Purchase Intention but with insignificant influence.

Conclusion and Recommendation

This research found that green skepticism has negative but insignificant relation towards green purchase intention. The relation between subjective environmental knowledge and green purchase intention was found to be positive and significant, with the highest effect compared to other variables on green purchase intention. Whereas environmental concern positively and significantly affects green purchase intention.

The study found that environmental knowledge and environmental concern are the determinant of green purchase intention on consumers but this influence might get reduced by the negative effect of green skepticism. Green skepticism is not a permanent state of mind, meaning it could appear and disappear according to the information provided. Therefore, companies especially the ones in emerging country with recent green products engagements, should continuously monitored consumers’ green skepticism around green product and keep providing convincing evidence about their green products to the consumers in order for them to have continuous purchase intention. This because environmental knowledge and environmental concern that are being generated towards a product that is not in fact, positively contribute to the environment could increase green skepticism and further raise its negative consequences.

In conclusion, in order for people to have the intention of buying green product, the subjective environmental knowledge and environmental concern have to be high. The more people have knowledge around green products the more they are likely to perform actual purchases. Likewise, when the consumers have concern towards the environment the more they are engaging on pro-environmental behaviour thus increasing the likeliness of purchasing green product. Companies should continuously increase consumer’s environmental knowledge and environmental concern to prevent the negative effect of green skepticism.

References


