



THE INFLUENCE OF CONSUMERS' PERCEPTION OF GREEN PRODUCTS ON GREEN PURCHASE INTENTION

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ABSTRACT

Green consumerism has increasingly received attention since the increased level of consumer awareness towards green products. Therefore, the aim of this paper had been to examine the influence of consumer perception of green products on green purchase intention. In this study, perception of green products was conceptualized as a multidimensional variable comprised of green corporate perception, eco-label, green advertising, green packaging, and green product value. By using a survey, a total of 159 questionnaires from respondents aged above 18 in Sabah were collected. The results demonstrated that within consumer perception; green corporate perception, eco-label, and green product value had positive significant influences on green purchase intention. The findings also revealed that eco-label and green product value made the largest contribution in influencing green purchase intention among consumers. In contrast, both green advertising and green packaging had no significant impact on consumer intention to purchase green products.

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Keywords: Green consumerism, Green purchase intention, Green product, Green corporate perception, Green advertising, Green packaging, Green product value, Factor analysis, Malaysia.

Contribution/ Originality

This study contributes in the existing literature especially in the context of green consumerism in Malaysia since studies to unveil the relationships between Malaysian consumers' perception of green products and green purchase intention is still relatively less in Malaysia

1. INTRODUCTION

Unusual climate changes, global warming, health concern, and environmental issues are the factors which have led consumers to behave 'green' in their purchasing decisions (Do Paco and Raposo, 2009; Barber, 2010; Okada and Mais, 2010) and consequently, the demand for green products has increased significantly (Dangelico and Pontrandolfo, 2010). Furthermore, the emergence of green consumerism signifies that some consumers are willing to pay a premium price for green products (Vlosky *et al.*, 1999; Sammer and Wustenhagen, 2006; Haytko and Matulich, 2008; Okada and Mais, 2010; Litvine and Wustenhagen, 2011). The "going-green" trend has now extended to the Asian region (Lee, 2008), including Malaysia. In general, Malaysian consumers are more willing than before to favour green concepts (Tan and Lau, 2010; Punitha and Azmawani Abd, 2011). Emerging markets for green products in Malaysia means promising opportunities for green marketers. Importantly, Malaysia has been ranked ninth for consumer awareness on the impact of air pollution and global warming. Based on The Nielsen Global Online Environmental and Sustainability Survey in 2011, nine out of ten Malaysians were aware of the impact of the environmental issues (The Edge, 2011). Even though Malaysians have displayed great concern for the environmental impacts, only one in five or 20 percent of consumers were willing to pay more for environmentally friendly products. This implies that despite most Malaysians have expressed great concern over environmental issues; they are still not willing to change their buying behaviour towards environmentally friendly products. This is consistent with a study by Nor Azila Mohd *et al.* (2012), who found that the green purchase behaviour among Malaysians is not encouraging. In their study, which tempted to identify the green consumer profiles and their green buying behaviour in Malaysia, it was discovered that only 30 percent of the total respondents were categorized as green product buyers and had had experience in purchasing green products.

Besides, numerous studies have been conducted in the past on green consumerism in Malaysia, particularly on the predictor variables, such as consumers' demographic profiles, consumers' environmental attitudes, consumers' environmental threats, perceived consumer effectiveness, and perceived behavioural controls (Tan and Lau, 2010; Punitha and Azmawani Abd, 2011) (Tan, 2011; Tan and Lau, 2011; Teng *et al.*, 2011). However, studies to unveil the relationships between consumers' perception of green products and green purchase intention are still relatively less in Malaysia (Nik Abdul, 2009; Nik Abdul *et al.*, 2009; Elham Rahbar and Nabsiah Abdul, 2011). Yet, there is much uncertainty among firms on the product dimensions to be considered when developing green products. Hence, the current study is vital in filling the current literature gap about green consumerism in Malaysia. Therefore, the main purpose of this study had been to

investigate if consumers' perception on green corporate, eco-label, green advertisement, green packaging, and green product value influence their green purchase intention.

