

**FACTORS INFLUENCING THE GREEN PURCHASE
BEHAVIOR OF
ENVIRONMENTAL RELATED VOLUNTEERS IN PENANG**

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UNIVERSITI SAINS MALAYSIA

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS	i
TABLE OF CONTENTS	iii
LIST OF TABLES	viii
LIST OF FIGURES	xi
ABSTRAK (MALAY)	xii
ABSTRACT	xiii
CHAPTER 1 INTRODUCTION	
1.1 Introduction	1
1.2 Background of the Study	2
1.3 Problem Statement	6
1.4 Research Objectives	12
1.5 Research Questions	12
1.6 Definition of Key Terms	12
1.7 Significance of the Study	16
1.8 Organization of Remaining Chapters	18
CHAPTER 2 LITERATURE REVIEW	
2.1 Introduction on areas of studies done on green purchase behavior	20
2.2 Review of the Literature	24
2.2.1 Factors Influencing Green Purchase: Discussion on Variables used by Researchers	24
2.2.1.1 Green Purchase Behavior (DV)	28
2.2.1.2 Social Norm/Influence (IV)	29
2.2.1.3 Self-images (IV)	29

2.2.1.4 Ecological Affect (IV)	30
2.2.1.5 Environmental Label (IV)	31
2.2.1.6 Knowledge (Eco-literacy) (IV)	32
2.2.1.7 Environmental Attitude (IV)	34
2.2.1.8 Environmental Concern (IV)	35
2.2.1.9 Demographic Variables (IV)	36
2.2.1.10 Gap in Value/Knowledge and Behavior	39
2.2.1.11 Summary of Variables based on Literature Review	40
2.3 Theoretical Framework	41
2.3.1 Theory of Reasoned Action (TRA)	41
2.3.2 Theory of Planned Behavior (TPB)	44
2.3.3 Gap between TRA and TPB	46
2.3.4 Theoretical Framework of this Study	46
2.4 Hypotheses	49
2.5 Summary of the Hypotheses	54
2.6 Summary	55
 CHAPTER 3	
METHODOLOGY	57
3.1 Introduction	57
3.2 Research Design	57
3.3 Variables	58
3.4 Population/Sample	58
3.5 Procedure	60
3.6 Measures	63
3.7 Data Analysis	64

3.8	Summary	66
CHAPTER 4	DATA ANALYSIS AND FINDINGS	68
4.1	Introduction	68
4.2	Overview of Data Collection	68
4.3	Profile of Respondents	69
4.4	Goodness of Measures	72
4.4.1	Factor Analysis	72
4.4.1.1	Factor Analysis on Environmental Label	75
4.4.1.2	Factor Analysis on Social Influence	76
4.4.1.3	Factor Analysis on Environmental Knowledge	77
4.4.1.4	Factor Analysis on Ecological Affect	79
4.4.1.5	Factor Analysis on Environmental Attitude	80
4.4.1.6	Factor Analysis on Self-identity	81
4.4.1.7	Factor Analysis on Environmental Concern	82
4.4.1.8	Factor Analysis on Green Purchase Behavior (DV)	83
4.4.2	Reliability Analysis	84
4.4.2.1	Reliability Analysis for all variables in this study	84
4.5	Descriptive Analysis	85
4.6	Correlation Analysis	90
4.7	The Modified Theoretical Framework	95
4.8	Hypotheses Restatements	96
4.9	Multiple Regression Analysis	97
4.9.1	Testing of Hypotheses	98
4.9.1.1	Testing of Hypothesis 1	98

4.9.1.2	Testing of Hypothesis 2	99
4.9.1.3	Testing of Hypothesis 3	100
4.9.1.4	Testing of Hypothesis 4	102
4.9.1.5	Testing of Hypothesis 5	103
4.9.1.6	Testing of Hypothesis 6	105
4.9.1.7	Testing of Hypothesis 7	107
4.9.1.8	Testing of Hypothesis 8	108
4.9.2	Summary of Findings for Hypotheses	112
4.10	Summary	114
CHAPTER 5	DISCUSSIONS AND CONCLUSIONS	115
5.1	Introduction	115
5.2	Recapitulation on the Study Findings	115
5.3	Discussion of Study Findings	116
5.3.1	Social Influence and Green Purchase Behavior	116
5.3.2	Concern of Self-image (self-identity) and Green Purchase Behavior	119
5.3.3	Ecological Affect and Green Purchase Behavior	121
5.3.4	Environmental Label and Green Purchase Behavior	123
5.3.5	Environmental Knowledge and Green Purchase Behavior	125
5.3.6	Environmental Attitude and Green Purchase Behavior	128
5.3.7	Environmental Concern and Green Purchase Behavior	130
5.3.8	Demographic and Green Purchase Behavior	132
5.4	Implications of the Study	136
5.4.1	Implications to Academic Knowledge	136
5.4.2	Implications to Green Industries	139

5.4.3	Implications to Governmental Green Policy	140
5.5	Limitations and Suggestions for Future Research	142
5.6	Conclusion	143
REFERENCES		145
APPENDIXES		
APPENDIX A	Questionnaire	161
APPENDIX B 1	Frequency of Profile	167
APPENDIX B2	Factor Analysis (IV) – First Run	170
APPENDIX B3	Factor Analysis (IV) – Second Run	178
APPENDIX B4	Factor Analysis (IV) – Third Run	186
APPENDIX B5	Factor Analysis (IV) – Fourth Run	193
APPENDIX B6	Factor Analysis (IV) – Fifth Run	200
APPENDIX B7	Factor Analysis (IV) – Final Run	208
APPENDIX B8	Factor Analysis (DV)	216
APPENDIX C	Reliability Analysis	219
APPENDIX D	Descriptive Analysis	225
APPENDIX E	Correlation Analysis	226
APPENDIX F	Multiple Regression Analysis	229

