

**A SURVEY ON INTEGRATED FRAMEWORK
INTERPRETING ENVIRONMENTAL AWARENESS AND
MARKETING EFFECTIVENESS ON GREEN PRODUCT
BUYING BEHAVIOUR**

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By

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**Thesis Submitted to
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ABSTRACT

Green issue was not a forefront customer concern in the 1970s and 1980s due to the limited knowledge pertaining to its importance to protect the environment. However, of late the need for enhancing the green concept is an essential to avoid environmental uncertainties. Thus, creating environmental awareness or concern through appropriate channels of communication that easily reach to the public would provide favourable results. However, this green environmental issue requires further investigation in order to generate more knowledge and inputs in tackling this issue. Thus, this study was conducted among university students assuming they have more exposure regarding this environmental or green issue. The purpose of present study is to determine green buying behaviour among Universiti Utara Malaysia (UUM) undergraduate students using environmental awareness or concern and marketing effectiveness as independent variables and intention as a mediator. A questionnaire survey was administered to a sample of 375 UUM undergraduates. The data collected was then analysed using the multiple regression method. This study showed that there were environmental awareness or concern among UUM undergraduates, which in turn mediated their buying behaviour. Thus, the findings explain that environmental awareness or concern, marketing effectiveness and intention had significant impact on green buying behaviour. In addition, the findings of his study can be used by the public and marketers to encourage pro-environmental behaviours and also by producing effective marketing techniques for green products. This study has improved the understanding of pro-environmental buying behaviour and its antecedents from individual approach. In addition this study confirms

suitability of Theory of Reason Action (TRA) as theoretical grounding green buying behaviour studies by employing multiple regression technique.

ABSTRAK

Isu hijau bukan satu perhatian kebanyakan pelanggan dalam tahun 1970-an dan 1980-an kerana pengetahuan yang terhad tentang kepentingan untuk melindungi alam sekitar. Walau bagaimanapun, akhir-akhir ini keperluan untuk meningkatkan konsep hijau adalah menjadi suatu kewajipan untuk mengelakkan bencana alam. Oleh itu, kesedaran dan keprihatinan terhadap alam sekitar dapat diwujudkan melalui saluran komunikasi yang mencapai masyarakat dengan mudah. Walau bagaimanapun, isu hijau ini memerlukan kajian lanjutan untuk menjana lebih banyak ilmu pengetahuan dan input dalam menangani isu ini. Oleh itu, kajian ini telah dijalankan di kalangan pelajar-pelajar universiti dengan anggapan bahawa mereka mempunyai lebih banyak pendedahan mengenai isu alam sekitar atau hijau. Tujuan kajian ini adalah untuk mengenal pasti gelagat pembelian di kalangan pelajar sarjana muda (UUM) dengan menggunakan kesedaran atau keprihatinan alam sekitar dan keberkesanan pemasaran sebagai pembolehubah tidak bersandar dan niat sebagai pembolehubah penghubung (*mediator*). Kajian soal selidik dikendalikan kepada 375 sampel pelajar sarjana muda UUM. Data yang diperolehi dianalisis dengan menggunakan kaedah regresi berganda. Kajian ini menunjukkan bahawa terdapat kesedaran atau keprihatinan alam sekitar di kalangan pelajar di mana gelagat pembelian dipengaruhi oleh pembolehubah penghubung. Oleh itu, dapatan menjelaskan bahawa kesedaran atau keprihatinan alam sekitar, keberkesanan pemasaran dan niat mempunyai hubungan yang ketara terhadap gelagat pembelian. Tambahan itu, dapatan kajian boleh digunakan oleh masyarakat dan pemasar untuk menggalakkan gelagat pro-alam sekitar dan juga menyumbangkan teknik pemasaran yang berkesan bagi barangan hijau. Kajian ini telah meningkatkan pemahaman tentang

gelagat pembelian pro-alam sekitar dan latar belakang dari pendekatan individu. Tambahan itu, kajian ini mengesahkan kesesuaian Theory of Reason Action (TRA) sebagai teori asas bagi kajian gelagat pembelian dengan menggunakan teknik regresi berganda.