The structure of the paper is as follows: Literature review and hypothesis development are discussed in the next section. Section 3 describes the methodology, section 4 presents the results, whilst section 5 elaborates the discussion, and section 6 provides the conclusion.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Green Purchase Intention

According to the Theory of Planned Behaviour by [Ajzen \(1991\)](#), the combination of attitudes towards the behaviour, subjective norms, and perceived behavioural control guide the formation of an intention, and thus, intention is assumed to be the predecessor of the actual behaviour. Again, a central factor in the Theory of Planned Behaviour is the individual's intention to perform a given behaviour. Intentions are assumed to control the motivational factors that influence behaviour. They are indications of how hard people are willing to try, or how much of an effort they are planning to exert in order to execute the behaviour. In short, the stronger the intention to engage in certain behaviour, the more likely an actual behaviour would be performed ([Ajzen, 1991](#)). [Roberts and Bacon \(1997\)](#) have developed a conceptual model to explore the relationships between consumers' environmental concern and ecologically conscious consumer behaviour in the USA. Their study conceptualized the consumer behaviour variable in six-dimensional criteria with 30 measuring items. They ranged from the use of recycled products to consumers' green purchase behaviour. In a similar study on consumer behaviour, ([Chan, 2001](#)) developed a conceptualized model that investigated the influence of various cultural and psychological factors on green purchase behaviour among Chinese consumers. The green purchase intention in the study was conceptualized as a single dimension variable and was measured by three items.

However, [D'Souza et al. \(2006\)](#) have developed a conceptualized model that consisted of seven variables in their study, which investigated the influences of multiple factors on green products for green purchase intention among consumers in Australia. The green purchase intention in the study was conceptualized as two-dimension variables, with price and quality as the measurement for green purchase intention. Whereas the study by [Nik Abdul et al. \(2009\)](#) referred green purchase intention as the probability and willingness of a person to give preference to products having eco-friendly features over other conventional products in their purchase considerations. Likewise, [Chen and Chang \(2012\)](#) defined green purchase intention as the likelihood that a consumer would buy a particular product resulting from his or her environmental needs. Hence, for the purpose of this study, green purchase intention was conceptualized as a single-dimension variable, which is in line with [Nik Abdul et al. \(2009\)](#), as they have defined green purchase intention as the probability and willingness of a person to give preference to products with eco-friendly features over other conventional products in their purchase considerations.

2.2. Factors Influencing Green Purchase Intention

2.2.1. Green Corporate Perception

D'Souza *et al.* (2006) have developed a conceptualized model to investigate consumers' perception formation towards green product in Australia. There were seven independent variables involved in their study, namely, corporate perception, product perception, regulatory protection, product label, past experience, packaging, and ingredients. One of the independent variables; green corporate perception, was measured by using one single dimension with three measurement items. The authors further contended that consumers' perception of the firm's corporate strategies towards environmental issues was expected to contribute to the formation of the overall perception about green products. Okada and Mais (2010), further describe that green companies are contrasted with non-green companies in the extent to which they take proactive measures in environmental sustainability and position themselves based on environmental philosophy.

As for the purpose of this study, green corporate perception was conceptualized as a single dimension variable based on a study by D'Souza *et al.* (2006). D'Souza *et al.* (2006), in their study, investigated consumer perception formation towards green products in Victoria, Australia and found that there was a significant, but negative relationship between consumers' corporate perception on green products. Accordingly, consumers' overall perception about green product was negatively correlated with green purchase intention. The findings showed that the respondents had a general perception on corporate policies that did not support corporations that placed higher profitability in implementing green product strategies. In another study conducted by Barber (2010) that covered a general adult population of wine consumers in the USA also reported similar findings. The study that aimed to examine consumers' attitudes, behaviours, values, and intention to pay more for green wine packaging revealed that consumers who considered environmental issues when making a purchase were more likely to pay more for green wine packaging than those who did not. Significantly, about 77 percent of these respondents stated that they refused to buy wine products from companies alleged of being harmful to the environment. Hence, this contributed to the formation of the first hypothesis of this study:

H₁: There is a significant relationship between Green Corporate Perception and Green Purchase Intention.