LIST OF TABLES

Table 2.1	Summary of Variables used by previous Researchers in the study of Green Purchase Behavior	40
Table 2.2	Summary of the Hypotheses	54
Table 3.1	Summary of Items in Questionnaire	66
Table 4.1	Distributed, Received, Discarded and Usable Questionnaire	69
Table 4.2	Demographic Profile of Respondents	70
Table 4.3	Initial KMO and significance level of Barlett's test of sphericity for independent variables	73
Table 4.4	Final KMO and significance level of Barlett's test of sphericity of independent variables	75
Table 4.5	Factor Analysis for Environmental Label	75
Table 4.6	Factor Analysis for Social Influence	76
Table 4.7	Factor Analysis for Environmental Knowledge	78
Table 4.8	Factor Analysis for Ecological Affect	79
Table 4.9	Factor Analysis for Environmental Attitude	80
Table 4.10	Factor Analysis for Self-identity	81
Table 4.11	Factor Analysis for Environmental Concern	82
Table 4.12	Factor Analysis for Green Purchase Behavior	83
Table 4.13	Summary of Cronbach's Alpha for all variables in this study	85
Table 4.14	Summary of the descriptive analysis of the studied variables	85
Table 4.15	Pearson Correlations Matrix for all the variables in the study	93
Table 4.16	Summary of the Restatement of Hypotheses	96
Table 4.17	Regression Analysis for Hypothesis 1: There will be a positive	99

	and significant relationship between social influence and green product purchase behavior of Penang volunteers who are participating in environmental related activities	
Table 4.18	Regression Analysis for Hypothesis 2: There will be a positive and significant relationship between concern of self-identity/self-image and green product purchase behavior of Penang volunteers who are participating in environmental related activities	100
Table 4.19	Regression Analysis for Hypothesis 3: There will be a positive and significant relationship between ecological affect and green product purchase behavior of Penang volunteers who are participating in environmental related activities	101
Table 4.20	Regression Analysis for Hypothesis 4: There will be a positive and significant relationship between environmental label and green product purchase behavior of Penang volunteers who are participating in environmental related activities	102
Table 4.21	Regression Analysis for Hypotheses 5a, 5b & 5c: There will be a positive and significant relationship between specific environmental knowledge, green product knowledge and waste related environmental knowledge and green product purchase behavior of Penang volunteers who are participating in environmental related activities	105
Table 4.22	Regression Analysis for Hypotheses 6a & 6b: There will be a positive and significant relationship between environmental protection, environmental awareness and green product	107

	purchase behavior of Penang volunteers who are participating in environmental related activities	
Table 4.23	Regression Analysis for Hypothesis 7: There will be a positive and significant relationship between environmental concern and green product purchase behavior of Penang volunteers who are participating in environmental related activities	108
Table 4.24	Regression Analysis for Hypotheses 8a,8b & 8c: There will be a positive and significant relationship between gender, educational level, income level and green product purchase behavior of Penang volunteers who are participating in environmental related activities	112
Table 4.25	Summary of Findings on Hypotheses	112

LIST OF FIGURES

Figure 2.1	Ajzen and Fishbein's Theory of Reasoned Action	43
Figure 2.2	Ajzen's Theory of Planned Behavior	45
Figure 2.3	Theoretical Framework of Green Purchase Behavior	48
Figure 4.1	The Modified Theoretical Framework of Green Purchase Behavior	95

ABSTRAK

Pengguna mulai sedari bahawa perlakuan pengguna boleh membawa kesan yang besar terhadap alam sekitar. Ini disebabkan oleh kesedaran dunia terhadap kualiti alam sekitar yang semakin mudarat seperti isu kepanasan alam dan pencemaran. “Hijau” kini mendapat tempat utama dalam dunia perniagaan. Oleh itu, syarikat yang memasarkan barangan dan perkhidmatan yang tidak memudaratkan alam sekitar dipercayai boleh menolong syarikat berkenaan mendapat keuntungan and faedah yang tidak tertanding oleh syarikat lain yang tidak menceburi bidang ini. Kajian ini bertujuan untuk mengkaji factor-faktor yang boleh mempengaruhi perlakuan membeli barangan hijau di antara sukarelawan yang terlibat dalam aktiviti yang berkaitan dengan pemulihan alam sekitar. Kajian ini juga bertujuan untuk mengkaji factor-faktor ini dari segi susunan kepentingannya. Lapan sebab digunakan dalam kajian ini termasuklah pengaruh masyarakat, kepentingan imej diri, kesayangan terhadap alam sekitar, label alam sekitar, pengetahuan berkaitan dengan alam sekitar, sikap terhadap alam sekitar, pengambilberatan terhadap alam sekitar and komposisi penduduk (jantina, tahap pelajaran dan tingkat pendapatan). Kajian ini mendapati bahawa pengaruh masyarakat, pengambilberatan terhadap alam sekitar, pengetahuan terhadap barangan hijau, pengetahuan specific terhadap alam sekitar, label alam sekitar dan tingkat pendapatan adalah penting dalam mempengaruhi perlakuan membeli barangan hijau di antara sukarelawan hijau di Pulau Pinang (ini sudah disusun berdasarkan kepentingannya).

