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Factors Affecting Purchase Intention of Green Products among Households in Sarawak

Jocelyn Goh Swee Kee, Nur-Nadhira Baharuddin & Rossazana Ab-Rahim

Faculty of Economics and Business, Universiti Malaysia Sarawak, Malaysia

Email: bnnadhira@unimas.my

Abstract

This study aims to investigate the factors affecting purchase intention of green products among households. Green products are segregated from normal products in the market, and it is interesting to know what the society really thinks of those products, and what affects their desire and intention to purchase the green products. This study provides a research on what green products are, how they help the environment, and what affects consumers' in the intention of buying these products. In this study, there are 2 specific objectives, including to examine the relationship between demographic factors and green purchasing intention, and assess factors affecting green purchasing intention. The methodologies which are used in this study includes multiple regression analysis and Pearson correlation test. The results of this study which concluded that demography, perceived value of products, and green branding are significant in affecting the purchase intention of green products serves as a guide for green product manufacturers on what is important to consumers in choosing products to buy.

Keywords: Purchase Intention, Green Products, Demography, Perceived Value of Product, Green Packaging, Green Branding, Green Marketing

Introduction

In the current times, environmental ethics is a significant topic among corporations and consumers alike. The withering of Mother Nature has brought into light the topic of environment conservation and preservation, which later brought about a new form of consumer ethics called green consumerism (Moisander, 2007). Deterioration of the environment and its effects on human life are among the issues of high importance which gained much attention from world organization, governmental bodies, and scholars (Haytko & Matulich, 2008). In the past decades, there is a steep decline of natural resources and serious destruction of the environment, due to the increase of goods and services consumptions by consumers, leading to damaging consequences such as pollution and extinction of animals and plants, as well as global warming (Chen & Chai, 2010). The increased consciousness towards the environment have changed the demand and purchasing patterns of products that are deem to be beneficial to the environment, and how consumers behave (Medelson & Polonsky, 1995). The interest towards issues pertaining the environment has faced increase due to frequent exposure by the media and increased awareness towards

pollution issues, as well as activism in environmental issues and occurrence of major industrial disasters (Kalafatis et al., 1999).

The state of the environment relies greatly on how humans behave (Steg & Vlek, 2009), as it can significantly destroy the earth and eventually endanger the lives of humans and other living organisms (Lehman & Geller, 2004). The out-of-the-ordinary changes of climate and the environment became factors that influence consumer behaviour to act 'green' in their purchasing (Paco & Raposo, 2009; Okada & Mais, 2010), which in turn increases significantly the demand for products that benefits the environment, or green products (Dangelico & Pontrandolfo, 2010).

Due to these factors, households started taking the issue of environmental protection and conservation as a factor that affects their purchasing behaviour as there is an increase awareness regarding the common responsibility of conserving the nature and it is not just the responsibilities of the government bodies' or corporations (Fraj-Andres & Martinez, 2006). With this increased awareness, the concept of green purchasing becomes a trend in the market. Consumers in first world countries see this as one of the important factors in making any purchasing decision (Peattie & Charter, 1992). Green consumption is a concept related to sustainable use of goods and services, where users of such goods and services take into account the impact of the usage towards the environment or nature (Moisander, 2007).

Green products are goods that contains no harm towards the environment, the atmosphere, and human health. The OECD, or Organization for Economic Cooperation and Development, set out a definition of green products as goods that can thwart and cut down on damage towards the environment. Within the environment, contains soil, water, air, waste, ecosystem, and noise (Monkelbaan, 2011). According to Calkins (2008), there is an increase in the manufacturing and producing of products that are not harmful to the environment, these products contain materials that are low in toxic, and has recyclability. These products are good for the environment during the process of production and also during disposal (Akbar, 2014). In Malaysia, awareness towards green products can be consider as moderate, with a handful of companies offering green products and services such as consultation for green buildings, manufacturing of biodegradable cleaners and coatings, innovation of stormwater channelling and water filtration equipment, as well as products catered for landfills (Expert Environmental, n.d.). In Sarawak, many great efforts are done to introduce green products to the society, such as the use of Hydrogen buses as a public transport, introduction of biodegradable packaging and reusable shopping bags (BorneoTalk, 2020). To further support this effort, Shell Malaysia also offered the certificate of Renewable Energy or REC to any cooperate purchase of renewable energy generated in Sarawak (Shell, 2019). Many supermarkets and department stores are also purchasing biodegradable plastic bags and packaging for their usage in delivering the products sold in their stores, and the use of biodegradable food packaging are widely used in Sarawak. There has also been increase in the use of electric vehicles charging ports in malls since there are more electric vehicles on the road in Sarawak (Lau, 2017).