2.2.2. Eco-Label

Tang *et al.* (2004) define eco-label as a mean of information tool that usually utilized logo to convey information to consumers on the environment implications of buying such product. Additionally, Rex and Baumann (2006) describe eco-label as a means for consumers to make choices that will reduce environmental impact and enable them to influence how products are made. Sonderskov and Daugbjerg (2011) define eco-label as a product claim to furnish consumers with credible and easily accessible information on the environmental attributes of a product. Also, Sammer and Wustenhagen (2006) advocate eco-label as an important marketing tool to overcome market failure due to information asymmetries between sellers and buyers of environmental friendly products. Elham Rahbar and Nabsiah Abdul (2011) developed a conceptualized model that investigated the effects of eco-label, eco-brand, and environmental advertising on consumers'

purchasing behaviour in Penang, Malaysia. They suggested that these three marketing tools are useful in enhancing consumers' knowledge about environmental friendly products and their ability to distinguish between green products and conventional products. In the same study, eco-label was conceptualized as a single-dimension variable that consisted of four items, ranging from consumers' recognition of various eco-labels, use of eco-labels, the comprehension of the meaning of eco-labels, and trust of the eco-label's message. Hence, for the purpose of this study, eco-label was conceptualized as a single-dimension variable based on the study of [Elham Rahbar and Nabsiah Abdul \(2011\)](#).

In addition, a considerable amount of literature has been published on the relationship between eco-label and green purchase. The results of these studies often contradict each other. [Vlosky et al. \(1999\)](#) unveiled the relationships between intrinsic environmental motivations like environmental consciousness, the importance of environmental certification, involvement in certification, and the willingness to pay a premium for environmentally certified wood products in USA. The study found that consumers with high involvement or high expectation in environmental certification had high willingness to pay a premium for environmentally certified wood products. A study by [D'Souza \(2000\)](#), which examined the impact of "Dolphin-Safe" eco-label on four brands of consumers' canned tuna choice in Australia, reported that consumers were favourably influenced by the presence of "dolphin-safe" eco-label on their tuna brand preference. [Sammer and Wustenhagen \(2006\)](#) conducted a choice-based conjoint analysis involving 151 potential washing machine buyers in Switzerland. The study analyzed the relative importance of EU energy-labelled products compared to other product attributes, such as brand, water and energy consumption level, energy efficiency rating, and price factor on consumer buying decision for a washing machine. The research findings indicated that the energy label positively influenced consumers' buying decisions for washing machines. Interestingly, the willingness to pay for the costs exceeded the cost savings that can be expected over the lifetime of the product. Thus, this arrives at the following hypothesis:

H₂: There is a significant relationship between Eco-Label and Green Purchase Intention.

2.2.3. Green Advertisement

According to [Davis \(1994\)](#), corporate environmental advertisement typically contains three elements. First, the advertisement presents a general statement of corporate concern for the environment. Second, the advertisement describes how the corporation has initiated a number of activities to demonstrate its concern and commitment towards environmental improvement. Third, the advertisement provides a description of specific environmentally related activities, in which the corporation is engaged and / or outcomes for which the corporation takes credit. Whereas [Chan \(2004\)](#), defines green advertisement as claims that the attributes of the advertised product or associated production process contributed to environmental protection or with other positive effects to the environment. In the study, ([Chan, 2004](#)) developed a model that consisted of six dimensions in measuring the Chinese consumers' responses to green advertisement, i.e. attitudes toward the advertisement, attitudes toward the advertised product, intention to purchase the advertised product, relevance of the advertised product to the respondents' daily lives, usefulness of the advertisement in guiding respondents to purchase the product, and perceived credibility of the advertising claim.

For the purpose of this study, green advertisement was conceptualized as a uni-dimension variable based on Chan (2004) study. Accordingly, the definition used in this study is as an activity to influence consumers' behaviour by encouraging them to buy products that are not harmful to the environment and to direct their attention to the positive consequences of their purchasing behaviour.