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CHAPTER 1

INTRODUCTION

1.1 Research Background

Environmental issues are prominent in developed countries. However, environmental consciousness is still at the commencement stage in most developing countries such as Malaysia. Environmental define as surrounding or atmosphere that influencing development or growth which includes all living and non-living are things such as air, water, soil, plants including flora and fauna. The environment can be divided into abiotic and biotic environment. A biotic resource consists of the basic organic and inorganic components which are not alive of the physical environment such as water, carbon dioxide, oxygen, nitrogen, etc. Biotic components are the living components of the natural environment (Kainth, 2009). Environmentally friendly or green product purchasing behaviour can be defined by the mean of overwhelming product that ecologically or environmentally “beneficial or benevolent”, “conceivable or reusable” and “responsive or sensitive” regarding environmental concerns (Dagher & Itani, 2012).

On the other hand, environmental consciousness is a level of understanding and commitment that people may contribute to preserving the environment through their attitude, behaviour and practice. These practitioners probably concern with waste and they prefer to spend more money to eco-friendly product. According to Royne, Levy, and Martinez (2011), environmentally conscious consumer play a vital role by reducing usage of energy using simpler packaging and recycling innovation. In addition the research adds knowledge regarding energy consumption converts to decrease fossil fuel burning and it decreased atmospheric release of greenhouse gases, such as carbon dioxide, methane and ozone. In line with this issue, Malaysia

government has taken impressive effort to sustain environmental issue arising among residents. The issue is an global issue that cause consumers all around the world have become more environmentally conscious until the world has moving to green revolution by implementing and introducing prevention procedures for avoiding further damage to the earth (Rahbar & Wahid, 2010).

The enhancement of environmental regulation, beneficial scheme and ecological related programmes such as cleaner technology, cleaner production, pollution prevention, implementation of the Environmental Management System (EMS), as well as the ISO 14000 series certification that were launched for the ecological management purposes (Tan & Yeap, 2012). Although the government has initiated effective measures to enhance environmental conscious among Malaysian, the level of involvement in the practices of ecological preservation programmes is still not impressive. Ahmad, Rahim, Pawanteh, and Ahmad (2012) has been researching about the extent of youth practice and participation in green activities in Malaysia. As a result, the scholar found that the concept like recycle is a common among youth, however, the finding also highlighting that Malaysian youths are lacking in practice (Budhiarta, Siwar, & Basri, 2012). In addition, the scholar encountered that unconsciousness due to not bother character, sceptic to make changes by alone and lack of environmental knowledge are obvious factor that cause less awareness in environmental issues. Some scholar has justified the statement by explaining the fact that preserving environment is a new initiative to the Malaysian residents. Furthermore, marketing and selling green or environmentally friendly products is only can be seen in an emerging market stage and it is still in progress for certain specific cases (Saleki & Seyedsaleki, 2012). Thus, an appropriate period of time still required to these product being established and beneficial to the earth as well as customers. In

contrast, Aman, Harun, and Hussein (2012) had claim that Malaysia government implementing new green project seriously by introducing green technology in certain industries, promoting green business in mass and social media and encouraging green consumerism among their residents. These initiatives assist to regain and improve the country social awareness and commitment to achieve a fully developed country in the year 2020.

Thus, in order to improve environmental consciousness sources of information is a tool that might be utilized by Malaysians to obtain more knowledge, information and important of seeking immediate measures to overcome ignorance of environmental issue. Furthermore, Budin, Praveena, Amran Ahmed, Aris, and Mun (2012) blamed that electronic media, campaign, professionals, family and friends are liable for failure of eco-friendly programmes such as recycling. These researchers indicate that these sources of information are unable to deliver actual fact about environmental issues. For instance, information about recycling in Malaysia does not specifically indicate about recyclable and non-recyclable items. Therefore, it is important to understand that consciousness is form of awareness that created among people using correct channel. Inappropriate source of information may create obstacles to increase the level of adoption and involvement to specific social issues such as buying green apparels. Therefore, professionals such as teachers and lecturers can mediate the behaviour of youth through their high exposure to the ecological issue. Kainth (2009) and Qader and Zainuddin (2011) has indicated that teachers and lecturers able to bring extensive consciousness among their students whom possibly guide the nation about the importance of preserving the environment.