Past Studies

According to Abdul Rahim, Sulaiman, Thoo, Mohd Arif and Abdul Hamid (2017), demography has a certain significance towards the purchasing intention of green products. The variables used by this research was gender, age, education level, and income level. The researchers used the Cronbach's alpha coefficient test to test the reliability of the variables used, while independent t-test and ANOVA test was used in the research process to arrive at the results

and conclusion. The results of the research showed that gender does possess significance influence in the decision of purchasing green products, where females generally have more intention of buying such products compared to males. Other factors such as age, education level, and income level does not have much effect on the green purchase intention among consumers. The research concluded that green products are accepted regardless of consumer's backgrounds due to the strong marketing of green products and the popularity of such products itself.

According to another study by Kong, Harun, Sulong, and Lily (2014), using the factor analysis and multiple regression analysis it was found that perceived value of green product has significance and positive influence against the purchasing intention of such product. Therefore, the research suggested that corporations should emphasis on the performance of their green products to reach the expectations of the perceived value of consumers or even exceed those expectations in order to retain its sales. In the same research by Kong et al. (2014), knowledge about green packaging has a positive relation with the purchasing intention of green products. The more the knowledge regarding green packaging, the more positive the attitude towards green products, the higher the purchasing intention for products that contain the green packaging.

In a research by Huang and Yang (2013), it was found through the correlation tests that green branding has a positive and significant relationship with green purchasing intentions. The green branding will lead to even more knowledge in green brand and better attitude towards the products thus eventually lead to a higher level of green purchasing intention. According to Ansar (2013), it was found that green advertisements or green marketing has a moderate positive relation with green purchasing intentions.

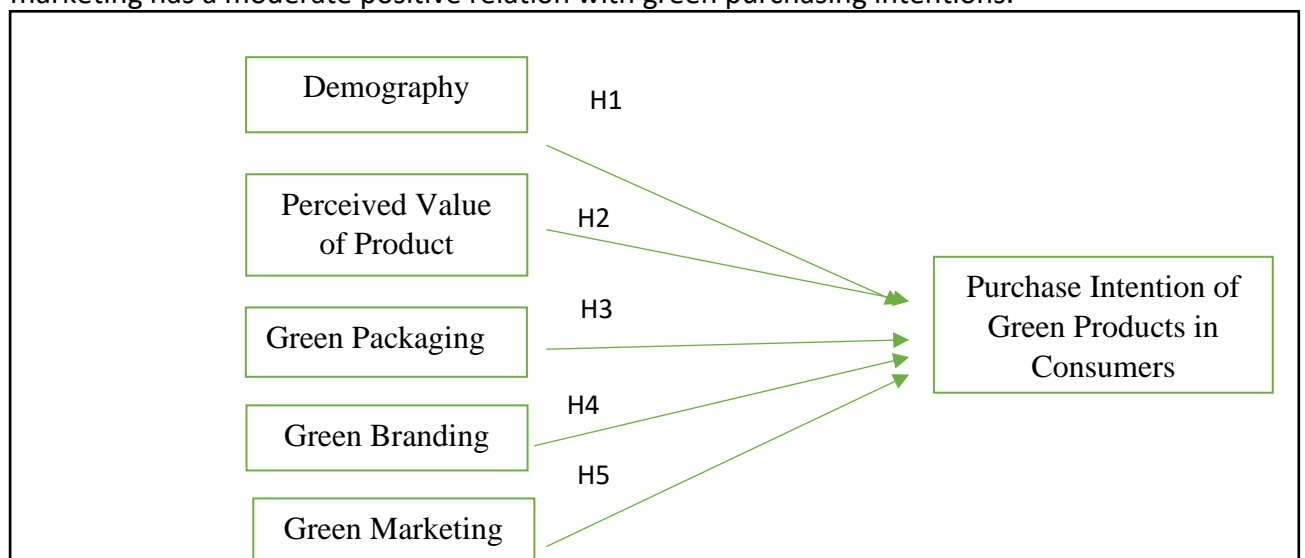


Figure 1. Conceptual Model of Factors Affecting Purchase Intention of Green Products

