

GREEN AWARENESS EFFECTS ON CONSUMERS' PURCHASING DECISION: SOME INSIGHTS FROM MALAYSIA

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ABSTRACT

Consumers' awareness on products marketed in green marketing is important in guiding their purchasing decision of green products. This study aims to examine the influence of consumers' environmental concerns, awareness of green product, price and brand image on their purchasing decision of green products. A total of 200 completed responses were collected in the survey. Responses were randomly drawn from students in a public university in the Federal Territory of Labuan, Malaysia. Their participation was purely voluntary. Results via multiple regressions authenticated that consumers' awareness of price and brand image significantly influences their purchasing decision of green products. A person having some concern for the environment and its brand image would have a stronger preference to buy a green product. Findings could provide fruitful insights for environmental sustainability.

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Keywords: Brand awareness, brand image, purchasing decision, environmental concerns, multiple regressions

INTRODUCTION

Consumers' concern with green issues is a worldwide subject that continuously changes their lifestyle into becoming more environmentally responsible. One green awareness event jointly observed by the global community is the energy-saving campaign of switching off lights for one designated hour to reduce environmental impact, known as Earth Hour. The program has smoothed the progress of attaining a sustainable lifestyle for consumers worldwide. A consumer whose purchasing behaviour is persuaded by environmental concerns is known as a green consumer (Shrum et al. 1995). Meanwhile, green marketing is related to all activities designed to generate and facilitate any exchange intended to satisfy human needs or wants with minimal detrimental impact on the natural environment, i.e., environmental safe (Polonsky 1994). Green marketing is also an effort by a business or organisation to produce, promote, package and take products in a sensitive manner and responsive to ecological concerns, i.e., eco-friendly. Green awareness influences human behaviour in several ways, e.g., reducing consumption, changing wasteful or harmful consumption patterns and raising preference for environmentally friendly products, selective waste collection, or different forms of protest that may represent ecological sensibility.

There is an extensive campaign by the corporate sector in Malaysia to promote green lifestyle and encourage less reliance on plastic bag, e.g., the *No Plastic Bag Day* campaign on Saturdays by hypermarket chains such as Jusco and Carrefour. A supermarket in the Federal Territory of Labuan, Malaysia encouraged customers to bring their own bag to carry their purchase, or they alternatively have the option of donating additional 20 cents should they decide to use the supermarket's plastic bag. In terms of green support by the property sector, there have been developments of green buildings such as the GTower and 1 First Avenue in Kuala Lumpur, Malaysia. Another green campaign used to elevate public awareness and participation in Malaysia is Sime Darby's *Plant a Tree Program* and Digi's *Mangrove-Saving Project*. All of these green campaigns are in tandem with the Malaysian Green Technology Policy Number 5 i.e., "undertaking of promotions to increase public awareness" in implementing the "Green Malaysia" framework (Desan 2009).

The Standards and Industrial Research Institute of Malaysia (SIRIM) via its subsidiary SIRIM Quality Assurance Services (SIRIM QAS) is an

entity responsible for seal-of-approval product certification based on environmental criteria such as Environmentally Degradable, Non-toxic Plastic Packaging Material, Hazardous Metal-Free Electrical and Electronic Equipment, Biodegradable Cleaning Agents and Recycled Paper. For agricultural products, the Agricultural Department and Federal Agriculture Marketing Authority (FAMA) is accountable for identifying good agricultural practices (GAP) which operate in an environmentally friendly way in Malaysia. Farms that met the requirement will be allowed to apply certification of Malaysia's Best logo.

In the purchase of green marketing products, consumers should have the awareness of the products marketed in green marketing. Marketers try to influence each of these decisions by providing information that can assist in the product review. It is therefore of great importance for consumers to develop this green awareness. Preceding research studies have been conducted on the consumer's perception or attitude towards green products (e.g., Cox 2008; Haytko and Matulich 2008; D'Souza and Taghian 2005; D'Souza et al. 2007) and these studies were conducted not among Malaysian consumers. Indeed, there has been a substantive number of research works conducted on consumer characteristics (e.g., Banerjee et al. 1995; Schlegelmilch et al. 1994), yet there is no agreement about the "true" profile of a green consumer (D'Souza et al. 2007). Lee (2008) stated that there are minimal studies on the green marketing issues in Asian countries, including Malaysia, as compared to the Western countries.

Hence, this study aims to examine the influence of consumers' environmental concerns, awareness of green product, price and brand image on their purchasing decision of green products. This research is endowed with additional information in narrowing the research gap with regards to understanding Malaysian consumers' green awareness and their green-purchasing behaviour. Findings could provide fruitful insights for environmental sustainability that enable marketers to prop up greener consumption behaviour among consumers.

