

ENVIRONMENTAL RESPONSIBILITY TOWARDS GREEN PURCHASE AMONG STUDENTS

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ABSTRACT

The main purpose of this study is to determine the influence of green purchase attitude, environmental concern and perceived environmental responsibility towards green purchase intention amongst UPM's students. A total of 150 respondents from two faculties in Universiti Putra Malaysia were participated in the present study and were selected through systematic random sampling. A self-administered questionnaire was used as a tool for data collection to measure attitude towards green purchase, environmental concern, perceived environmental responsibility and green purchase intention. The result descriptively showed that slightly more than half of the respondents were reported as having positive attitude towards green purchase, high level of perceived environmental responsibility and green purchase intention. However, the majority of the respondents were grouped in low level of environmental concern category. Additionally, the results from Pearson correlation analysis have indicated a significant positive relationship between green purchase attitude, environmental concern, perceived environmental responsibility and green purchase intention. Besides, multiple regression analysis reported that the most influential factor that predicts respondents' green purchase intention was an attitude towards green purchase. Finding from this study is beneficial to the marketer and government as it helps them to have a better understanding of factors that motivate consumer's green purchase intention.

Keywords: *Green Purchase Intention; Attitude; Perceived Environmental Responsibility; Environmental Concern*

ABSTRAK

Tujuan utama kajian ini adalah untuk menentukan pengaruh sikap pembelian hijau, keprihatinan alam sekitar dan persepsi terhadap tanggungjawab penjagaan alam sekitar ke atas niat pembelian hijau dalam kalangan pelajar UPM. Seramai 150 pelajar dari dua buah fakulti di Universiti Putra Malaysia telah dipilih untuk menyertai kajian ini dan dipilih secara persampelan rawak sistematik. Borang soal selidik yang diisi sendiri telah diedarkan untuk tujuan pengumpulan data untuk mengukur sikap terhadap pembelian hijau, keprihatinan alam sekitar, persepsi terhadap tanggungjawab penjagaan alam sekitar dan niat pembelian hijau responden. Hasil kajian secara deskriptif menunjukkan bahawa lebih separuh daripada responden mempunyai sikap pembelian hijau yang positif, persepsi terhadap tanggungjawab penjagaan alam sekitar dan niat pembelian hijau pada tahap yang tinggi. Walau bagaimanapun, majoriti responden dikumpulkan dalam kategori tahap keprihatinan alam sekitar yang rendah. Tambahan pula, analisis

korelasi Pearson menunjukkan bahawa terdapat hubungan yang signifikan di antara sikap pembelian hijau, keprihatinan alam sekitar dan persepsi terhadap tanggungjawab penjagaan alam sekitar dengan niat pembelian hijau. Selain itu, analisis regresi berganda menunjukkan bahawa sikap pembelian hijau adalah faktor yang paling mempengaruhi niat pembelian hijau. Hasil kajian ini dapat memberikan manfaat kepada pihak pemasar dan kerajaan di mana ia membantu meningkatkan pemahaman yang lebih baik terhadap faktor-faktor yang menggalakkan niat pembelian hijau dalam kalangan pengguna.

Kata Kunci: *Niat Pembelian Hijau; Sikap; Persepsi Terhadap Tanggungjawab Penjagaan Alam Sekitar; Keprihatinan Alam Sekitar*

INTRODUCTION

Deteriorating environment such as global warming, polluted landfill, water and air, the use of DDT (a pesticide) which caused an ecological imbalance and many other harmful activities performed in the modern economy have caught the widespread attention of citizens worldwide. According to Abdul-Muhmim (2007), consumers can contribute significantly to improve the quality of the environment through the purchasing of environmentally friendly products. As green products are one of the responses to concern for the environment, it is important to examine consumers' green purchasing behavior.

The past decades witness the rapid economic growth through increasing consumers' consumption worldwide. This in turn causes environmental deterioration through over-consumption and utilization of natural resources (Machanda, 2014; Tan & Lau, 2010). The consequences of environmental degradation are global warming, depletion of the stratospheric ozone layer, pollution of sea and rivers, noise and light pollution, acid rain and desertification (Ramlogan, 1997). As the environment continues to worsen, it has become a persistent public concern in the developed countries and has awakens developing countries to the green movement (Tan & Lau, 2010).