The main purpose of this study is to estimates the factors affecting the purchase intention of green products among households in Sarawak. Based on the theoretical framework stated above, this study is focusing on five different independent variables that specifically selected based on the common variables used in the previous literature i.e. Demography, Perceived Value of Product, Green Packaging, Green Banding and Green Marketing (see: Abdul Rahim (2017), Mahesh (2013), Morel & Kwakye (2012), Huang & Yang (2013), Ansar (2013))

Data and Methodology

Research Design

Research design provides the outlines in producing the proofs in accordance to a certain criteria and the research questions that the researcher wants to answer (Bryman & Bell, 2007). A quantitative research is one where numerical measurements and analysis are conducted to arrive upon a finding (Zikmund et al., 2010). It is also defined as the gathering of data that involves large number of samples and numerical calculation of such results (Wiid & Diggins, 2010). Data derived from quantitative means are essential for hypothesis setting and statistics computation and calculations to find out the relationship between the independent variables and the dependent variable. A quantitative research is suitable for this study as inferential statistics which helps determine the accuracy of hypotheses is without any bias and it helps with accurate analysis of the factors. Through this, a deductive step can be done to narrow down reasoning behind the dependent variable (Bryman & Bell, 2011).

However, a quantitative research is not without criticisms. It is said that a quantitative research can have inaccurate results as each respondent react to questions differently. They each might have a different knowledge and understanding about the questions asked, which will lead to different answers compared to what they actually think. Also, a quantitative research is based on the 'what-ifs' where in real life situations, respondents might make a totally different choice. Their answers can also depend on what they think in the current situation and current mood (Bryman & Bell, 2011).

This study adopts the cross-sectional research design, where at one point of time, quantitative data on more than one case relating to two or more variables will be collected (Bryman & Bell, 2007). Quantitative data is used to determine the relationship between demography, perceived value of product, green packaging, branding, and marketing, as well as the purchase intention towards green products among consumers. The research type that is used in this study is the descriptive research. A descriptive research is used to narrowly describe a situation which can answer various questions. It uses scientific measures and methodology to gather data and make up a data structure that can explain the features of a target sample (Hair, Bush, Ortinau, & Shiu, 2009). In this descriptive type study, questionnaires which helps identify the factors of demography, perceived value of product, green packaging, as well as green branding and green marketing, and the purchasing intention of green products among consumers were distributed. Framework and hypotheses are tested out to produce link between the variables studied and the green purchasing decisions among the consumers.

Data Collection

Primary data is collected directly by a researcher in accordance to their own standards. Common collection methods are questionnaires, interviews, case studies, or observations (Ajayi, 2017). It is done on target respondents that the researcher aimed for. In this study, the primary data are collected through questionnaires. Questionnaires will allow for accuracy and reliability of study as a random sample can be used to identify the general perception of the public regarding the topic. The questionnaire was done via Google Form and distributed electronically through online messaging tools or social media. This study also utilizes the secondary data available to test the hypotheses. Secondary data is one that has undergone reconstruction or analysis of other researchers such as journal articles, conference papers, books, and publications (Ajayi, 2017). In this study, secondary data is used as a base in doing the literature review and theoretical review needed, and enable a proper research framework

to be created. For data analysis purposes, SPSS programme was used to analyse the data collected from 100 respondents, and Microsoft Word was used to describe the analysis conducted.

Results and Discussion

Descriptive Statistics

Among the 100 respondents, 54% are female while the rest are male respondents from Sarawak. 46% of them are between the age of 22 to 30 years old while only 3% of the respondent age above 61 years old. More than half of the selected respondents have either Degree or Diploma as their highest level of education with different profession background including business owner, finance, education and healthcare. Due to only 4% of the respondents were retired individuals, majority of the them falls in the income bracket above the minimum wage in Malaysia. With only 9% of respondents earn below RM1,200 and another 10% earning above RM6,501 per month.