LITERATURE REVIEW

Green awareness is discussed in three sections: Consumers' environmental concern, awareness of green product and price, and brand image.

Consumers' Environmental Concerns

Consumers' environmental concerns are related to the interest towards the biophysical environment and its problems related to the consumer and the surroundings. It has been noted by foregoing research that women were more concerned about the environment than men (Murphy et al. 1978). It has also been stated that consumers express environmental concerns based on product characteristics, accuracy of green product claims, information provided on the products and its benefits (Forkink 2010; Luchs et al. 2010). Barr and Gilg (2006) found that committed individuals or mainstream environmentalists skewed and put forward a higher importance on environmental issues where they develop a high level of concern and express a personal responsibility and moral obligation to play their role to help the environment. By clearly communicating the benefits of a product on the packaging or in advertising, negative perceptions towards an environmentally friendly product's effectiveness i.e., their environmental concerns can be surmounted (Luchs et al. 2010). Thus, it is expected that:

H1: Consumers' environmental concern significantly influences their purchasing decision.

Green Product and Price Awareness

A green product refers to a product that is typically nontoxic, originally grown, recycle/reusable, not tested on animals, not polluting the environment and minimally packaged; and contains natural ingredients, recycled content and approved chemicals (Ottman 1998; Pavan 2010). Price is the attribute that consumers reflect on when making a green-purchasing decision. Consumers are less likely to purchase green products if they are more expensive (Blend and van Ravenswaay 1999; D'Souza et al. 2006). However, there were a group of environmentally conscious consumers, i.e., more than 80 percent of Thai, Malaysian and Korean consumers from the emerging markets in the region, who are willing to pay premium price to purchase environmental products

(Dunlap and Scarce 1991; Lung 2010). D'Souza et al. (2006) noted that all products offered should be environmentally safe without a need to trade off quality and/or pay premium prices for them. Specific hypotheses for the relations between the variables are put forth as follows:

H2: Consumers' awareness of green product significantly influences their purchasing decision.

H3: Consumers' awareness of price significantly influences their purchasing decision.

Brand Image Awareness

Brand image is related to a consumer's perception on the image of the products with green labels or images. A brand image common to a consumer's eye can help companies to introduce new brands and improve sales of existing brands (Markwick and Fill 1997). Consumers are less likely to purchase green products if they are unfamiliar with the brand (Glegg et al. 2005). Companies that create ads that are more focused on green, eco-friendly image will influence their customers' purchasing decisions. Users like to associate themselves with companies that have a brand image associated with the environment. Consumers changed their buying behaviour and purchase products they considered green (Ottman 1993). This is because related marketing campaigns on green products can help companies in increasing brand awareness and building positive corporate image in the minds of the customers (Adkins 2004; Varadarajan and Menon 1988). From the above discussion the following hypothesis may be inferred:

H4: Consumers' awareness of brand image significantly influences their purchasing decision.

Figure 1 illustrated the proposed research framework.

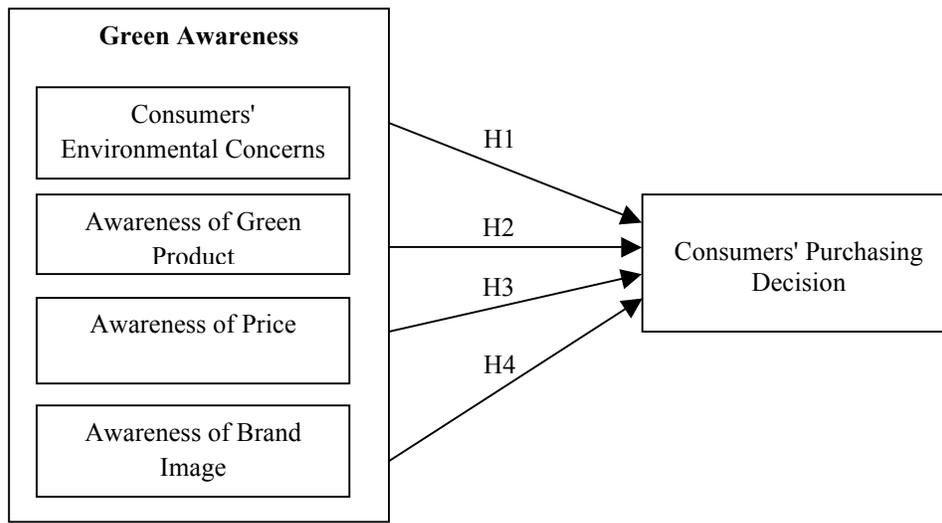


Figure 1: The proposed research model.