1.2 Problem Statement

Green issue was not a forefront customer concern in the 1970s and 1980s due to limited knowledge pertaining the importance to protect the environment. Very limited studies were found to create the awareness among society to stimulate environmental awareness (Lin & Chang, 2012). The green awareness changed buying behaviour of certain developed countries such as the United States (US) which has laws and regulations on renewable energy; water, air and sound pollution; regulations on chemical and hazardous substances; electronic waste and chemicals, and finally new emissions and pollution standards (Kan, 2010). Although, Malaysia has certain laws and regulations to control pollution, the introduction and implementing green concept which may help significantly reduce the environmental harm still remains at the beginning stage. Furthermore, Malaysia faces great challenges in ensuring a balance between country development and environmental sustainability (Tan, 2011). Budhiarta et al. (2012) elaborate that waste composition produce by Malaysia were increasing dramatically as shown in table 1.1 and 1.2.

Table 1.1

Municipal Solid Waste Composition from Kuala Lumpur

Type of Solid Waste	Percentage of Total Solid Waste Sample
Food Waste (and its mixtures)	74 percent
Plastic (and its mixtures)	21 percent
Paper (and its mixtures)	1 percent
Mixed Organic	1 percent
Wood	1 percent
Others	2 percent

Source: Current Status of Municipal Solid Waste Generation in Malaysia, (2012).

Table 1.2

Waste generation rate from Kuala Lumpur City

Type of Solid Waste	Generation Rate/person/day
Food Waste (and its mixtures)	0.6 kg/capita/day
Plastic (and its mixtures)	0.24 kg/capita/day
Paper (and its mixtures)	0.18 kg/capita/day
Others	0.18 kg/capita/day

Source: Current Status of Municipal Solid Waste Generation in Malaysia, (2012).

The author added that the valuation of solid waste (plastic) collected from plastic used market record at several places in Kuala Lumpur City area is about RM 0.45 per kilogram, due to data taken on May 2010. The Kuala Lumpur district authority and enforcement body urged to finding immediate enforcement to reduce the waste in order to avoid environmental uncertainties. Additionally, if the

population in 2009 is about 1.66 millions, then the plastic waste produce value per day will be RM 179,280. This potential gross value for a one year period can reached about RM 43,027,200 which can cause unhealthy living lifestyle . This potential value should be an additional income for the government if they can build and develop an integrated plastic recycling market. In line with this, the issue considers more serious through Budin et al. (2012) survey finding which showing that a total of 1106.42kg waste was produced from the 1323 higher education students. The segregation shows that the organic waste produced by students represented the largest percentage (53%) consist of plastic (24%), paper (15%), aluminium or tin and other (3%) and the lowest percentage was the glass (2%). In addition, the author added that only 356kg or 32% from 1106kg of the total waste produced by the students can be recycled. The remaining waste becomes a possible cause of the environmental harm. This statement has proven that the levels of awareness among students were low and obviously they were spending their money for the environmental harm product. Thus, immediate measures need to be rectified to change buying behaviour of these students to reduce the environmental harm. Therefore, first purpose of this study is to identify the possible factors that may create an intention to purchase green products and change buying behaviour of the UUM undergraduate students.

Malaysia is a developing country that engages in multiple economic activities to moving forward to become developed countries. The government is creating opportunities for local business institutes to enhance their business in international market. Revolution has been implemented in manufacturing, supply chain management, packaging, marketing and financial management activities that reveal our country were preparing to be listed as a developed country in near future. Environmental preservation and ecological standard are a prerequisite rule that