The overall summary of the demographics of respondents in this study is as below:

Table 1. Respondents' Demography

Demographic Variable	Description	Frequency	Percentage (%)
Gender	Male	46	46
	Female	54	54
Age	18-21 years old	7	7
	22-30 years old	46	46
	31-40 years old	20	20
	41-50 years old	13	13
	51-60 years old	11	11
	61 years old & above	3	3
Highest education level	SPM	25	25
	STPM	2	2
	Diploma	29	29
	Degree	34	34
	Masters Degree	4	4
	PhD	1	1
	Other	5	5
Sector of Profession	Business Owner	10	10
	Service	13	13
	Finance	11	11
	Education	11	11
	Engineering	6	6
	Manufacturing	5	5
	Healthcare	6	6
	Insurance	4	4
	Retired	4	4
	Other	30	30

Monthly Income Level	Below RM1,200	9	9
	RM1,201-RM2,500	15	15
	RM2,501-RM3,500	28	28
	RM3,501-RM4,500	16	16
	RM4,501-RM5,500	15	15
	RM5,501-RM6,500	7	7
	RM6,501 & above	10	10

Multiple Regression Analysis

Multiple regression analysis is done to find out the strength of the variables that an independent variable holds against a dependent variable. In this study, this analysis is used to analyze the factors that influences the purchase intention of green products among consumers in Sarawak, Malaysia.

Table 2. Model Summary: Multiple Regression Analysis^b

Model	R	R Square	Adjusted Square	R Std. Error of the Estimate
1	0.872 ^a	0.760	0.747	1.63309

a. Predictors: (Constant), Green Marketing, Demography, Perceived Value of Product, Green Branding, Green Packaging

b. Dependent Variable: Purchase Intention

Table 2 above shows the summary of the multiple regression analysis of all the variables, with purchase intention being the dependent variable. From the findings, the value of R is 0.872 and R² is 0.760. This means the dependent variable which is purchase intention of green products among consumers in Sarawak, Malaysia is 76% influenced by the independent variables of demography, perceived value of product, green packaging, green branding, and green marketing. The rest of the percentage are due to other factors outside of those outlined.

Table 3. ANOVA: Multiple Regression Analysis^a

Model		Sum of Squares	df	Mean square	F	Sig.
1	Regression	794.545	5	158.909	59.584	0.000 ^b
	Residual	250.695	94	2.667		
	Total	1045.240	99			

a. Dependent Variable: Purchase Intention

b. Predictors: (Constant), Green Marketing, Demography, Perceived Value of Product, Green Branding, Green Packaging

Table 3 above shows the ANOVA results of multiple regression of all the variables, with purchase intention being the dependent variable. From the findings, the F-value of the analysis is 59.584 and significance or p-value is 0.000, which is less than the significance level of 0.01. When the p-value is less than 0.01, the null hypothesis is rejected, and it signifies that all 5 independent variables have influence on the dependent variable of purchase intention of green products among consumers in Sarawak, Malaysia.

Table 4. Coefficient: Multiple Regression Analysis^a

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	-1.115	1.157		-	0.338
	Demography (Age, highest education level, monthly income level)	0.206	0.057	0.207	0.964	0.001
	Perceived Value of Product	0.376	0.091	0.340	4.127	0.000
	Green Packaging	-0.004	0.108	-0.033	-	0.973
	Green Branding	0.398	0.098	0.361	0.033	0.000
	Green Marketing	0.134	0.99	0.132	4.054	0.177

a. Dependent Variable: Purchase Intention

Table 4 above shows the beta values and the interpretation of every mean independent variables which affect the dependent variable of purchase intention of green products. According to the analysis, green branding has the highest beta at 0.361 with a standard error rate of 0.098, which can be translated as there are 9.8% of variations within the purchase intention of green products among consumers in Sarawak were caused by green branding. The independent variable of green branding is the most significant factor in affecting the purchase intention of green products, followed by perceived value of products, demography, green marketing, and green packaging, with coefficients of 0.398, 0.376, 0.206, 0.134, and -0.004 respectively.