ABSTRACT

Consumers have started to realize that their purchasing behavior can cause a huge impact to the environment as there is a worldwide concern on environmental degradation issues such as global warming and pollutions. “Green” is now in the mainstream of modern businesses. Therefore, being socially responsible by offering green (environmentally friendly) products and services should be the practices of any companies that wish to sustain a competitive advantage in today’s business world. This study is to investigate on the factors that would influence the green purchase behavior of Penang’s green volunteers who are participating in any environmental related activities and also the importance of these factors in terms of their ranking. Eight variables were used in this study including social influence, self-identity, ecological affect, environmental label, environmental knowledge, environmental attitude, environmental concern and demographic (gender, educational level and income level). It is found that social influence, environmental concern, green product knowledge (one dimension in environmental knowledge), specific environmental knowledge (one dimension in environmental knowledge), environmental label and income level are having significant impact to green purchase behavior of green volunteers, in terms of their ranking of importance.

CHAPTER 1

INTRODUCTION

1.1 Introduction

There has been a rising concern on environmental issues worldwide. Deteriorating environment such as global warming (caused by emission of greenhouse gases), polluted landfill, water and air caused by rapid industrialization, the use of DDT (a pesticide) which caused ecological imbalance (killing of birds and animals) and many other harmful activities performed in the modern economy have caught the wide spread attention of worldwide citizens.

In Southern China of Guangdong province, an increasing numbers of villagers are dying of cancer after consumed water from a “dead” river which is heavily polluted by heavy metals (cadmium, lead, indium, zinc and other metals) which are used to make batteries, computer parts and electronics devices (Tan, 2009). According to a study in 2007 by World Bank, about 460,000 people died prematurely in China annually caused by air and water pollution (Tan, 2009).

Global warming has become a serious worldwide issue. In 2007, according to Lucka Kajfez Bogataj, former IPCC WG II Vicechair, increases in the green house gases has caused most of the global warming in the past 50 years and future climate change will be more extremes. Worldwide green house gas emissions have increased by 70% between 1970 and 2004 with carbon dioxide the major contributor (Meyer, 2008). Melting glaciers caused by global warming has caused a rise in sea levels, intensified storms, excessive floods and prolonged drought. In 2009, Typhoon Ketsana impacted 2.5 million people and caused about 700,000 people homeless in Philippines (International Federation of Red Cross and Red Crescent Societies, 2009). In addition, Typhoon Ketsana had also impacted 3.0 million people and caused about

150,000 people homeless in Vietnam (International Federation of Red Cross and Red Crescent Societies, 2009).

Today's consumers have started to realize that their purchasing behavior actually can cause a huge impact to the environment. According to Biloslavo and Trnavcevic (2009), more than 50% of interviewed global consumers would choose to buy products and services from companies with good environmental reputation base on Tandberg's world study of corporate environmental behavior in 2007 (pp.1159).

Therefore, being socially responsible by offering environmentally friendly products and services (or green products) should be a practice of any companies who wish to sustain a competitive advantage in the business world.

1.2 Background of the Study

Although Malaysia has undergone tremendous development followed governmental efforts to attract foreign direct investment, the practices of environmental responsible behavior are still low among Malaysian consumers. An example of the lack of environmental responsible behavior is shown in an article in Bernama whereby garbage thrown by Penang residents is the main cause of river pollution in the state ("Garbage, Main Cause of River Pollution in Penang," 2009). Surprisingly, industrial waste is no longer the main threat to river pollution in Penang state ("Garbage, Main Cause of River Pollution in Penang," 2009). According to Dr Ahmad Kamarulnajib Che Ibrahim, the director of the Penang State Department of Environment (DOE), in general, industrial awareness of toxic waste's harm to the environment has increased in Penang as the toxic waste was drained into the waste treatment plant instead of into the river or sea ("Garbage, Main Cause of River Pollution in Penang," 2009).

In their study on the gap among environmental knowledge, concerns and practices among teachers in Malaysia, Said, Ahmadun, Paim and Masud (2003) concluded that “the practices of environmentally responsible behavior were not in concert with the level of concern and knowledge” (pp. 305). This is alarming. If Malaysian teachers themselves do not manifest their environmental knowledge into practices, what more can be hoped from Malaysian students who are the future hope of this country?

Also, in the study on the awareness of eco-label among Malaysian employees in organizations which have adopted the Environmental Management System (EMS) ISO14001 since 1996, Nik Abdul Rashid (2009) concluded from his study that those Malaysian consumers who have high knowledge on green products and eco-labels not necessarily would purchase green products, this may be due to the lack of trust in the eco-labels (pp. 136).

However, Haron, Paim and Yahaya (2005) did find a positive correlation of environmental knowledge with environmental attitude, behavior and participation even though the magnitude of the correlation was low (pp. 435). Their respondents were 734 Selangor’s residents made up of mostly Bumiputera, followed by Indian and Chinese.

According to a survey which was conducted on line by the global market insight and information group TNS in 2008, about 60% of total Malaysian respondents rate the natural environment condition in Malaysia as fair or poor with the major concern on air pollution (Our Green World, 2008). This is understandable as Malaysian in the past years and even recently has always been disturbed by haze which is caused by large scale open burning on agricultural lands in Indonesia.