MATERIALS AND METHODS

This study utilised the quantitative method. The survey yielded 250 responses and after data screening, 200 usable and completed responses were used in the analysis with a valid response rate of 80 percent. This sample size is reasonable as Roscoe (1975) stated that a sample size of 30–500 is considered satisfactory. Data collection was conducted for a one-month period (from 1 March 2012 till 31 March 2012) utilising convenient sampling technique. Responses were randomly drawn from students in a public university in the Federal Territory of Labuan, Malaysia. Their participation was purely voluntary. They were required to complete the survey, designed in the form of structured close-ended questions, which comprises of four sections. Section A was related on the demographics of the respondents. Section B gathered the experience of the respondent on green marketing. Section C asked the respondent their perception on environmental concerns, awareness of green product, price and brand image. Finally, section D was related to consumer purchasing decision towards green products. In this study, Section C and D were measured on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). List of measurement items were presented in Appendix 1. The items were obtained and modified from prior research studies by Chen and Chai (2010) and Lee (2008). Statistical Package for Social Sciences (SPSS) computer program version 17.0 was used to perform data analysis. Multiple

regression analysis was performed to investigate relationship between green awareness and consumer's purchasing decision.

RESULTS AND DISCUSSION

Table 1 presents the descriptive investigation on demographic profile of respondents. Majority of the respondent was females (60.5 percent) with males constituting 39.5 percent. Females can be regarded as part of a growing consumer group in Malaysia. It appeared that respondents were mostly in the age categories 17–26 years old, known as Generation Y. These young people tend to have been more concerned about the green environment and had influenced their parents in purchasing decisions (Coddington 1993). With regards to marital status, 85 percent of the respondents were single.

Table 1: The demographic profile of respondents.

	Frequency	Percentage
Gender	79	39.5
Male	121	60.5
Female		
Age		
17–21 years old	44	22.0
22–26 years old	142	71.0
27–31 years old	12	6.0
> 32 years old	2	1.0
Marital status		
Single	170	85.0
Married	30	15.0

Reliability Analysis

Reliability analysis is measured via Cronbach's coefficient alpha to check for internal consistency of the constructs. All constructs had no problems in reliabilities if the Cronbach's Alpha values exceeded the criterion of 0.700 (Hair et al. 2010). Table 2 illustrates that the lowest value of Cronbach's Alpha was 0.737 for consumer purchasing decision factor. Thus, the survey instrument is reliable to measure all constructs consistently and free from random error.

Table 2: Reliability Analysis

Variable	No. of Items	Cronbach's alpha
Consumers' Environmental Concerns	4	0.821
Awareness of Green Product	5	0.745
Awareness of Price	3	0.883
Awareness of Brand Image	3	0.769
Consumers' Purchasing Decision	3	0.827

Correlation Analysis

The inter-relationships between the five variables were examined using Pearson correlation analysis. The average score of the multi-items for a construct was computed and the score was used in correlation analysis. Lind et al. (2010) stated that the correlations is strong when the value is $r = 0.50$ to 1.0 or $r = -0.50$ to -1.0 . Results in Table 3 revealed that all variables were correlated together at the 0.01 level using the correlation test and the values ranges $r = 0.278$ to $r = 0.481$. Hence, there is no multicollinearity problem in this research.

Table 3: Correlation analysis.

	1	2	3	4	5
(1) Consumer's Environmental Concerns	1				
(2) Awareness of Green Product	0.456**	1			
(3) Awareness of Price	0.321**	0.346**	1		
(4) Awareness of Brand Image	0.459**	0.664**	0.308**	1	
(5) Consumer's Purchasing Decision	0.278**	0.333**	0.372**	0.481**	1

** . Correlation is significant at 0.01 level (2-tailed).

Table 4 portrays the mean, standard deviation, skewness and kurtosis of each variable. The skewness of all the items ranges from 0.277 to 0.875, underneath ± 2.0 . Similarly, the values for kurtosis ranges from 0.074 to 0.648 well lesser than the cut-off value of ± 10 . Both the skewness and kurtosis are lower than the said value, signifying that the scores approximate a "normal distribution" or "bell-shaped curve."

Table 4: Mean, Standard Deviation, Skewness and Kurtosis of variables.