With increasingly pressing environmental concerns weighing our planet, green consumerism nowadays carries more weight than before. As the result, green product offerings and demands have increased significantly (Machanda, 2014) and this is especially true in developed countries (Yaacob & Zakaria, 2008). In general, green product is known as an ecological product or environmental friendly product (Massawe & Geiser, 2012). Lee (2009) defined green purchasing behavior as consumption of products that are beneficial to the environment, recyclable, conservable, biodegradable, minimally packaged and responsive to ecological concerns. Examples of green products are biodegradable household cleaning products, energy-efficient light bulbs, organic foods and apparel products manufactured in an environmentally sound manner.

Developing countries like Malaysia faced great challenges in ensuring a balance between development and environmental sustainability. The national statistics showed that the state of some of the Malaysian environment is rather stressful. Urban air quality, river water quality, deforestation, household wastes and hazardous wastes are some of the examples of environmental issues faced by the nation (Mat Said, Ahmadun, Paim, & Masud, 2003). Although there is an increase of interest in environmental problems around the world, the amount of interest and the impact of this concern on consumer purchasing behaviors may not be the same. When surveyed on the aspect of eco-friendliness of habits and behaviors, only 8% of Malaysian respondents responded they have changed their behavior in a great deal to benefit the environment (TNS, 2008). However, when asked on the willingness to pay more for green products and services, surprisingly, about 82% of Malaysian respondents mentioned in the survey that they were willing to do so with the majority willing to pay an extra of 5% to 10% (TNS, 2008). The study was conducted among the general populations of consumers in which they have been regarded as the panel for TNS 6th dimension access panel.

It is anticipated that if the current trend of economic growth and the irresponsible consumption pattern continues, the environment degradation would worsen. Therefore, a shift towards more sustainable consumption patterns is required (Tan & Lau, 2010). To encourage consumer to purchase green products, marketers need to understand how consumer makes their decision on their buying behavior. Therefore, factors that determine the green purchase intention of consumer are worth to be found out.

There have been few formal studies about green product, green consumers and green marketing in Malaysia. However, conclusive factors that relate to purchasing behaviors of green products have not been identified either (Shahnaei, 2012). This inadequacy calls for the need to explore the factors that determine and contribute to the green purchase behavior of Malaysian consumers. In addition, variables used as antecedents of green purchasing vary from one study to another. This research will examine on three factors which are green purchase attitude, environmental concern and perceived environmental responsibility to suit with the Theory of Planned Behavior (TPB) which will be used as the base for this study. This theory is widely used by many researchers from different fields to analyze and determine human behavior.

The current study investigates the green product purchase intention of young consumers. Past studies found that young people are more ready than older generations to accept new and innovative ideas (Ottman, Stafford, & Hartman, 2006) and those supporters of environmental protection tend to be younger in age (Martinsons, So, Ti, & Wong, 1997). In Malaysia, there are about 16.9% of Malaysian under the age range of 15-24 years old (Malaysia Demographic Profile, 2014) and this figure shows that young generations can be considered as a very important segment to be focused on. In addition, according to Masud, Abdul Rahim,

Paim, and Britt (2004), with the expansion of educational services in Malaysia, university students become one of the most important market segments to be studied for two reasons. First, this group has high purchasing power and shopping interests, since they have the tendency to receive money from many sources such as loan or scholarship and their parents. Second, this is the segment of the population that has the potential of earning a greater income than other segments of the population. Therefore, the focus on young consumers is understandable as this group is representing a new generation of consumers with a strong potential impact on the type of goods and services offered in the market (Tan & Lau, 2009). This study aims to determine the factors that influencing green purchase intention amongst UPM's students. Universiti Putra Malaysia (UPM) has been chosen as the location of study because it is one of the largest universities in Malaysia with students from different cultural background, races, genders and age. Specifically, this study will identify respondents' level of attitude towards green purchase, environmental concern, perceived environmental responsibility and green purchase intention.

LITERATURE REVIEW

According to Bredahl (2001), purchase intentions with regard to individual products were found to be determined almost exclusively by attitudes towards the product. Interaction between consumers with positive attitude towards green products and high market maven ship with the high product availability will create a favorable attitude towards the purchase behavior, which would result in a stronger intention to purchase green products (Ahmad & Juhdi, 2010). Equally, negative attitudes will dissuade consumers, resulting in a non-purchase decision (McCarty & Shrum, 1994).