required to establish our business in international market. In line with that, Malaysia has some business entity that implementing green food service, green technology and environmentally friendly product. These business organizations providing green awareness and consciousness among Malaysians. For instance, Justlife Group Sdn. Bhd. is an organic retail franchise that promotes green products, recycling or reusable activities, and endeavours to work with nature in sustainable growth. Moreover, the Eco Green Organic Shop is involved in activities such as an organic shop, organic cafe, and organic restaurants. They promote organic food, which is good for our health and long lasting sustainability. Apart from that, The Body Shop produces and sells products that are not tested on animals. They are against the testing of products on animals in the cosmetic industry and promote natural materials (Saleki & Seyedsaleki, 2012). However, present study finding is contradicted by the above author statement. Nameghi and Shadi (2013) research focusing on importance of environmental behaviour among Malaysians. A reality confirmed by sampling students as future customer to investigate and capture their understanding from factor engaging environmental behaviour (reduce, reuse and recycling). These students are not familiar to any above company issue and their new green marketing strategy. Nameghi and Shadi (2013) added that this is due to the ineffective marketing method that has been implemented by the companies in advertising their products. The author claim that the advertisement were prepared as printing material, yet nowadays students are more attached to social media. Talking about students, University students are more suitable to be pioneer to create intention and change buying behaviour to environmentally friendly product. Rahim, Zukni, Ahmad, and Lyndon (2012) conducted a study about testing the effectiveness of government green advertisements among private university students. They found that social media and

electronic advertisement is an effective marketing tool that can attract students to purchase green products. However, this advertisement is very rarely advertised in those media of the channel. Furthermore, the study does not indicate the specific features that can be included in this marketing technique in order to attract youngsters. Thus, this study intends to add the knowledge about marketing effectiveness that can be applied in expanding green product and specify the effective marketing features that can be added in the advertisement relates to green product.

1.3 Research Question

This study aims to identify UUM undergraduate students buying intention and behaviour toward green product using the Theory of Reasoned Action (TORA). The major research question is what is the extent of green product buying behaviour among UUM undergraduate students?

From the major research question, the following three questions have been formulated.

1. What are the problems of green product buying behaviour among UUM undergraduate students?
2. Is there a significant relationship between environmental awareness or concern and green product buying behaviour among UUM undergraduate students?
3. Is there a significant relationship between marketing effectiveness and green product buying behaviour among UUM undergraduate students?

1.4 Research Objective

The objectives of this study are to identify the extent of green product buying behaviour among UUM undergraduate students and understand the students' problems in buying green products. In addition, this study seeks to examine whether significant relationships exist between environmental awareness or concern and marketing

effectiveness on the green product buying behaviour among UUM undergraduate students. This study will add to the literature by providing insight on the extent of green buying behaviour among UUM undergraduate students.

Specifically, the objectives of this study are:

1. To identify the extent of green product buying behaviour among UUM undergraduate students.
2. To determine the problems facing by the UUM undergraduate students in green buying behaviour.
3. To determine whether a significant relationship exists between environmental awareness or concern and green product buying behaviour among UUM undergraduate students.
4. To determine whether a significant relationship exists between marketing effectiveness and green product buying behaviour among UUM undergraduate students.

1.5 Scope Of Study

This study contribution are as follows:

The scope of this study involves undergraduate students from the Universiti Utara Malaysia (UUM). Students are intended in this study because they are recognized as one of the key players responding to a green field in Malaysia. As a new study, implementation of green buying behaviour among university will act as the main contribution to the establishment of green or environmental study to Malaysia. Students respond to any new idea or implementation of the new strategy. This students mainly consist of undergraduate students whom studying on UUM main campus in Sintok. Thus, the undergraduate students of UUM are a unique group of subjects for this study. By given that, the students have to respond to questionnaire

which is divided into two major dimensions such as environmental awareness or concern and marketing effectiveness. In addition, this study will focus on the changes in green buying behaviour.