The result from a study by Davis (1994) found that consumers' reactions to corporate green advertisements were significantly influenced by consumers' prior perception about the corporate environmental concern. If the consumers' prior-perceptions toward corporate environmental concern had been favourable, then consumers were significantly more likely to respond positively to the green advertisement, including the advertised message, the corporate image, as well as the products from the corporate. In Chan (2004) study on consumers' responses to green advertisement in two major cities in China; Beijing and Guangzhou, the study found that perceived credibility of the environmental advertisement claim and the relevance of advertised product to respondents' daily lives are two most significant determinants of green purchase intention in China. The analyses of the respondents' follow-up questions further revealed that a specific and well-supported claim was very important in generating positive attitudes toward green advertisement and improving the perceived credibility of the messages. Based on the above statement, it leads to the third hypothesis of the study:

H₃: There is a significant relationship between Green Advertisement and Green Purchase Intention.

2.2.4. Green Packaging

Draskovic *et al.* (2009) proposed that packaging is a communication tool between businesses and consumers and it is capable of attracting consumers' attention. Consumers' overall perception of packaging is a sum of individual perspective of packaging shape, size, colour, materials, and labelled information. Hence, to further understand how packaging communicates and affects consumers, it is important to investigate how consumers perceive packaging. Van Dam and Van Trijp (1994), in their attempt to unveil consumers' perceptions and preference for beverage containers in the Netherlands, define green packaging as to the extent consumers recognize environmental aspects in their perception of product packaging and the extent consumers consider environmental aspects in their overall preference formation.

Roberts and Bacon (1997) developed a conceptual model to explore the relationships between consumers' environmental concern and ecologically conscious consumer behaviour in the USA. One of the dimensions was related to recycling issues and purchasing decision. D'Souza *et al.* (2006) conceptualized green packaging as a uni-dimension variable with two measurement items in their study that investigated consumers' perceptions of green product on green purchase intention in Australia. In Barber (2010) study on green wine packaging in the USA, he conceptualized consumers' behaviour on wine packaging as a single-dimension variable and used four items that measured consumers' behaviour on recycling. In a more recent study, Juwaheer *et al.* (2012) analyzed the impact of green marketing strategies on consumer purchasing patterns in Mauritius, and developed a conceptualized model that consisted of five predictor variables. One of the

predictor variables was consumers' perceptions towards green packaging, and eco-labelling was conceptualized as a two-dimensional variable with three measurement items for green packaging and two measurement items for eco-labelling. Hence, for the purpose of this study, green packaging was conceptualized as a uni-dimension variable with reference to studies by [Roberts and Bacon \(1997\)](#), and [Barber \(2010\)](#). Accordingly, the conceptualized definition of green packaging was adapted from [Van Dam and Van Trijp \(1994\)](#) definition, in which they define green packaging as to the extent consumers recognize and consider environmental aspects in their perception of product packaging and their overall preference formation. Hence, this study hypothesized that:

H₄: There is a significant relationship between Green Packaging and Green Purchase Intention.

2.2.5. Green Product Value

[Yaacob and Zakaria \(2011\)](#) conferred that in general, consumers engage in green products for the benefits of environmental improvement they live in. In some cases, direct personal benefits, such as perceived health advantages of organic foods or the energy saving of an eco-friendly air conditioner, are mostly observed. [Chen and Chang \(2012\)](#) inspected the roles of green perceived value, green perceived risk, and the mediating effect of green trust on the green purchase intention of information and technology products in Taiwan. The independent variable of green perceived value was conceptualized as a uni-dimension variable and was measured by five items. The definition of green perceived value in [Chen and Chang \(2012\)](#) study was adopted from [Patterson and Spreng \(1997\)](#), who documented green perceived value as consumers' overall appraisal of the net benefit of a product or service between what is received and what is given based on consumers' environmental desires, sustainable expectations, and green needs. Therefore, for the purpose of this study, the green product value was conceptualized as a single-dimension variable based on the study by [Chen and Chang \(2012\)](#).

Although the broad literature has acknowledged the significant effects of green products and their values or benefits on consumers' green purchase intention, a few studies have reported contradictory findings. A study by [Bhaskaran et al. \(2006\)](#) indicated that customers do not perceive those products produced under environmental sustainable standards as offering any distinct benefits to them and customers distrust the claims made by these organizations. In addition, these products are more expensive than traditional products and the implementation of such environmental standards on food is expensive. Green products have usually been more costly to manufacture than conventional products, and thus, they are simply more expensive for consumers to purchase ([D'Souza et al., 2006](#); [Okada and Mais, 2010](#); [Royne et al., 2011](#); [Sonderskov and Daugbjerg, 2011](#)). Hence, [Chen and Chang \(2012\)](#) suggested that companies should develop products with both green features and high-value attributes to attract consumers. They further argued that increasing consumer perceived value about green products may ease customer scepticism about green products and enhance consumer purchase intention. So, this study implied that:

H₅: There is a significant relationship between Green Product Value and Green Purchase Intention.