There have been abundant evidences of environmental concerns might influence consumer buying intention. The positive interrelationships of these two variables have been studied extensively in the consumer research literature. For example, Chan and Lau (2000), Kim and Choi (2005), Mostafa (2006), Aman et al. (2012) reported that there is a significant relationship between environmental concern and green purchase intention. Another study by Fraj and Martinez (2006) also showed a significant coefficient between ecological patterns and environmental behavior, which means that those individual involved and concerned for environment show a higher ecological behavior. Hence, it is suggested that customer with strong environmental concern may be interested in the consumption of products which reflect that concern. Conversely, Paco, Raposo, and Filho (2009) showed a contradictory finding, which, although their samples concern about the environment, but they did not turn their concerns into action and they are rarely taken part in environmental events. Their concerns were more related to economic factors rather than environmental factors that might also relate to the responsibility to be an environmentally friendly consumer through the purchasing power and relevant economic activities.

The study conducted by Lee (2008) revealed that perceived environmental responsibility is one of the important factors that affect green purchasing behavior amongst Hong Kong's young consumers. This finding shows that it is necessary for young consumers to realize their individual responsibility in environmental protection. In Malaysia, Sinanappan and Abdul Rahman (2011) also reported that perceived environmental responsibility is the top predictor of consumers' green purchasing behavior. The collective impact of consumers' consumption pattern which increases the damage to the environment has created a sense of responsibilities among the consumers. Consumers believe that the responsibilities should be portrayed by everyone in which it highly includes companies that produce goods.

Ng and Paladino (2012) defined behavioral intentions as a measure of a person's relative strength of purpose to execute certain behavior. Nik Abdul Rashid (2009) referred green purchase intention as the probability and willingness of a person to give preference to products having eco-friendly features over other traditional products in their purchase considerations. Next, Qader and Zainuddin (2011) have conducted a study with the intention to identify the influence of media exposure on purchase intention of lead-free electronic products (green electronics) amongst 170 lecturers in Universiti Sains Malaysia. They have conceptualized green purchase intention as an individual plan to involve in some action within a specific time and the probability that an individual will perform an eco-behavior. However, Ramayah, Lee, and Mohamad (2010) referred green purchase intention as a determination to act in a certain way.

Theory of Planned Behavior states that intention is seen as the proximal determinant of behavior. As a general rule, the stronger the intention is to engage in a behavior, the more likely it will actually be performed (Ajzen, 1991). According to Beckford, Jacobs, Williams, and Nahdee (2010) and Chan (2001) studies, green purchase intention is a significant predictor of green purchase behavior, which means that purchase intention is positively affecting the probability of a customer decision that he will buy green products.

The findings of previous research also indicated that many studies found a significant relationship between consumers' environmental concern with green purchasing, but there are also numerous researches argued that environmental concern does not lead to green consumerism (Berger & Corbin, 1992; Kim & Choi, 2005; Mostafa, 2006). The contrasting results with regards to environmental concern towards green purchasing make it necessary to further investigate this issue. In addition, Lee (2008) has indicated in her study that perceived environmental responsibility would be an essential factor for marketer as they can easily target environmentally conscious consumers. Harrison (1993) proposed green marketing strategy by firms through positioning the environmental benefits of green products to consumers' mindset to influence their purchasing decision. Therefore, it is worth for the current study to examine all the three related factors with regard to the purchasing behavior of consumers.

Theory of Planned Behavior states that the intention is seen as the proximal determinant of behavior. As a general rule, the stronger the intention is to engage in a behavior, the more likely it will actually be performed (Ajzen, 1991). According to Beckford, Jacobs, Williams, and Nahdee (2010) and Chan (2001), green purchase intention is a significant predictor of green purchase behavior, which means that purchase intention is positively affecting the probability of a customer decision that he will buy green products. In addition, as TPB is having three important components (i.e., attitude, subjective norms and perceived behavior control) to influence the purchase intention, this study will measure the green purchase attitude, environmental concern, and perceived environmental responsibility to represent all the three components, respectively.

METHODOLOGY

Non-experimental research design which consists of descriptive research and correlational research was used in this study. The research is done in Universiti Putra Malaysia (UPM). UPM being as one of the research universities in Malaysia has the required qualities needed to get involved in this study. Being ranked as the 66th best university in Asian countries in 2015 by QS Asian University Ranking, UPM offers undergraduate and postgraduate courses with a research focus on agricultural sciences and its related fields (The Malaysia Insider, June 10, 2015). With over 15 000 undergraduates in 16 different faculties in Serdang Campus, this large number is enough to fulfill the needed respondents in order to answer the questionnaire for this research. Dr. John Curry has provided the “rule of thumb” on sample size that the sampling percent is only 1% for the population number of 10,000 and above (Yount, 2006). As the number of undergraduate students in UPM is approximately 15 000, only 1% of sampling percentage need to be collected that is 150 students. Undergraduate students in UPM have been selected to be the population of this study. With the total number of students of 15,174 in 2012/2013 session, certainly this research can be done with high precision and reliability.