1.6 Significance Of Study

1.6.1 The Theory Of Reasoned Action

The theory of reasoned action (TRA) proposes that the engagement of a behaviour by an individual is driven through the immediate result of behavioural intention. This theory explained that an individual's actual behaviour is caused to an intentions, where the intention is a purpose or function of an individual's attitude and a subjective norm surrounding the actual performance of the behaviour (Ajzen & Fishbein, 1980) (refer Figure 1.1). Intention can be explained easily as the possibility of an actual behaviour. Another meaning explained that intentions are the perceived chance of performing the behaviour. In the TRA framework, attitudes defining as an individual's obvious positive or negative approach about performing specific behaviour. A person's attitude performing a behaviour is relying greatly on a function of his or her trust or confidence that performing the behaviour will lead to a particular outcome. An individual attitude will differ depending on his or her measurement of the possibility of a positive or negative outcome. In general, if a person has favourable attitudes toward a specific behaviour, they are a high probability to form positive intentions toward the matter. On the other hand, subjective norm is the individual perception of the view of others toward the practice of the behaviour. Subjective norm is a function of an individual's normative belief, which are the individual's perceptions of social pressures to perform or abstain from performing a behaviour. Normative values are influenced by the attendance of significant others and the individual's motivation (environmental awareness and marketing effectiveness) to

comply with the wishes of the significant others (Ajzen & Fishbein, 1980). Thus, if a person believes significant others want them to perform a behaviour and there is motivated to comply, it is predictable that a person will intend to perform the behaviour.

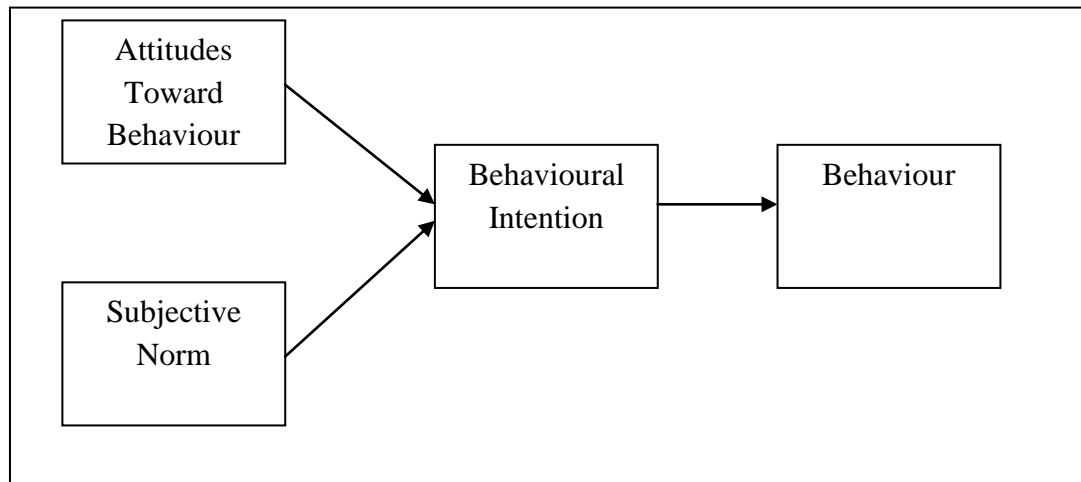


Figure 1.1

The Theory of Reasoned Action

Source: (Ajzen & Fishbein, 1980)

Based on the above definition and theory explanation, theory of reason action (TRA) can be generalized as an appropriate theory that can be emphasized by scholars whom intend to explore or study pertaining behavioural and intention. Tan and Lau (2011) also have similar opinion that TRA is an accurate and most popular theory to be emphasized for explaining the attitude behaviour relationship. According to the scholar, an attitude is a strong predictor of a behaviour, whereas general attitude explains the general trend engaged in relevant behaviours. However, the scholar stress that the more specific the attitude to be measured, the higher the significance or the strong correlation achieved with the behavioural action. In this study, TRA is an appropriate theory to organizations, peoples specifically students and marketers to

bringing awareness about environment and improving green marketing effectiveness to stimulate green product buying behaviour. According to Rahbar and Wahid (2010), TRA explains each individual behaviour is derived through the behavioural intention. Therefore, this study exposing new independent variables such as environmental awareness and marketing effectiveness which leads to individual intention as mediator and to the actual behaviour as the dependent variable.