	Mean	Std. Deviation	Skewness	Kurtosis
Consumers' Environmental Concerns	3.8550	0.636	0.627	0.074
Awareness of Green Product	3.7920	0.615	0.277	0.448
Awareness of Price	3.7813	0.588	0.867	0.486
Awareness of Brand Image	3.5900	0.834	0.345	0.648
Consumers' Purchasing Decision	3.816	0.758	0.875	0.476

Relationship between Green Awareness and Consumers' Purchasing Decision

Multiple regression analysis was performed to identify the relationship between consumers' environmental concerns, awareness of green product, price and brand image with their purchasing decision of green products. Four hypotheses were proposed and results were enumerated in Table 5 and illustrated in Figure 2. The F -statistics produced ($F = 19.718$) was significant at 1 per cent level (Sig. $F < 0.01$), thus confirming the fitness for the model. The adjusted R^2 was 0.723, connoting that the four factors can significantly account for 72.3 percent variance in the consumer purchasing decision.

Table 5: Relationship between green awareness and consumers' purchasing decision.

Variables	Unstandardised Coefficient		Standardised Coefficient	t	Sig.
	B	Std. Error	Beta		
Consumers' Environmental Concerns	0.006	0.083	0.005	0.068	0.946
Awareness of Green Product	0.044	0.092	0.040	0.480	0.631
Awareness of Price	0.146	0.038	0.253*	3.846	0.000
Awareness of Brand Image	0.491	0.097	0.482*	5.064	0.000
Adjusted R^2	.723				
F	19.718**				

* Significant at the 0.05 level; ** Significant at the 0.01 level.

The estimated regression equation for the model is formulated as follows:

$$Y = 0.842 + 0.005X_1 + 0.040X_2 + 0.253X_3 + 0.482X_4$$

where:

Y = Consumers' purchasing decision

X_1 = Consumers' environmental concerns

X_2 = Awareness of green product

X_3 = Awareness of price

X_4 = Awareness of brand image

The results in Table 5 and Figure 2 corroborated that consumers' environmental concerns insignificantly influenced their purchasing decision of green products ($\beta_1 = 0.005$; t -value = 0.068; $p > 0.05$). Thus, H1 is not supported, signifying that customers' environmental concern do not influence their purchasing decision of green products as to keep the environment safe. The study is in contrary with the findings of Gan et al. (2008), which found that consumers are concerned about the environment. Next, H2 substantiated that consumers' awareness of green product do not significantly influenced their purchasing decision ($\beta_2 = 0.040$; t -value = 0.480; $p > 0.05$). Hence, H2 is also not supported. Respondents' awareness of green products has no effects in their purchase of green product though they have knowledge of the products. These findings do not confirm the findings of D'Souza et al. (2006).

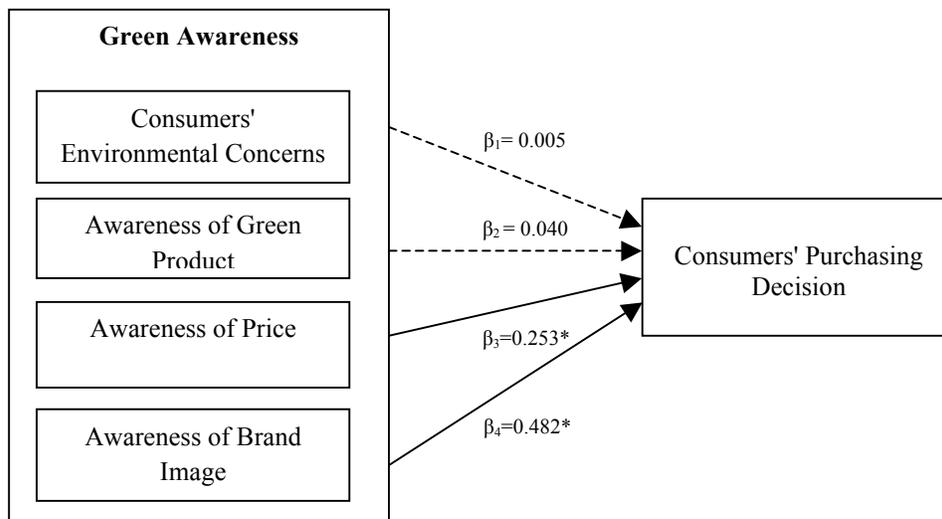


Figure 2: The results of the full model.

The results of multiple regression analysis for H3 as presented in Table 5 and Figure 2 indicated that consumers' awareness of price emerges as the second important factor, which significantly affected their purchasing decision of green products ($\beta_3 = 0.253$; t -value = 3.846; $p < 0.05$). Thus, the significant

relation between consumers' awareness of price and the effect on their purchasing of green product has been visible. This result is consistent with Dunlap and Scarce (1991), Lung (2010), and Loureiro and Lotade (2005) who stated that consumers have shown their willingness to pay higher premium for eco-labelled green products. Teisl et al. (2002) provided a market-based evidence that consumers can respond positively to eco-labels and consequently contributed to the increased market share of the product concerned.