The selection was based on study stream due to the distinctiveness in programs of studies offered by relevant faculties. Only one faculty was chosen to represent each stream due to the reason of only 150 respondents is needed for the whole sample size. Faculty of Environmental Studies and Faculty of Human Ecology were chosen randomly. The selection of samples was based on systematic random sampling. By adopting the method, fifteen faculties in UPM were firstly divided into science-based and non-science based faculty. Next, one faculty was selected from a total of eleven science-based faculties and one faculty was chosen from a total of four non-science based faculties randomly. Then, the two selected faculties were divided into different programs of study and one program was randomly selected from each faculty. In this study, Bachelor of Environmental Management has been chosen from Faculty of Environmental Studies while Bachelor of Human Development was selected from Faculty of Human Ecology. The research data were collected using a self administered questionnaire which consists of three

sections. Section one examined the demographic characteristics of respondents, section two consists of three parts which measured the three independent variables (attitude towards green purchase, environmental concern, perceived environmental responsibility) while section three measured the dependent variable (green purchase intention).

All constructs were measured by various items on 5-point Likert-type scale. Green purchasing attitude was measured using a 6-items scale adapted from Chan (2001). Positive and negative formulations of the items were presented for guaranteeing the content balance of the study. All items were based on scales that have been previously validated. Environmental concern of respondents was measured using 15-items revised New Environmental Paradigm (NEP) scale developed by Dunlop, Van Liere, Mertig, and Jones (2000). The scale had been revised from 12 items to 15 items in the year 2000 for which the revised scale provides more comprehensive coverage of the ecological world view. The NEP scale was developed to measure the overall relationship between humans and the environment, and is the most widely used measure to investigate environmental concern (Stern, Dietz, & Guagnano, 1995; Dunlap & Jones, 2002). Perceived environmental responsibility was measured by 5-items scale adopted from Sinnappan and Abdul Rahman (2011). The scale was developed to determine respondent's sense of responsibility in environmental preservation. Finally, green purchase intention was measured using a 5-items scale adapted from Chan (2001).

Reliability analysis was conducted to test the reliability of the instruments and determine whether respondents were interpreting questions as intended. The reliability of measurement of each variable obtained in this study indicated that all the measurement recorded excellent reliability with coefficient alphas of above 0.6, which is the cutoff point of reliability score recommended by Nunnally (1967). The alpha for attitude towards green purchase was 0.756, environmental concern was 0.780, perceived environmental responsibility was 0.737 and green purchase intention was 0.804.

The data collected were analyzed by using Statistical Package for The Social Science for Windows (SPSS). Specifically, descriptive statistics were used to determine the frequency, percentage, mean and standard deviation of respondents' demographic and socioeconomic backgrounds as well as to identify the respondents' level of attitude towards green purchase, environmental concern, perceived environmental responsibility and green purchase intention. Meanwhile, Pearson correlation was used to determine the relationship between attitude towards green purchase, environmental concern, perceived environmental responsibility and green purchase intention and multiple regression was used to determine the most influential factor that predict green purchase intention.

FINDINGS AND DISCUSSION

A total of 150 respondents were participating in the study. There were 70.7% of female respondents, whereas male respondents accounted for 29.3% of the total respondents. The range of age was between 19 to 27 years old. Students aged within 22-24 years old made up the largest portion of the respondents which was 62.6% while there were only 10.7% of respondents aged between 25-27 years old. The mean age of the respondents was 22.77 years old and standard deviation was 1.720 years. As for ethnicity, 52.0% of the respondents were Malay, 38.7% were Chinese, 8.0% were Indian and other ethnics only accounted for 1.3% of the total respondents.

Besides, 50.0% of the respondents were pursuing Bachelor of Environmental Management, whereas the other half was taking Bachelor of Human Development. With regards to study semester, 31.3% of respondents were in their final semester and this was followed by 28.0% of students in the fourth semester, 22.0% students in the sixth semester and the least number of students were in their second semester.