1.6.2 Managerial Implication

The findings of this study are expected to contribute to the understanding among policy makers and students of higher education who has the potential to become a green customer. These will help them to develop plans and procedures in order to overcome any potential problems that could prevent environment and changing buying behaviour to purchase green products. By suggesting specific actions, it is expected to increase awareness among the individual which may ultimately simulate the green buying behaviour. Green product not only involves environmental protection but also gives a new hope to the healthy future generation life style. This study may offer a new approach towards green buying behaviour which helps to increase and improve the awareness about the green product among the students. This will place green product in a better position to compete in a much wider market.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Green management, green practice, green innovation, green living and even green technology are a common concept of living that practice in western countries. Western countries are more keen to fight for future generation healthy life. Green concept is a weapon that they and their earlier generation used to protect the environment for future generation. Sadly, the level of awareness specifically environmental awareness and concern is still low among Asian countries including Malaysia (Qader & Zainuddin, 2011; Rahim et al., 2012). The statement proven by Watson, Corbett, Boudreau, and Webster (2012) research identifying that currently Malaysia is generating main types of waste such as Gypsum, oil and hydrocarbon, dross, mineral sludge, heavy metal sludge, and e-waste. The quantity of waste produced by industries are as follows: electronic industry (21.6%), chemical industry (42.7%), metal industries (7.1%), pharmaceutical industries (2.9%), automotive industry/workshops (17.2%), and other industries. The quality of the environment and ecology in Malaysia is expected to worsen if the current trend of economic growth and negligent consumption pattern does not stop.

Awareness, concern and perception of an individual is an essential behaviour that may enhance intention to practice specific norm. Yet, these behavioural arrivals are too abstract to be measured. But, motivating factors can assist to increase the level of awareness to modify specific behaviour. Thus, green awareness or concern (Ishaswini & Datta, 2011; Rahim et al., 2012) and marketing effectiveness (Qader & Zainuddin, 2011; Rahbar & Wahid, 2011; Rahim et al., 2012) consider as a motivating factor in term of generating green purchasing behaviour.

2.2 Emerging Malaysian Consumer Trends

Basically, consumer trend depends influence by factors such as location, cost of expenses or living costs, consumers per capita, education level and also community cultures. Yet, location such as urban or rural and knowledge is common factors that attached to the environmental behaviour. Savita and Kumar (2010) has conducted research about comparing urban and rural consumer green buying behaviour. As a result, the scholar finding shows that urban people have a positive attitude toward the eco-friendly product. In addition their research indicates that urban people are more conscious about the ingredient and packaging of environmental-friendly product that they used due to knowledge enhancement of green product. Thus, education level is an essence that may produce environmental consciousness and awareness among people. Generally, environmental-friendly product begins to attract Malaysian consumers. Fundamentally, Malaysians purchasing behaviour has influence by level of education and awareness of the health issue. They are concerned about environmental issues such as pollution that affect human health. According to Consumer Appliances in Malaysia 2012), Malaysia aims to reduce carbon emission by 40% between 2009 to 2019. Thus, our government has control the manufacturer of a consumer product by enhancing green concept in their production supply chain. Therefore, the online database has forecast that the purchasing trends of Malaysian consumer will move into eco-friendly product. However, implementation of those concepts required an obvious support and cooperation from business organizations, government and NGO's.

Specifically, government as policy makers have a responsibility to create these green concept urgency not only among consumers but also among business organizations. Conversely, lack of authoritative power and inefficient procedures has

break the implementation of concepts such as going green. These create a negative perception about the information and need of adoption any environmental preservation measures among public. Thus, perception of public to local authorities need to be preserved to any possible new strategy implementation (Ahmad et al., 2012). Moreover, another factor that inclines to trend of Malaysian consumer is the age factor. Few studies have been conducted to identify the relationship between age factor and consumer buying behaviour. For instance, Braimah and Tweneboah (2011); Royne et al. (2011) and Tan and Yeap (2012) have investigated green customer profile and results indicate that younger individuals are more willing to money for eco-friendly product than elders. Above researchers found that older consumers are stereotypes and less knowledgeable. Furthermore, the findings indicate that adults have more knowledge through education about the green product which encourage them to purchase.