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 (Our Green World, 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 majority willing to pay an extra of 5% to 10% (Our Green World, 2008).

In addition, about 35% of Malaysian respondents mentioned the promotion by a company as “green” would influence their purchasing decisions, according to the same online survey conducted by the global market insight and information group TNS in 2008 (Our Green World, 2008). Also, about 83% of Malaysian respondents responded online that their views on a company’s friendliness to the environment would influence their purchases of products and services (Our Green World, 2008). These findings are similar to the findings by Abdul Wahid & Abustan (2002) in their study on whether advertisements of green products will influence consumers intention to purchase the advertised products. They found that majority of the consumers indicated that they believed what is advertised and would buy the products (Abdul Wahid *et al.*, 2002, pp. 150).

In terms of governmental efforts, the establishment of Energy, Green Technology and Water Ministry under the leadership of Datuk Peter Chin reflects Malaysian government’s commitment to promote green concept (“High-Performance Green Buildings, Malaysia,” 2009). On the other hand, Datuk Shaziman Abu Mansor, who is Malaysia’s Work Minister mentioned that green concepts will be incorporating into future government’s buildings (“High-Performance Green Buildings, Malaysia,” 2009). Sustainable development in Malaysia will be pushed to a higher level with the

launching of green rating tool and green building index (“High-Performance Green Buildings, Malaysia,” 2009).

In terms of Environmental Performance Index of 2008 which was published by Yale University, Malaysia was ranked 27 with the score of 84 out of total 100 (Yale University, 2008). This index “deploys a proximity-to-target methodology in which it quantitatively tracks national performance on a core set of environmental policy goals for which every government should be held accountable” (Yale University, 2008). Malaysia performed better than its neighbor Thailand which was ranked 53. This shows the commitment of Malaysian government towards environmental conservation.

Meanwhile, several companies which are operating in Malaysia have launched their respective green initiatives. To mention a few:

- (1) DIGI (a telecommunication company) in addressing climate change has launched its “Deep Green” initiative in which it aims to develop a green value chain (such as e-billing, online delivery of services and online customer services) with the help from its customers, suppliers and business partners (Deep Green, 2008). DIGI also involves in mangrove saving in Kuala Selangor.
- (2) Sime Darby in Malaysia had also launched plant a tree campaign in May 2009 (Sime Darby, 2009).
- (3) Shell Malaysia has launched sustainable development grants programme which empowers individuals and groups in promoting sustainable development project such as conservation of forests, mangroves and coral reefs (Social Investment, 2009).

- (4) YTL Group of companies has launched its first Climate Change Week in March, 2007 which is a public outreach programme to raise environmental awareness and to inspire Malaysian to find solutions to environmental related problem mainly caused by global warming (YTL, 2008). Climate Change Week was launched following a report that was released by United Nations Intergovernmental Panel on Climate Change (UNIPCC) mentioning the world citizens only have ten years to address the world climate change before its impact became irreversible.
- (5) IJM Land Bhd has launched its first green property project “The Light” in Penang in which it allocates 5% of its construction cost for the purpose of green technologies such as natural lighting, cross-ventilation, reduce material usage and sourcing for sustainable recycled construction materials (“Green Plans for IJM’s The Light,” 2010).

1.3 Problem Statement

According to Ronning (the president of Tandberg in Asia Pacific) during Frost & Sullivan Green Technology Resolution 2009 symposium in Kuala Lumpur, “...being green helps a company remain competitive in the market in terms of brand value, access talent and bottom line” (CSR Malaysia, 2009). In a global green survey that involved 16,823 people, about 50% of the respondents would purchase from companies that are having good environmental reputation and 80% would prefer to work with companies which are environmentally friendly (CSR Malaysia, 2009). In an online survey carried out by the global market insight and information group TNS in 2008, about 83% of Malaysian respondents responded that their views on a company’s friendliness to the environment would influence their purchases of

products and services (Our Green World, 2008). Therefore, “green” is already in the mainstream of the business as it is seen by consumers and employees as having a good corporate social responsibility (CSR Malaysia, 2009). Offering green products and services would be a very lucrative market for businesses. According to Abdul Wahid and Abustan (2002), “It appears that consumers are concerned about the environment, and are ready to exhibit purchase behavior reflecting this concern (Polonsky *et al.*, 1995) to support a “green” brand (Oyewole, 2001)” (pp. 580).

Therefore, studying the determinants of consumers’ green purchase behavior would definitely benefit green marketers. Although there are numerous studies carried out by researchers on the determinants of green purchase behaviors, the findings often contradict each other. Therefore, the research outcome may only be relevant in certain cultural, time and geographical context. Due to the complexity in consumers’ green purchasing behavior, generalization is often not meaningful under different cultural and demographical context. According to Kalafatis *et al.* (1999), “...demand and attitudes for green products is likely to be uneven across different market segments and cultures (Ottman, 1992a; 1992b; Peattie, 1992)” (pp.445).

In addition, through literature review in Malaysian context, gap still existed between environmental knowledge, intention and behavior, even among Malaysian teachers as proven through the study by Said *et al.* in 2003. Even though there was a positive correlation of environmental knowledge with environmental attitude and behavior in the study of Haron *et al.* in 2005, the magnitude of the correlation was low. Also, even employees who had a vast knowledge on green products in ISO 14001 certified organizations not necessarily would purchase green products, based on a recent study by Nik Abdul Rashid (2009).