On top of that, the majority of the respondents received financial support from loan or scholarship, which accounted for 82.7% of respondents. Meanwhile, there were only 14.6 % of respondents being sponsored by their parents to further study in the university. However, there were 2.7% of respondents source their income through other methods such as taking up part time jobs. As for monthly income for those who have a job, the majority of the respondents (79.3%) were reported in the income category of less than RM500. There were 16% of respondents received RM501-RM1000 per month while 2.0% respondents had more than RM1500 of income. Respondents' sociodemographic characteristics were shown in the following Table 1.

Table 1: Respondents' Sociodemographic Characteristics

Variables	Frequency (n=150)	Percentage (%)
Gender		
Male	44	29.3
Female	106	70.7
Age (years old)		
19-21	40	26.7
22-24	94	62.6
25-27	16	10.7
Mean	22.77	
Sd	1.720	
Min	19	
Max	27	

Ethnic		
Malay	78	52.0
Chinese	58	38.7
India	12	8.0
Others	2	1.3
Program of Study		
Bachelor of Environmental Management	75	50.0
Bachelor of Human Development	75	50.0
Study Semester		
2	28	18.7
4	42	28.0
6	33	22.0
8	47	31.3
Source of Income		
Loan/Scholarship	124	82.7
Sponsored by Parents	22	14.6
Others	4	2.7
Monthly Income		
Less than RM500	119	79.3
RM500 - RM1000	24	16.0
RM1001 – RM1500	4	2.7
More than RM1500	3	2.0

Attitude towards Green Purchase

In this study, respondent's attitude towards green purchase was measured by six items with 5 point Likert scale. In order to have a more meaningful discussion, Scale 1 and scale 2 which indicated "strongly disagree" and "disagree" were categorized as one scale which was "disagree". A respondent who has chosen scale 3 was categorized as "neutral". Meanwhile, scale 4 and scale 5 which represented "strongly agree" and "agree" were also grouped as one scale which was "agree". As shown in Table 2, there was 92.0% of respondents perceived green purchasing as a good idea and 93.3% of respondents believed that the use of green products will help in reducing wasteful use of natural resources. However, there were 57.4% of the respondents think that green products are expensive, and this may due to the manufacturing cost of green product are relatively higher than normal product. Then, the respondents were categorized into two groups based on the mean score for attitude towards green purchase which were negative attitude (≤ 22) and positive attitude (≥ 23). The mean for attitude towards green purchase was 23.06 and standard deviation was 2.913. The study found that more than half of the respondents were reported as having a positive attitude towards green purchase which accounted for 56.0 % of respondents. Meanwhile, 44.0% of respondents were categorized as having a negative attitude. The results indicated that as an overall, most of the respondents showed favorable evaluations, feelings, and tendencies towards green product purchase. This positive

attitude is a very fundamental issue in which the consumers can have the tendency to purchase the green products as what is being portrayed in TPB; the more positive attitude consumers have towards a behavior, the stronger intention the consumers will have to undertake the behavior under his or her control (Ajzen, 1991). This notion was supported by Mostafa (2007) in his study among Egyptian consumers in which he has found that attitude towards green purchase can influence the green purchase intention and directly affect the green purchase behavior.

Table 2: Frequency Distribution for Attitude towards Green Purchase

No.	Items	Disagree (%)	Neutral (%)	Agree (%)
1.	I like the idea of purchasing green.	2.0	10.0	88.0
2.	Purchasing green is a good idea.	1.3	6.7	92.0
3.	I have a favorable attitude towards purchasing a green version of a product.	1.3	25.4	73.3
4.	I think it is a waste of time to read the content whether the product is eco-friendly or not before I buy a product.	64.7	21.3	14.0
5.	I believe that use of green products by me will help in reducing wasteful use of natural resources.	1.3	5.3	93.3
6.	I think green products are expensive.	6.0	36.6	57.4

Environmental Concern

Environmental concern of the respondents was measured using 15-items revised New Environmental Paradigm (NEP) Scale. Based on mean score, the level of environmental concern was divided into two categories which was low environmental concern with a total score of 50 and below, whereas high environmental concern was indicated by a total score of 51 and above for each respondent. Most of the respondents were grouped in low environmental concern category which is 78.7% of respondents. There were only 21.3% of respondent had high environmental concern which indicated a pro-ecological orientation. The mean score of environmental concern was 50.33 with a standard deviation of 5.544. Overall, most of the respondents had low concern over environmental issues and did not aware of the limitation of earth to growth. Low level in environmental concern can be supported by the descriptive results as shown in Table 3 which indicated that a larger proportion of the respondents tended to agree with the negative items which were items 2, 4, 6, 10, 12, 14, in the NEP scale. For example, 60.7% of the respondents believed that humans will eventually learn enough about how nature works and be able to control over the nature while there were only 8.7% of respondents disagree on this. In addition, for the positive items, the results also showed the tendency of respondents to have the environmental concern. This can be proven by the findings that most of the respondents agreed that we are approaching the limit of the number of people the earth can support (70.7%) as well as they believed that plants and

animals have as much right as humans to exist (83.3%).