Results for H4 show that consumers' awareness of brand image is significantly related to their purchasing decision of green products and disclosed a significant result ($\beta_4 = 0.482$; $t\text{-value} = 5.064$; $p < 0.05$). Hence, H4 is supported, implying that awareness of brand image with green marketing elements could influence consumers' green-purchasing decision. The results of the estimated coefficients indicated that consumers' awareness of brand image is the strongest factor, compared to the other three independent variables, that has a positive influence on consumers' purchase of green product. They use product brands with green elements as the primary sources of information in identifying green products. Green brands could evoke their positive emotions towards influencing a green-purchasing behaviour. Green product campaigns are helpful for marketers in promoting their green brand image, and this aids them to develop a positive corporate image regarding environmental concerns (Adkins 2004; Varadarajan and Menon 1988).

CONCLUSION AND RECOMMENDATIONS

This research examines the influence of consumers' environmental concerns, awareness of green product, price and brand image on their purchasing decision of green products. From the results, it is interesting to note that consumers' awareness of price and brand image significantly influenced their purchasing decision of green products. Awareness of brand image is the strongest factor that has positively influenced their purchasing decision. This study confirmed that a person who has some concern for the environment and its brand image would have a stronger preference in purchasing a green product. In this respect, it is important for marketers to develop and implement emotional green branding strategies effectively and strategically to encourage positive sales of green products, as there is an increased demand for green products in the Malaysian market (Chen and Chai 2010).

Marketers should emphasis on providing clear information about green products and eco-labels to promote consumer familiarisation with products

and enhance their knowledge of green products. Attractive green product message contents should be aggressively developed that would stimulate interest among the Generation Y group aged 26 years old and below. Consumers should be able to easily differentiate green products from the non-green based on the labels. Further, the price on the green products should be affordable to encourage purchase. Government and non-government organisations are a strong predictor (Punitha and Rahman 2011) that plays an important role in encouraging consumers to go green and embrace green-purchasing behaviour. They could demonstrate their involvements and supports by taking initiative to expand consumer awareness of green products by creating effective green marketing campaigns or environmental-related activities such as energy conservation to contribute to a better sustainable environment. Marketers on the other hand should play their role to make sure that their products are of high quality and competitively priced. These products should be integrated with thoughtful green marketing strategies that fulfil individual needs and maximise customer satisfaction.

This research adds support to previous research, offering a theoretical basis for understanding that the consumers' environmental concerns, awareness of green product, price and brand image significantly influenced their purchasing decision of green products. Thus, the results of this study offer a new forward motion to the findings of earlier studies on green awareness and green consumer purchasing behaviour in Malaysia. This research also provides a better understanding on the profile of green product purchasers in Federal Territory of Labuan, Malaysia that fulfils the demand of D'Souza et al. (2007) and Lee (2010), in particular among Generation Y consumers. Future research is recommended to improve the generalisability of the sampling by expanding the sample size and carrying out survey at different geographical areas. Next, a study on the moderating effect of consumer demographics with green awareness and consumer purchasing decision is deemed relevant by using multivariate data analysis technique such as structural equation modelling technique. Level of education does not show a strong influence on consumers' environmental actions as compared to age, gender or residence (Frey Meyer and Johnson 2010).

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Appendix: Measurement of Instruments

Consumers' Environmental Concerns

Environmental issues are an emergency issue.

Environmental issues are consumers' responsibility.

I wish to see less packaging waste generated by processed food products.

I am worried about how all of my activities affect the environment.

Awareness of Green Product

Companies develop and make available some environmentally friendly products.

By buying a green product, I indirectly influence the environmental protection.

If consumers keep purchasing green products, the production of green products will eventually increase.

Green product usually comes smaller in portion but higher in prices.

I'm more likely to buy green products that are packaged in an eco-friendly manner and made easy for recycling or composting.

Awareness of Price

I would choose environmentally friendly goods and services, campaigns or companies if the price were the same.

I'm willing to pay more for environmentally friendly products.

If the price of green products is less expensive I'm willing to change my lifestyle by purchasing green products.

Awareness of Brand Image

I feel more comfortable buying product from a brand that has a green image.

I'm aware that a strong brand image gives me confident towards their green product.

Innovative and new image of eco-friendly product created by some companies tend to attract consumers in going green.

Consumer Purchasing Decision

I choose to buy products that are environmentally friendly.

I buy green products even if they are more expensive than the non-green ones.

I prefer green products than non-green products.