3. RESEARCH METHODOLOGY

This study is a cross-sectional study using a self-administered questionnaire. The target respondents of this study were individual consumers aged above 18 years old, with the assumption that this group of consumer had been familiar with the purchasing of products and were also independent in their own decisions for choosing the right products among many available choices (Elham Rahbar and Nabsiah Abdul, 2011). The data for this study were collected through the distribution of self-administered questionnaires via online method (e-mail) and offline method (hand delivery) to potential respondents across Kota Kinabalu, Sabah. The questionnaire survey for this study was adopted from established questionnaires from studies by Roberts and Bacon (1997); Chan (2001); Lichtenstein *et al.* (2004); D'Souza *et al.* (2006); Barber (2010); Elham Rahbar and Nabsiah Abdul (2011); Chen and Chang (2012). The respondents were asked to express their agreement or disagreement with a statement on a five-point Likert-type scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree).

4. RESULTS

4.1. Factor Analysis

The green products constructed in this study were multi-dimensional constructs, which comprised of five independent variables; namely, green corporate perception, eco-label, green advertisement, green packaging, and green product value. Initially, there were 26 items used to measure the multi-dimensional of green products; i.e. green corporate perception consisted of five (5) items in section A, eco-label consisted of six (6) items in section B, green advertisement consisted of five (5) items in section C, green packaging consisted of five (5) items in section D, and green product value consisted of five (5) items in section E. The whole process of factorial analysis for the perception on green products involved nine runs. The result of factor analysis on the perception on green products is summarized in Table 1.

The final run of factor analysis constituted five factors with Eigenvalues above one. The Bartlett's Test of Sphericity was significant at 0.000. The Kaiser-Meyer-Olkin was 0.775. The Anti-Image correlation for the 18 green product items ranged from 0.516 to 0.837. The Communalities for the remaining items ranged from 0.571 to 0.943. None of the items was found to have dual factor-loadings.

The factor loadings for the remaining 18 green product items were in the range from 0.659 to 0.948, which signified above the recommended cut-off point value of 0.45 for a sample size above 150 to be statistically significant. In short, the exploratory factor analysis for the perception on green products resulted in five factors: namely, 1) green packaging, 2) green product value, 3) eco-label, 4) green corporate perception, and 5) green advertisement. Theoretically, these five factors were considered valid and usable.

4.1.1. Factor Analysis of the Perception on Green Products (Independent Variables)

Table-1. Factor Analysis of Green Product Perception

| Items | F1 | F2 | F3 | F4 | F5 |
|-------------------------------------------------------------------------------------------------------------------|----------|--------|--------|-------|-------|
| Factor 1: Green Packaging | | | | | |
| D4 That the packaging is made from recyclable materials. | 0.918 | | | | |
| D3 That the packaging is biodegradable. | 0.902 | | | | |
| D1 That the packaging is recyclable. | 0.832 | | | | |
| D2 That the packaging is reusable. | 0.732 | | | | |
| D5 That the product has no excessive packaging. | 0.721 | | | | |
| Factor 2: Green Product Value | | | | | |
| E2 This product's environmental performance meets my expectations. | | 0.850 | | | |
| E1 This product's environmental functions provide very good value for me. | | 0.808 | | | |
| E5 I purchase this product because it has more environmental benefits than other products. | | 0.795 | | | |
| E3 I purchase this product because it has more environmental concerns than other products. | | 0.771 | | | |
| E4 I purchase this product because it is environmentally friendly. | | 0.750 | | | |
| Factor 3: Eco-label | | | | | |
| C3 Green advertisements are always trustworthy. | | | 0.845 | | |
| B6 I consider what is printed on eco-labels to be accurate. | | | 0.791 | | |
| B5 The information on eco-labels is usually easy to understand. | | | 0.772 | | |
| Factor 4: Green Corporate Perception | | | | | |
| A1 Companies should place higher priority on reducing pollution than on increasing their own profitability. | | | | 0.948 | |
| A2 Companies should place higher priority on environmental protection than on increasing their own profitability. | | | | 0.929 | |
| Factor 5: Green Advertisement | | | | | |
| C4 Green advertisements are attractive. | | | | | 0.827 |
| C5 The contents of green advertisements are of great relevance to my daily life. | | | | | 0.700 |
| B4 Overall, I'm satisfied with the information currently available on the eco-label of the products I purchase. | | | | | 0.659 |
| Eigenvalues | 6.018 | 2.484 | 2.118 | 1.568 | 1.211 |
| % of Variance Explained | 33.433 | 13.800 | 11.765 | 8.710 | 6.725 |
| Total Variance Explained | 74.433 | | | | |
| Kaiser-Meyer-Olkin (KMO) | 0.775 | | | | |
| Bartlett's Test of Sphericity | 1825.036 | | | | |
| Significant | 0.000 | | | | |