2.3 Green Products

Green products can be defined as a product that design or attributes use recycled content such as renewable, toxic free and environmental resources and which improve ecological impact or reduces ecological toxic spoil throughout its entire life cycle (Durif, Boivin, & Julien, 2010). In addition, Savita and Kumar (2010) define environmental product in a complex manner. They define a green product as any product that made, use and disposed that potential to reduce the harm of environment. Thus, green product can be defined as any apparals or products that does not harm the environment. Therefore, manufactures have to pay more attention in the production and manufacturing of these products to avoid any environmental circumstances. Enhancement of green concept as a differentiation strategy may add product value

and the effort may assist company sustainability as corporate social responsibility (CSR) activity (Kan, 2010; Siegel, 2009).

Apart from that, any concept implementation requires a control mechanism to monitor implementation of the concept to align with the objective has been targeted. Hence, as a new practice green concept required guidelines to ensure the implementation has been dominating the actual procedures. For instance, the restaurant business is one of the fastest growing business in Malaysia and they are actively implementing green practices. In order to ensure green concept implementation these restaurants are governed by Green Restaurant Association (GRA) using certain guidelines such as energy water conservation and efficiency, efficiency and conservation, purchasing sustainable, recycling and composting, pollution prevention, local, and organic foods, sustainable furnishings and building materials and use of non-toxic and chemical products (Tan & Yeap, 2012). Apart from that, green implementation probably incurred high cost of operation to be implemented. Thus, certain companies have added value to their products using adding these green concepts in their part of their company supply chain. According to Dharmadhikari (2012) green packaging is a form of eco-friendly product that adds value using specific materials such as biodegradable and compostable material that preserve nature.

2.4 Green Consumers in Malaysia

For the past years we are observing to faster economic growth through increasing number of customers consumption worldwide. These causes to the worsening situation of the environment through overspending or over consumption and utilization of natural resources. Recently, the environmental consequences and ecological issue have become a global issue and people are more concern from all

over the world. Malaysia government, NGO's and private institutions also preparing themselves to face the consequences. The local market for environmental product and services, which barely just exist a year ago and it has rapidly grown within a short duration (Rahbar & Wahid, 2010). Environmentally friendly products are a sort of awareness attitude that created among consumers or an individual concern for the environment. This green study or issue is new to Malaysia business organization, in term of literature Malaysia has exploring green product, environmental preservation assessment, green marketing, green consumers and also green technology (Mughtar, Kingshott, Wong, & Laksamana, 2012).

However, the costs incurred in applying green concepts to their product or services are still a major barrier to business institutions. Moreover, customer's ability and capability to purchase and emphasise green products and services in developing countries were question mark. Certain factors of influence purchasing behaviour of green products have been identified by certain scholar. Most of the scholars were using or adopting Theory of Reason Action (TRA) and Theory of Planned Behaviour (TPB) to bring intention to purchase green products and also change the intention to behaviour. This effort has created demands for green marketing concept to be applied in various fields. As a result, most of the western green marketing strategies are adopted by local companies. Yet, the increase of interest in preserving the environment is not same for the amount of attitude change, intention and behavioural among the ordinary people (Lin & Chang, 2012). This because the premium price that charge of the green product is does not align to the ordinary people earning in developing countries. Apart from that, other factors also influencing to these issues such as culture barriers. Individual behaviour can be controlled through the culture of the society. Certain society does not encourage organic food that prepares using

recycling method (Soyez, 2012). They have their own reason to avoid those preparations and they are controlled by regulation that followed through believe and norms. In contrast, consumers of countries that have high environmental issues may view the problem differently and they may vary in the have level of purchasing behaviour for consumers in less environmentally based countries.