Moreover, based on the online survey conducted by the global market insight and information group TNS in 2008, only about 8% of Malaysian respondents responded they have changed their behavior in a great deal to benefit the environment although there were about 60% who rated the Malaysian natural environment condition as fair or poor (Our Green World, 2008). This means they were aware of the deteriorating natural environment in Malaysia but did not behave in an environmentally friendly manner. Therefore, the factors that determine and contribute to the green purchase behavior of Malaysian consumers would be worth to find out.

Volunteers who are participating in the environmental related activities are the target of this study due to the common sense that they are the forerunner of environmental protection in this country. Their activities and involvement in environmental protection works might have an important impact to governmental green policies. Therefore, studying on factors that would influence their green purchase behavior is important to grasp their green purchase behavior and make them the embassy in encouraging others (general public) towards green consumption. Green consumption is a way to achieve sustainable development.

According to online Compact Oxford English Dictionary, volunteerism means “the use or involvement of volunteer labour especially in community services” (AskOxford.com, 2010) whereas volunteer means “a person who freely offers to do something or a person who works for an organization without being paid” (AskOxford.com, 2010). Volunteers and their activities are very important to the society as a whole. This is because volunteers contributing (through organizations) their valuable time, knowledge, expertise and other resources for the betterment of the society either in the issues of human right, environment, politic and others. They help to raise the public awareness to conserve the environment, help the poor, needy,

handicapped and disadvantaged people to improve their life. Volunteering activities has existed in the world since the early stage of capitalism (www.volunteer.cz). World volunteering groups example are WWF, United Nation Volunteers, United Planet, CHAM (France), Earthwatch Institute (US), Europe Conservation and many others (World Heritage, 2010).

In Malaysia, we have volunteering groups such as Mercy Malaysia (Malaysia Medical Relief Society), MVFRA (Malaysian Volunteer Fire & Rescue Association), MNS (Malaysian Nature Society), MENGO (Malaysian Environmental NGOs) which is a federation of 18 different NGOs concern about the environment, Malaysian AIDS Foundation and others (Malaysia Central, 2010). They play an active role in rescuing, helping and improving the life of those under-privileged people while others help on educating and conservation of mother nature.

MNS for instance was only having 112 members when it was established in 1940 (MNS' History, 2007). The membership has increased to 400 after 8 years (MNS' History, 2007). In early 1980's it was having 1000 members but the membership has doubled up to 2000 members in 1986 (MNS' History, 2007)! Like many other environmental related NGOs, MNS relied heavily on the participation of its members and volunteers in achieving its goal of nature conservations (Supporting MNS, 2007). Larger and stronger group of members provide MNS with stronger voice in discussing conservation related issues with government (Supporting MNS, 2007).

In Penang, we have a few environmental related organizations such as Water Watch Penang, MNS, Friends of the Penang Botanic Gardens Society and Sahabat Alam Malaysia (SAM) or Friends of The Earth Malaysia. Other organizations such as

Tzu Chi Foundation, Than Hsiang Temple and other religious related societies are also involved in environmental related activities especially recycling.

Volunteers' environmental activities and movements might have an important impact to government environmental policies. On the other hand, this group of consumers should have high environmental related knowledge by common sense. This study is intended to add value to the academic knowledge as well as to provide insightful information to green marketers who would like to target this group of consumers.

Also, in the competitive business world which is constantly shaped by dynamic changes, what would prefer by green consumers a few years ago may not hold so in the future. Green consumers' purchasing behavior is definitely not stagnant. Hence, continuing exploring the green consumption pattern and green purchasing preference is a must for all green marketers who wish to sustain or improve their competitive advantage.

Many past studies (i.e. Akram, Elham, Farah, Fong etc) were using respondents from the general public who do not necessarily have the "love" for the environment. Therefore, this study intends to fill the gap by investigating on the factors that would determine the green purchasing behavior of volunteers in Penang who are participating in various environmental related volunteering campaigns (such as saving water, saving nature, involving in recycling, planting trees and providing environmental related educations) by using Ajzen's theory of reasoned action as the theoretical framework for this research, since there is no specific research carried out on this group of consumers yet. Ajzen's theory of reasoned action (TRA) has been a very popular theory used in consumer behavior related studies but it has not been used for the studies on green purchase behavior of environmental related volunteers.

According to the Theory of Reasoned Action, attitude and subjective norm are determined by belief, which further determine intention and behavior (Ding & Ng, 2009, pp. 131). Refer to Figure 2.1 of Ajzen and Fishbein's model of reasoned action in page 43 (adopted from Ding *et al.*, 2009, pp.132), behavioral beliefs determine attitude toward behavior while normative beliefs determine subjective norm. These in turn determine behavioral intention which serves as an antecedent to behavior (Ding *et al.*, 2009, pp.132).

The literature also acknowledged the use of Theory of Planned Behavior (TPB) in consumer behavior related studies. TPB is a refined model of Theory of Reasoned Action by adding in a third component which is called perceived behavioral control and it originates from self efficacy theory (Gupta & Ogden, 2009, pp. 377). Based on Gupta *et al.* (pp. 378), perceived behavioral control means the ease or difficulty as perceived by a person in performing a behavior or action. Therefore, a person will tend to perform an action which he or she thinks is easier to perform comparing to a perceived difficult action (Gupta *et al.*, 2009, pp. 378). Refer to Figure 2.2 of the model of Theory of Planned Behavior in page 45.