The results of this study indicated that the respondents are having a low affective attribute that can actually represent the extent of their worries, compassion and like/dislikes about the environment (Yeung, 2005). The findings also seemed to be contradicted with Kalafatis et. al. (1999) argument that environmental concern can be seen as the awakening and awareness of consumers in the fact that the environment is in danger and natural resources are limited.

Table 3: Frequency Distribution for Environmental Concern

No.	Items	Disagree (%)	Neutral (%)	Agree (%)
1.	We are approaching the limit of the number of people the earth can support.	3.3	26.0	70.7
2.	The earth has plenty of natural resources if we just learn to develop them.	12.7	14.7	72.6
3.	The earth is like a spaceship with only limited room and resources.	6.7	19.3	74.0
4.	Humans have the right to modify the natural environment to suit their needs.	33.3	22.0	44.7
5.	Plants and animals have as much right as humans to exist.	2.7	14.0	83.3
6.	Humans were meant to rule over the rest of the Nature.	31.3	28.7	40.0
7.	When humans interfere with Nature, it often produces disastrous consequences.	4.0	23.3	72.7
8.	The balance of Nature is strong enough to cope with the impacts of modern industrial nations.	34.7	32.7	32.7
9.	The balance of Nature is very delicate and easily upset.	6.7	32.0	61.3
10.	Human ingenuity will ensure that we do not make the earth unlivable.	16.7	39.3	44.0
11.	Despite our special abilities, humans are still subject to the laws of Nature.	4.7	18.7	76.7
12.	Humans will eventually learn enough about how nature works to be able to control it.	8.7	30.7	60.7
13.	Humans are severely abusing the environment.	2.7	16.7	80.6
14.	The so-called ecological crisis facing humankind has been greatly exaggerated.	24.0	34.7	41.3
15.	If things continue on their present course, we will soon experience a major ecological catastrophe.	4.0	14.7	81.3

Perceived Environmental Responsibility

In this study, perceived environmental responsibility was measured by five items with 5- point Likert scale. It was reported that 94.0% of the respondents perceived themselves as having the responsibility to protect the environment. Besides, majority of the respondents (90.0%) thinks that environmental protection should be started with them. Frequency distribution for respondent’s perceived environmental responsibility was simplified in Table 4. The level of perceived environmental responsibility was then divided into two categories which were low level of environmental responsibility (≤ 20) and high level of environmental responsibility (≥ 21), based on the mean score obtained. Slightly more than half of the respondents (52.0%) were reported as having a high level of environmental responsibility. Respondents who fall in the low level category of environmental responsibility accounted for the remaining 48.0% of total respondents. The mean for perceived environmental responsibility was reported as 20.47 and standard deviation was 2.832. The minimum score was 14 whereas the maximum score was 25.

Table 4: Frequency Distribution for Perceived Environmental Responsibility

No.	Items	Disagree (%)	Neutral (%)	Agree (%)
1.	I should be responsible for protecting our environment.	1.3	4.7	94.0
2.	Environmental protection is the responsibility of the Malaysia government, not me.	70.7	12.7	16.6
3.	Environmental protection is the responsibility of environmental organizations, not me.	74.7	12.0	13.3
4.	Environmental protection starts with me.	2.0	8.0	90.0
5.	I have taken responsibility for environmental protection since I was young.	4.7	22.7	72.7

The findings that only half of the respondents were categorized as having a high level of environmental responsibility indicated that the respondents’ sense of responsibility in environmental protection was not that impressive. This is because the environmental behavior carries an altruistic meaning, whereby individuals may need to have a willingness to sacrifice their time or preferred activities to protect the environment for the long-term benefits of the earth and human. This finding seemed to support Paco et al.’s (2009) findings, which also found that their respondents were concerned about the environment, but rarely taking part in environmental events.