4.1.2. Factor Analysis of Green Purchase Intention (Dependent Variable)

Table-2. Factor Analysis of Green Purchase Intention

| Items | Factor Loading |
|--------------------------------------------------------------------------------|----------------|
| Green Purchase Intention | |
| F3 I plan to switch to a green version of a product. | 0.830 |
| F5 I consider switching to other brands for ecological reasons. | 0.825 |
| F4 I consider buying green products because they contribute to less pollution. | 0.821 |

Continue

| | | |
|----|---------------------------------------------------------------------|---------|
| F1 | I would buy green products that are not harmful to the environment. | 0.772 |
| | Eigenvalues | 2.640 |
| | Total Variance Explained | 65.996 |
| | Kaiser-Meyer-Olkin (KMO) | 0.775 |
| | Bartlett's Test of Sphericity | 229.538 |
| | Significant | 0.000 |

The process of factor analysis for green purchase intention involved two runs. The result of the factor analysis is displayed in Table 2. The final run of the factor analysis of green purchase intention variable constituted one factor with Eigenvalues of 2.640 and explained 65.996 percent of the total variance. The Kaiser-Meyer-Olkin value was 0.775, and the Bartlett's Test of Sphericity was significant at 0.000. The Anti-Image correlation of the four items ranged from 0.750 to 0.802, and the Communalities for the remaining four items ranged from 0.596 to 0.688. This indicated that the factor analysis results have met all the criteria, as proposed by Hair *et al.* (2010).

4.2. Multiple Regression Analysis

As shown in Table 3, the results of the multiple regression analysis revealed that 39.4 percent variances in green purchase intention could be explained by green corporate perception, eco-label, green advertisement, green packaging, and green product value ($R^2 = 0.394$, $p < 0.01$). The results also unveiled that green corporate perception ($\beta = 0.188$, $p < 0.01$); eco-label ($\beta = 0.354$, $p < 0.01$); and green product value ($\beta = 0.333$, $p < 0.01$) were found to have significant positive influences on green purchase intention. However, both green advertisement and green packaging were found to have no significant effect on green purchase intention. In other words, hypothesis 1, 2, and 5 were supported; while hypothesis 3 and 4 were rejected.

Table-3. Multiple Regression Analysis of Variables

| Constructs | Standardized Beta Coefficient |
|----------------------------|-------------------------------|
| Green Corporate Perception | 0.188** |
| Eco-Label | 0.354** |
| Green Advertisement | -0.014 |
| Green Packaging | 0.073 |
| Green Product Value | 0.333** |
| R^2 | 0.394 |
| Adjusted R^2 | 0.374 |
| F Value | 19.614** |

Note: Significant: * $p < .05$, ** $p < .01$

Dependent variable (Green Purchase Intention)

5. DISCUSSION

The current study was conducted to gain a better understanding of the influences of consumers' perception of green products on green purchase intention among consumers in Sabah. The result of multiple regression analysis revealed that green corporate perception (H1), eco-label (H2), and green product value (H5) were found to have significant positive influences on green purchase intention. However, both green advertisement (H3) and green packaging (H4) were found

to have no significant effects on green purchase intention. Thus, hypotheses 1, 2, and 5 of this study were supported; while hypotheses 4 and 5 were rejected.