Since this study is to investigate on factors that would influence the green purchase behavior of Penang volunteers without considering the perceived behavioral control, Theory of Reasoned Action is more suitable to serve as the theoretical framework of this study compared to Theory of Planned Behavior. More explanation is provided in Section 2.3.4 in page 46. Due to time constraint in data collection, this study will only be concentrating on green volunteers in Penang state.

It is hoped that this study would provide useful insights to green marketers in Penang state who wish to target this segment of consumers.

1.4 Research Objectives

This study attempts to accomplish two main objectives:

- (1) To investigate whether social norms (social influence), self-images, ecological affect, environmental label, knowledge (eco-literacy), environmental attitude, environmental concern and demographics (gender, educational and income level) would influence green purchase behavior of Penang volunteers who are participating in environmental related activities.
- (2) To examine which of the determining factors as stated above will show the highest influence to green purchase behaviors.

1.5 Research Questions

Therefore, this study will attempt to answer the following research questions in order to fulfill the above stated research objectives:

- (1) Do social norms (social influence), self-images, ecological affect, environmental label, knowledge (eco-literacy), environmental attitude, environmental concern and demographics (gender, educational and income level) influence the green purchase behavior of Penang volunteers who are participating in environmental related activities?
- (2) Out of the determining factors as stated above, which independent variables will show the highest influence to green purchase behaviors?

1.6 Definition of Key Terms

The followings are definition of key terms as used and operationalized in the study:

Green Company

Based on Biloslavo and Trnavcevic (2009), green company “could be defined as a company whose purpose, activities and its own material existence are in full harmony with the natural and cultural environment, and whose employees strictly follows ethical rules in relation and communication among themselves and with the company’s stakeholders.” (pp. 1159).

Green Product

According to Follows and Jobber (2000), environmentally responsible products (green products) are products that satisfying both the immediate needs and wants of a consumer and also serve to benefit the environment in the long run (pp. 724).

Green Consumer

Green consumer, according to Webster (1975), is a socially conscious consumer “who takes into account the public consequences of his or her private consumption or who attempts to use his or her purchasing power to bring about social change” (Follows *et al.*, 2000, pp. 724).

Green Marketing

Pujari and Wright (1996) quoted from Peattie and Charter (1994) that green marketing is defined as “the holistic management process responsible for identifying, anticipating and satisfying the needs of consumers and society in a profitable and sustainable way” (pp.19).

Green Purchase Behavior

Green purchase behavior according to Mostafa (2007) is “the consumption of products that are :

- Benevolent/beneficial to the environment;
- Recyclable/ conservable; or
- Sensitive/responsive to ecological concerns” (Lee, 2009, pp.89).

Volunteer

According to online Compact Oxford English Dictionary, volunteer means “a person who freely offers to do something or a person who works for an organization without being paid” (AskOxford.com, 2010).

Social norm/influence

Social norm according to Kalafatis *et al.* (1999) is on “...whether a referent think a respondent should or should not perform the action in question” (pp. 444). Referents could be friends, neighbors, not for profit or for profit organizations, teachers, parents etc.

Self-images

Self image is the conception one has of oneself.

Ecological affect

According to Chan and Lau (2000), ecological affect is “the degree of emotionality an individual is attached to environmental issues” (pp. 343).

Environmental Labels

According to D'Souza, Taghian and Lamb (2006), environmental label is “a guide for consumers to choose products that are environmentally friendly. It is often used by businesses to differentiate their products, position them and communicate the environmentally friendly message (D'Souza, 2000)” (pp. 164).

Knowledge (Eco-literacy)

This knowledge is regarding environmental knowledge. Eco-literacy according to Laroche *et al.* (2001) is to measure “how much respondents knew about environmental issues” (pp. 508).

Environmental Attitude

Lee (2008) defined environmental attitude as “the individuals’ value judgment of environmental protection which taps the individuals’ cognitive assessment of the value of environmental protection” (pp. 580).

Environmental Concern

Environmental concern quoted from Maloney *et al.* (1975) by Paco *et al.* (2009) is “...the degree of emotionality, level of knowledge and readiness to change behavior” (pp. 368). Lee (2008) stated environmental concern as “...the degree of emotional involvement in environmental issues” (pp. 578).

Green Purchase Intention

According to Nik Abdul Rashid (2009), green purchase intention is defined as “the probability and willingness of a person to give preference to products having

eco-friendly features over other traditional products in their purchasing considerations” (pp.134).

1.7 Significance of the Study

This study is important in determining the important factors that would influence the green purchase behavior of Penang volunteers who are participating in environmental related activities (such as saving water, saving nature, involving in recycling, planting trees and providing environmental related educations). Their activities and involvement in environmental protection works might have an important impact to governmental green policies. Therefore, this study is important to grasp their green purchase behavior and make them the embassy in encouraging others (general public) towards green consumption. Green consumption is a way to achieve sustainable development.