Results**Table 5.** Hypotheses Findings

Hypotheses	Statistical Tests ran	p-value	Significance
H ₁ : Demography significantly affects purchase intention of green products among households.	Multiple Regression Analysis	0.001	Significant (p = 0.001<0.05)
H ₂ : Perceived value of products significantly affects purchase intention of green products among households.	Multiple Regression Analysis	0.000	Significant (p = 0.000<0.05)
H ₃ : Green packaging significantly affects purchase intention of green products among households.	Multiple Regression Analysis	0.973	Not significant (p = 0.973>0.05)
H ₄ : Green branding significantly affects purchase intention of green products among households.	Multiple Regression Analysis	0.000	Significant (p = 0.000<0.05)
H ₅ : Green marketing significantly affects purchase intention of green products among households.	Multiple Regression Analysis	0.177	Not significant (p = 0.177>0.05)

Referring to Table 5, three of the variables were estimated to have a significant affect towards the purchase intention of green products among the households in Sarawak. The demography (age, education level, income level, etc.), the perceived value of products and green branding all have the significant p-value. The results of this study is parallel with other studies for the independent variables. Firstly, for demography, it was found that age, education level, and income level plays a part in affecting the purchase intention of green products among households significantly, which shows the same results as study done by Wang, Wong, and Narayanan (2019) which concluded that education affects green purchase intentions where consumers with higher education level tend to lead to higher purchase intentions of green products. Study done by Che In and Ahmad (2018) estimated that age and level of income has differing effects on green purchasing intentions.

Other than demography, the conclusion that perceived value of product influences green purchase intention positively was also met by Doszhanov and Ahmad (2015), Kong et al. (2014), as well as Dhewi, Adi Putra, Soeharto, and Wahyudi in 2018. This study also concluded that green branding places significance in consumers' intention to purchase green products, which was priory agreed by Huang and Yang in a study published in 2013.

Pearson Correlation Test**Table 6.** Pearson Correlation: Summary

Independent Variables	Pearson Correlation	Sig. (2-tailed)	Interpretation	Significance
Demography	0.555**	0.000	Moderate positive correlation	Significant
Perceived value of product	0.789**	0.000	Strong positive correlation	Significant
Green Packaging	0.707**	0.000	Strong positive correlation	Significant
Green Branding	0.782**	0.000	Strong positive correlation	Significant
Green Marketing	0.732**	0.000	Strong positive correlation	Significant

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

Referring to Table 6, all of the variables observed have significant estimations over the purchase intention of households in Sarawak. According to Meghanathan (2016), Pearson coefficient estimated between 0.60 to 0.79 signifies that there is a strong positive relationship between the estimated variables. Therefore, variables such as perceived value of product, packaging, branding and marketing were estimated to have a strong and positive correlation with the dependent variable with perceived value of product having the highest level of correlation at 0.789. Meanwhile demographic elements only poised a moderate but still positive correlation with the purchase intention of green products in Sarawak. The relationship between demography and purchase intention is significant at 0.01 level.

Conclusion

From this study, it is estimated that households in Sarawak are more price sensitive in terms of green products purchasing. Incentives and policy implementations from the government should be emphasis especially towards improving the perceived value of green products in comparison to the normal goods and services available in the market. Producers should be encouraged to adopt a sustainable process especially in their products' packaging, branding and manufacturing through continuous support from the government. The continuous campaign and knowledge-sharing activity will contribute to the improvement of the level of awareness among the consumers thus prompting the purchase intention of the green products. Unfortunately, households tend to waver in face of paying more for a green product despite all the benefits that can be derived from the usage. If environmental benefits outweigh the profit-earning component in long term, it is considerable for green products to be placed at the same pricing as normal products in order to encourage the use of green products for the better sustainability of the earth.

Over the years as we are faced with demanding challenges, both from the economic perspective and environmental perspective, green growth has become a new trend that governments across the globe have been putting their efforts in. This is a positive change as it will push the economic development in the direction that is more sustainable for our environment, and it promotes a more responsible use of energy and utilisation of natural resources. Green growth offers a door out for developing economies to grow economically without sacrificing the environment, as economic growth can now be tied with sustainable

choices in use of energy and water, or other natural resources. The governments of developing economies have pondered upon the possibilities and opportunities brought upon by this change and how they could work around it, with possible initiatives such as green taxes, carbon credits, green funds and loans, renewable energy certificates and subsidies.

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