The support for hypothesis 1 was consistent with that of D'Souza *et al.* (2006), who found that there was a significant relationship between green corporate perception and green purchase intention. In D'Souza *et al.* (2006) study, the consumers' overall perception about green product was negatively correlated with green purchase intention if the company placed higher priority on group profitability rather than environmental protection. Similarly, the existing finding was also in agreement with Barber (2010) findings, which showed that about 77 percent of the respondents stated that they refused to buy wine products from companies allegedly being harmful to the environment. Nonetheless, the current results also confirmed that green corporate perception had substantial influence on green purchase intention. This finding is further supported by the notion suggested by Choi and Ng (2011), who argued that consumers may be motivated to make green purchasing behaviour to support firms that care for environmental sustainability. Therefore, the findings of this recent study proposed that green corporate perception is a vital determinant of green purchase intention for consumers in Sabah. Within the study context, green corporate perception played an important role in influencing green purchase intention. In this regard, managers may develop or establish an environmentally friendly corporate image to the public by contributing more efforts toward environmental related or conservation activities. A clear message or effective corporate public relation which integrates the corporate's environmental records is equally important to display to the public that they are truly committed to the environmental concern. For example, a simple corporate motto or tagline like "Every five products sold will be contributed to our Ecological Conservation Fund in Kinabatangan"; or "28.8 mt reduction in greenhouse gases emission"; are some of the environmental records that a manager could use to enhance their overall green corporate image.

In relation to eco-label (H2), this dimension of green products had positive and significant impacts on green purchase intention. Furthermore, by looking at the beta value for eco-label ($\beta = 0.354, p < 0.01$), it could be perceived that this dimension contributed the most in explaining green purchase intention with regards to green products. In other words, this implied that most consumers perceived eco-label as one of the essential factors that strongly influenced them to purchase green products. In the same way, the current study also reported that a majority of consumers in Sabah perceived the information available on eco-label as easy to understand and accurate. The present findings seemed to be consistent with the past researches which found positive relationship between eco-label and green purchase intention or the willingness to pay more in the context of environmentally certified wood products in USA (Vlosky *et al.*, 1999); in the context of "Dolphin-Safe" eco-label on canned tuna in Australia (D'Souza, 2000); in the context of EU energy-labelled washing machines in Switzerland (Sammer and Wustenhagen, 2006); and in the context of eco-labelled passenger vehicles purchased in the USA Noblet *et al.* (2006). Emphasizing the eco-label of a product that is accredited by reputable organizations may help to build product reliability or product awareness among consumers in Sabah. In Malaysia, reputable institutions that provide eco-label authorization service includes SIRIM's "eco-label", Energy Commission's "Energy Efficiency Star Rating", and the Department of Agriculture and Health Ministry's "Skim Organik

Malaysia” label. Thus, the use of eco-label can be effective when the product brand awareness is low or the green product has been just newly introduced to the market. In sum, an easy to understand and highly recognized eco-label is equally essential in influencing consumers’ green purchase intention. It is believed that eco-label is an important marketing tool to overcome market failure due to information asymmetries between consumers and sellers (Sammer and Wustenhagen, 2006; Sonderskov and Daugbjerg, 2011). Therefore, managers should fully utilize the effects of eco-labels on their green products, either by attaching them to their product packaging or product advertising.

As for green advertisement, the existing study found that green advertisement did not have a significant impact on green purchase intention ($\beta = -0.014$, $p > 0.05$). Hence, the third hypothesis of this study was rejected. The results of the current study concurred with those of Elham Rahbar and Nabsiah Abdul (2011), who found that there was an insignificant impact of green advertisement on purchase behaviour among Penang consumers. However, the results of the present study contradicted the study by Chan (2004), who found that the perceived credibility of the environmental advertisement claim and the relevance of the advertised products to respondents’ daily lives were the two most significant determinants of green purchase intention in China. This was probably due to the fact that there has been lack of green advertisements currently produced or advertised in Sabah. Another study done by Habib Ahmad *et al.* (2010) in Pakistan also reported that the relevance of green advertisements on consumers’ daily lives had a significant, but negative impact on green purchase intention. According to a study done by Leonidou *et al.* (2011), it was reported that 92.5 percent of the green advertisements identified were produced by large corporations situated in the industrially developed countries, especially in Europe, USA, and Japan. Considering the facts that the contents of the green advertisements were of neutral to respondents’ daily lives and less appealing to the respondents, these probably explain why the green advertisements did not have a significant impact on green purchase intention among the consumers in our study.