The study on green purchase behavior of consumers in Malaysia context is quite scarce with only few studies published. In August 2009, Nik Abdul Rashid had published a study on green purchase intention of Philips light bulb. Farah in 2008 had done a study on Penang customers’ intention to choose green products. In 2008, Qader had done a study on the intention to purchase electronics green products among lecturers. In the same year, Elham had done a study on influencing factors on customers’ purchase behavior on green and non-green products. Also, Akram had done a study on factors that influenced USM students to pay more for environmentally friendly products. Except Nik Ramli who was using employees in organizations which implement EMS (environmental management system ISO14001), all researchers were using the public at large as their respondents who do not necessarily have the “love” for the environment.

Therefore, there are no studies that can be found in Malaysia that focus on green purchase behavior of green consumers. Furthermore, there is no specific study which taps into the green purchase behavior of green volunteers as consumer segment specifically in Penang. Therefore, this study is hoped to add value to the academic knowledge on the determinants of green purchase behavior of Penang volunteers.

Based on a study conducted by Akram (2009) on factors that influence USM students to pay more for environmentally friendly products, there is no relationship between ecological knowledge and willingness to pay more for environmental friendly products. Furthermore, a study on the gaps between environmental knowledge and practices among Malaysian teachers which were conducted by Said *et al.* (2003) also revealed that there was a significant gap between these two variables. Therefore, it would be good to know whether environmental knowledge (as one of the independent variables in this study) is positively and significantly related to green purchase behavior of volunteers in Penang.

In addition, according to a study done by Abdul Wahid and Abustan (2002) on the perception of young Malaysian on environmental issues, it was concluded that “respondents in general possess high awareness of environmental issues, however, when it comes to implementing something to solve the problem at hand, not quite as many are willing to take the responsibility to do it” (pp. 587). Thus, it is compelling to find out if volunteers of green related activities may be more responsible!

In view of “green” is now in the mainstream of business and 83% of Malaysian consumers base on a survey by the global market insight and information group TNS in 2008 would be more likely to purchase from perceived environmental friendly companies, it would be worth to investigate on the determinants which can

influence the green purchase behavior of Penang volunteers who are participating in environmental related activities.

Hence, this study would benefit green marketers and manufacturers who wish to target this segment of consumers by providing useful insights on their green purchase behaviors. On the other hand, consumers (of volunteer group) would be able to find green products that are better meeting their needs and wants in the near future. In other words, it is hoped to encourage more entrepreneurs in Penang to involve in the production, marketing and promotion of green products which in turn will promote green consumptions among Penang residents. Society in return would also benefit by having a better and improved natural environment because green consumption is a way to support for sustainable development.

Sustainable development in the context of this study means “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Ward, 2010).

1.8 Organization of Remaining Chapters

This paper is organized into five major chapters.

The first chapter provides the introduction and background of this study in Malaysia context. It also explains on the research objectives, research questions and significance of the study.

The second chapter provides a review on the related literatures on the study of green purchase behaviors. It also discusses on the variables, theoretical framework and hypotheses used in this study.

The third chapter introduces the research methodology used in this study such as the research design, unit of analysis, sample of population, data collection method, questionnaire design and statistical method used for data analysis.

Profile of respondents, goodness of measures and result of the study are presented in chapter four. Finally, discussions, implications, limitations and conclusion of the study are presented in chapter five. Chapter five is also inclusive of the suggestions for future research.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction on areas of studies done on green purchase behavior

According to Lee (2008, pp. 577), Schlegelmilch *et al.* (1996) had classified green products into several categories which include general green products, recycled paper products, products which are not testing on animals, environmentally friendly detergents, organic fruits and vegetables, ozone-friendly aerosols and products which are energy-efficient. It is not easy to define environmentally sustainable products because according to Baker and Ozaki (2008), we are not able to find a green product which is truly sustainable or green (pp.283). All products that we buy, consume and discard will have a negative impact to the environment at some stage in their lifecycles (pp. 283). Therefore, Baker *et al.* (2008) defined a product that “has a low environmental impact” as an environmentally sustainable product (pp. 283). Examples of green products include green electronics (lead-free electronics products), furniture produced from sustainable legal forests, organic food, eco-friendly (chemical free) bedding, eco-friendly garments and others.

Due to the fact that green consumers would consider the consequences of their consumption to the society, they will end up buying an eco friendly product if the environmental consequences are important to them (Follows *et al.*, 2000, pp. 724).

Green marketing is a marketing that highlights an organization’s environmentally friendly policies or achievements (BNET Business Dictionary, 2009). In other words, green marketing means “the promotion or advertising of products and services with environmental characteristics such as “recyclable,” “organic,” or “environmentally friendly” which are applied to consumer goods, industrial goods and some services. It also incorporates a variety of activities which

include the modifications to products, changes to production and distribution processes, packaging and marketing communications” (BNET Editorial, 2009).

There have been numerous studies done on green consumers’ purchasing behaviors. Lee (2008), Chan and Lau (2000) and D’Souza, Taghian, Lamb and Peretiatkos (2006) had conducted studies on factors influencing green purchase behavior. Lee (2008) was studying on what factors influencing Hong Kong adolescent consumers’ (high-school students) green purchase behavior. Compared to D’Souza *et al.* (2006), Lee’s (2008) study is unique because it was conducted on adolescent consumers’ (with mean age of 14.35 years old and standard deviation of 3.13 years), while D’Souza *et al.* (2006) were studying the influence of multiple factors on Australian consumers’ (majority female aged 35-54 years old) green purchase intention. Chan and Lau (2000) were studying on the influence of three independent variables on Chinese consumers’ green purchase behavior. In 2009, Lee has further investigated on how gender differed in various factors that would affect the green purchase behavior of adolescent consumers in Hong Kong.