Green Purchase Intention

The result for every item, with respect to green purchase intention was also descriptively discussed. There was very high percentage of respondents (90.0%) who claimed that they will consider buying green products in the near future because they

brought to less pollution and 88.0% of respondents will consider switching to other brands for ecological reasons. As compared to the other four items, the percentage of respondents who claimed that they will consider buying a green product even it is more expensive than normal product was lesser with around 58.7% of the total respondent. This indicated that price is an important concern for consumers when purchasing certain product. Table 5 simplified the frequency distribution of all the items in green purchase intention scale. As discussed in the other previous sections, the score of green purchase intention was also divided into two categories which were low level of green purchase intention (≤ 19) and high level of green purchase intention (≥ 20), based on the mean score. The result indicated that 58.0% of respondents had a high level of purchase intention while 42.0% of respondents were found to fall in the low level of purchase intention category. The mean for green purchase intention was 20.09 and standard deviation was 2.634.

Table 5: Frequency Distribution for Green Purchase Intention

No.	Items	Disagree (%)	Neutral (%)	Agree (%)
1.	I will consider buying green products in the near future because they are less polluting.	0.7	9.3	90.0
2.	I will consider switching to other brands in the near future for ecological reasons.	1.3	10.7	88.0
3.	I plan to switch to a green version of a product in the near future.	1.3	14.7	84.0
4.	I will consider to buy green product even it is more expensive than normal product.	4.0	37.7	58.7
5.	I have high purchase interest of green product.	2.7	23.3	74.0

Similar to the findings on the perceived environmental responsibility, the results also showed that the respondent's intention to perform a green purchase was not that impressive as it was only involved a total of 58.0% of them. This indicated that they may not really want to make a plan to involve in some action within a specific time and the probability that individual will perform an eco-behavior (Qader & Zainuddin, 2011).

Relationship between Attitude towards Green Purchase, Environmental Concern, Perceived Environmental Responsibility and Green Purchase Intention

Pearson correlation analysis was used to estimate strength and direction of association between two variables. The result suggested that there was a significant correlation between attitude towards green purchase and purchase intention. The positive r-value clarified the positive relationship between two variables by explaining respondents with a positive attitude will most probably have high intention to purchase green product. This finding was consistent with the study conducted by Mostafa (2007) where he has found that green purchase intention can be influenced by the attitude

towards green purchase.

In addition, with regards to the relationship between consumers' environmental concern and green purchase intention, the Pearson correlation (r) was 0.176 and the significant value sig. r (p) was 0.031. This result suggested that there was a significant relationship between these two variables and it also indicated that the higher the level of environmental concern, the higher the purchase intention towards green products. This result was supported by Mostafa (2006) and Aman et al. (2012) as they also reported that there was a significant relationship between environmental concern and green purchase intention among consumers in Egypt and Malaysia, respectively.

Then, the result of Pearson correlation analysis also showed that there was a significant relationship between consumers' perceived environmental responsibility and green purchase intention ($r = 0.399$; $p = 0.000$). The finding was similar with the study from Lee (2008) which revealed that perceived environmental responsibility was one of the important factors that affect green purchasing behavior amongst Hong Kong's young consumers. The result of Pearson correlation analysis, which determined the relationship between green purchase attitude, environmental concern, perceived environmental responsibility and green purchase intention amongst UPM's students were shown in Table 6.

Table 6: Correlation Analysis for Green Purchase Attitude, Environmental Concern, Perceived Environmental Responsibility and Green Purchase Intention

Variables	Green Purchase Intention	
	r	p
Attitude towards green purchase	0.525**	0.000
Environmental concern	0.176*	0.031
Perceived environmental responsibility	0.399**	0.000

Note. * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Multiple Regression Analysis for Green Purchase Intention

Multiple regression analysis was used to determine the significant predictors for respondent's green purchase intention. The model was significant where the p -value of 0.000 was less than alpha (α) at 0.001 ($F = 21.771$; $p = 0.000$). Based on the result, there were two predictors that contributed to green purchase intention which were attitude towards green purchase and perceived environmental responsibility. Attitude towards green purchase was a significant predictor with the β -value of 0.432 ($p = 0.000$). Perceived environmental responsibility was another significant predictor with the β -value of 0.202 and Sig. T of 0.013.

On top of that, the most influential factor that predicts respondents' green purchase intention was an attitude towards the green purchase with the highest β -value which was 0.432 as compared to the other independent variables. Meanwhile, the value of the Adjusted R Square was 0.295. Hence, this model accounted for 0.295 or 29.5% of variance can be explained. Multiple regression analysis for green purchase intention was shown in the Table 7 below.