Besides, as far as green packaging is concerned, the existing result revealed that green packaging was not significantly linked with green purchase intention ($\beta = 0.073$, $p > 0.05$). Consequently, the fourth hypothesis of this study was also rejected. Green packaging in this study was concerned if the respondents would consider green product packaging, such as recyclable packaging, reusable packaging, biodegradable packaging, packaging made from recycled materials, and product without excessive packaging when buying household products. However, it appeared that this dimension of green products did not have any impact on green purchase intention. The findings of this study contradicted with a previous research. For instance, Barnes *et al.* (2011) found that the majority of the respondents (66.5 percent) favoured a container made from biodegradable material in Hawaii, USA. Similarly, Rokka and Uusitalo (2008) study showed that Finnish consumers responded favourably to product packaging with recyclable information (accounted to 34 percent of the total product choice); and then, followed by product packaging with a resealable feature (accounted to 16.9 percent of the total product choice). On the other hand, the findings of the current study were more in line with the research findings of Van Dam and Van Trijp (1994) in the context of beverage containers preference in the Netherlands; and Draskovic *et*

al. (2009) in the context of soft drinks packaging in Zagreb, Croatia. Although most of the respondents showed strong desires for environmental aspects and safe packaging, when it came to actual buying behaviour, the importance of individual convenience seemed to be the most important criterion in their purchasing decision. Those researchers further contended that personal benefits, especially individual convenience, affect their buying decision.

With respect to the dimension of green product value, green product value was found to have significant and positive impact on green purchase intention. Meanwhile, as the beta value indicated $\beta = 0.333$, $p < 0.01$, which explained that this dimension of green product was rated as the second highest in contributing to green purchase intention after eco-label. This result showed that the perceived green product values or benefits of the green product had strong influence on overall green purchase intention. With that result, the fifth hypothesis of this study was supported. Previously, there was strong evidence that indicated that the green product value did play an important role in determining an individual's green purchase intention, such as [Chen and Chang \(2012\)](#) study in the context of information communication technological products in Taiwan; and [Litvine and Wustenhagen \(2011\)](#) study in the context of green electricity in Switzerland. The existing research finding further confirmed those research findings. However, the current research finding did not support the earlier researches carried out by [D'Souza et al. \(2006\)](#) and [Bhaskaran et al. \(2006\)](#), which reported that there was no significant relationship found between the consumers' perception of green products and purchase intention. In general, both studies of Australian consumers did not perceive those products produced under environmentally sustainable standards as offering any distinct benefits to them and customers distrusted the statements made by these companies. In addition, these products were more expensive than other conventional products, and the overall implementation costs of such environmental standards were expensive. In this study, green product value was considered to be the second important predictor of green purchase intention after eco-label. Therefore, managers should take note that their product environmental functions and performances must at least be at par or surpass customer perceived value of green products. In order to retain customer satisfaction, managers should pay attention on producing high quality products, improving product features, and preferably, making the product to be convenient and affordable to most consumers.

6. CONCLUSION

The findings of the present study confirmed that green corporate perception, eco-label, and green product value had positive significant influences on green purchase intention. The results of the study also revealed that eco-label and green product value contributed the largest in influencing consumers' green purchase intention among consumers in Sabah. In contrast, this study found that both green advertising and green packaging had insignificant impacts in influencing green purchase intention. Nevertheless, this study also suggests that future research could be conducted by examining a particular type of green product, such as energy efficient air-conditioner and constructing eco-friendly buildings, as this study applied general green products as the object of the study. Hence, it would provide a more specific comprehension from the literature if the consumers' perception of green products would vary for different green products.

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