There are researchers who conducted their studies on the predictive power of consumer models on green purchase intention. For example, Kalafatis, Pollard and Tsogas (1999) were applying Ajzen’s theory of planned behavior (TPB) to test its green purchase intention’s predictive power in two distinct markets (Greece and UK). They found TPB is more suitable to predict purchase intention in a more established market which is UK comparing to Greek in this case (Kalafatis *et al.*, 1999, pp. 441). Follows and Jobber (2000) were also testing a different consumer model (a hierarchical relationship of values-attitudes-intention-behavior) on the purchase prediction of environmental friendly (re-usable cloth baby diapers) and unfriendly product (disposable baby diapers). They confirmed on the existence of the

hierarchical relationship from the study (Follows *et al.*, 2000, pp. 723). Cleveland, Kalamas and Laroche (2005) were developing and testing a model to assess the impact of various attitudes and personality characteristics on pro-environmental behavior from the perspective of locus of control (LOC). They found four dimensions which were related to external and internal LOC (Cleveland *et al.*, 2005, pp 198).

Laroche, Bergeron and Barbaro-Forleo (2001), Straughan and Roberts (1999) and Paco and Raposo (2009) did some studies on green segmentation. Laroche *et al.* (2001) were investigating the demographics, psychological and behavioral profiles of consumers in a large city in North-America who are willing to pay more for environmentally friendly products, while Paco and Raposo (2009) were analyzing the environmental and demographic criteria to identify green segment of Portuguese consumer market. Laroche *et al.* (2001) found married female with at least a child were more likely to pay more for green products (pp. 503). Paco *et al.* (2009) found Portuguese consumers although having awareness on environmental problems but these usually were not translated into ecology friendly behavior (pp. 364). Straughan and Roberts (1999) had provided a method to profile college students based on the ecological conscious behavior and found out psychographic criteria was more useful than demographic criteria for the purpose of profiling.

In the area on green branding and green advertising, Baker and Ozaki (2008) were investigating whether marketing and branding can help marketers to establish their own brand of green products and to influence consumers to purchase green products while Chan (2004) were investigating on the response and perception of Chinese consumers to environmental advertising claims which is company-sponsored. Hartmann and Ibanez (2006) were discussing the place of green marketing in the society. Baker *et al.* (2008) found that consumers were not able to identify green

products due to irrelevant of products marketing (pp. 281). Chan (2004) found Chinese consumers in Beijing and Guangzhou preferred printed environmental advertisements comparing to broadcasted advertisements (pp. 427). In addition, he found “perceived claim’s credibility”, “relevance of products to daily lives”, “educational level” and “media type” were significant in impacting Chinese consumers’ green purchase intention (Chan, 2004, pp. 427).

There are very few researchers who employ qualitative method in studying green purchase behavior and green strategy. Realizing this gap, Tadajewski and Tsukamoto (2006) were using a qualitative method (life-cycle analysis) to understand the complex behavior of green consumers in UK and Germany. This study was done through in-depth and semi-structured interviews of more than 100 respondents on their green shopping behavior on daily bought products (Tadajewski et al., 2006, pp.14). It revealed that consumers were looking for brand name as the easiest way in assessing the “greenness” of a product (Tadajewski et al., 2006, pp.15). In 1996, Pujari and Wright did carry out a qualitative research (mainly open-ended interview) on selected companies in Germany and Britain as their unit of analysis in developing product strategies for environmentally conscious products. The study suggested that effective environmental strategy can lead to competitive advantages (Pujari *et al.*, 1996, pp.25).

Only in recent years do researchers carry out studies on environmental labels. D’Souza (2004) for example was studying the influence of environmental labels on consumer purchase behavior through a two-dimensional model of cognitive perspective of environmental products. D’Souza (2004) had developed a model which classified consumers into four segments namely “environmentally green consumers”, “emerging green consumers”, price sensitive green consumers” and “conventional

consumers” (pp. 184). Later in 2006, D'Souza, Taghian and Lamb were investigating empirically the influence of environmental labels on Australian consumers who are different in their level of environmentalism. From this study, they concluded there were different groups of consumer such as consumers who found labels difficult to understand and consumers who read labels and did not mind to buy green products even though they were lower in quality (D'Souza *et al.*, 2006, pp. 162).

Puzzling on the inconsistency between attitude and behavior in green consumerism, Gupta and Ogden in 2009 had conducted a research to better understand the reasons causing the gap and suggested ways to bridge the gap. Their research was base on social dilemma theory and reference group theory. They found that individual characteristics such as “trust”, “in-group identity”, “expectation of others’co-operation” and “perceived efficacy” were useful in separating buyers who were “green” or “non-green” (Gupta *et al.*, 2009, pp. 376).

From these numerous studies done by researchers, we can see that there is no studies especially tap into the green purchase behavior of environmental related volunteers yet. Realizing this gap, this study attempts to find out what is the ranking of factors in terms of their importance in influencing the green purchase behavior of green volunteers in Penang.

2.2 Review of the Literature

2.2.1 Factors Influencing Green Purchase: Discussion on Variables used by Researchers

Different researchers have used different variables in their studies of green purchase intention/behavior. For example, Lee (2008) in her study on young Hong Kong consumers’ green purchase behavior had used seven variables: environmental