Table 7: Multiple Regression Analysis for Green Purchase Intention

Variables	B	SEB	β
Attitude towards green purchase	0.391	0.070	0.432**
Environmental concern	0.050	0.035	0.101
Perceived environmental responsibility	0.817	0.075	0.202*
Constant	7.005	2.019	

Note. $R^2=0.3069$; Adj. $R^2= 0.295$; $F= 21.771$; * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

The results about the attitude was the most dominant factors contributing to the purchase intention for green products was supported by the findings from Pearson correlation analysis in which the r-value of this variable was the highest among the three variables under study. This was followed by perceived environmental responsibility as having the second highest r-value and environmental concern as having the least correlation. However, by having the interaction between the three variables as being analysed in multiple regression, it was finally found that environmental concern was not the significant predictor for the purchase intention for green products.

IMPLICATIONS

This study provides an insight to consumer for a better understanding of their attitudes and behaviors towards green purchase. From a marketers' perspective, it is also vital to understand the determinants that influence young consumers' green purchase intention in order to develop effective strategies to target a greater segment of customers. It will also assist in the development of effective marketing and communication strategies for green products or services. Therefore, marketers will be able to explore different communication strategies that would be suitable in positioning environmentally friendly products and motivating green purchase intentions. In addition, major initiatives need to be carried out to convince people to be responsible for their actions and behaviors. Relevant government agencies will find this study useful by knowing what factors influence Malaysians to consume green products so that more campaign can be organized to raise the awareness of consumers to save the planet as what other developed countries do.

In details, firstly, marketers can gain more knowledge and insight on factors that motivate consumers to involve in green purchasing. They are able to develop more effective marketing and communication strategies in promoting green products as well as targeting a larger group of customers. The findings shown that those who perceived themselves as having a high level of environmental responsibility will be more intended to purchase green products. With regard to this, marketers can promote their products by highlighting on the benefits of going green and how consumers can protect and contribute to the well being of the environment through green purchasing.

Secondly, this study is useful for the policy maker as the role played by the government in environmental protection is undeniable. Current research has found that most of the respondents were reported in low levels of environmental concern. Therefore, governments should organize more campaigns and events to raise the awareness on seriousness of environmental issues and encourage public to change purchasing behavior in a more sustainable way. Additionally, since green purchase attitude turns out to be the most influential factor that lead to green purchase intention, these programs should be able to cultivate a positive attitude amongst the consumers for encouraging more people to involve in green purchasing.

Thirdly, this research could be useful for academicians who are interested to conduct studies on the green purchase intention of the consumer because they might consider including current research's variables in their research framework. Besides, other purchasing consideration or variables can be added to future studies to predict what other factors can significantly influence green purchasing amongst the consumers as the adjusted R square for the model involving all the three variables was only 29.5%. This means that the remaining 70.5% might be contributed by other factors that were not included in this study.

Finally, with regards to the main variables as representing all the elements in TPB, the study found that attitude towards the green product purchase and perceived environmental responsibility were the significant factors contributing to the purchase intention. This implied that the positive attitude is a very important to be imposed into Malaysia consumers so that they it will turn motivate them to make such purchase. Similarly, the focus must also be given the environmental responsibility because the findings also highlighted the two variables are closely related to the behavior of interest in understanding the relationship between values and behavior especially with regards to the green products purchasing. The basic values that individuals hold can lead to the desired behavior (Kim & Choi, 2005).

CONCLUSION

The rapid growth of the global economy is always linked to the increasing of consumers' consumption worldwide. The environment deterioration caused by over consumption and exploitation of the nature is always a concern. As environmental

problems are worsening, a shift towards a more sustainable consumption behavior is crucial and essential.

The data illustrated that over half of the respondents shown high level of intention towards green purchase. The marketers and government should actively encourage and motivate more people to involve in sustainable purchasing behavior for preserving the fragile environment. Understanding factors that lead to green purchasing help the related parties to effectively promote the green movement. The finding showed that there was a significant relationship between green purchase attitude, environmental concern, perceived environmental responsibility and green purchase intention. Besides, it was found that the most influential factor that predicts green purchase intention is attitude towards green purchase. With regard to this, the concerned parties can develop more effective strategies by stressing on these factors while promoting and driving green purchasing amongst the consumers. All in all, environmental protections lie in our very own hands. People from all levels of society should look into this issue seriously and take the initiatives to preserve the only one mother earth.

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