In addition, environmentally friendly products and services, which are considered as products that can cause less harmful in western countries, are concerned as special products which the prices are charged higher than non-environmental products among Malaysian consumers. Therefore, factors influencing purchasing behaviour or decisions and change non-green user to green product users in western countries and Malaysian may not be same. As a consequence, we may observe that green marketing strategy that implemented western countries may not reliable to be applied here. These diffuse interests make it difficult for businesses holders to effectively improve and communicate their environmental strategies. Unfavourable consumer perception to green products and the high cost invested in developing for this green products may not utilize if the awareness failed to create (Soyez, 2012). As a result, it is vital to explore how consumers view the environmental issues, and how they behave, especially in their attitudes towards green products or environmental friendly products. According to the previous statistic record, Malaysians spend a high percentage of their household income on groceries, food and personal care items. Based on the "Consumer Appliances in Malaysia" 2012), Malaysians on average were spent MYR505 per month on groceries and food, with just under half of that on fruits, fresh food like meat, and vegetables. Therefore, the factors that use to determine and contribute to the green buying behaviour of Malaysian consumers would be precious to find out.

The world population has been increasing tremendously. Specifically developing countries' population higher than developed countries. This higher population may lead to the environmental issue due to the high product consumption. In specific, South East Asian countries usage of plastic is very high compared to western countries. Plastic has high potential to turn as consumption that may cause environmental problems. Moreover, recently the environment is endangered in a variety of ways such as increasing of global warming or temperatures, thinning or reduction in the ozone layer, drinking water shortage, loss of biodiversity and land deprivation (Malandrakis, Boyes, & Stanisstreet, 2011). Then, industrial waste from waste plant and organic sewage are the primary cost of pollution. The waste plant or Lynas project that builds in Pahang, Malaysia by Australian government also can cause environmental harm. Thus, Malaysia government had allocated places for building waste plant to keep the hazardous waste away from the residential areas. According to the agreement the plant only can build about 75,000 km away from the residential place (Budhiarta et al., 2012). In addition, air pollution is another environmental issue that frequently happened to Malaysia and government have spent so much of money to control the air pollution. For instance, (Shahnaei, 2012) added that heavy smokes from Indonesia and Japan has been spreading to certain nearest South East Asian countries. Malaysia is one of the country which is badly affected by air pollution due to the haze that produce by the smoke from Indonesia especially.

Subsequently, environmental problem or issue will be a challenge for youngsters and tomorrow's customers as well. Over the past few years, environmental issue classified as public issue that highlighted in many terms. Some scholar indicates as environmental revolution, the decade of the ecology or earth decade (Watson et al., 2012). Probably, the new concept is keen to adopt by business organizations. They are

driving profit through any new effort that introduce to public goodness. Usually, they are the pioneer that voluntarily adopt the concept of green marketing to show a high degree of social care and environmental concern to their customers. This strategy, encourage the customer to join with them to save the earth by showing their responsibility to the environment and also for future generation. A few well know franchise companies in Malaysia are actively implementing this green concept in their strategy to attract more customers. For instance, KFC, Mc Donald and Pizza Hut have implemented green concept in their business to maintain their standard of operation (SOP) and also as a CSR activities to unite the people in an event and providing promotional packages during that event . Apart from that, the leading company in the biscuit manufacturing industry has implemented a green concept to expand their business in China. Mr.Tan the CEO of the company had admitted that the green concept that implemented by the company had attracted China market which more aware and concern for the environment due to the high population (Tan & Lau, 2011).

Asian countries are facing huge economic expansion that achieves so much success. Asia now moves forward with economic development, yet some obstacle met by the countries as moving to change their identity ad developed countries. As they develop industrial production leads to environmental problem due to increasing smoke and waste and also a huge amount of garbage produced due to increasing demand for production. Thus, Asian cities are close to health risk. In line with that, Malaysia is an upper middle income country and the development that the country achieved an impressive by other developing countries. All sectors of involve in the country's economy are recorder to enjoy growth, with the production, manufacturing and services sectors leading the way. Malaysian NGO's and profit based business

organizations on predicting that the Malaysian economy will grow at a brisk pace in near future.

However, based on these developments green concepts is impossible to be originating from local industry because foreign industries have more environmentally conscious due to increasing export market demand for ecological product. Few studies has been done regarding to behavioural change of local consumers toward the use of eco-label in purchase decisions. However, the pollution range in Kuala Lumpur, Malaysia, is worsening, at the same time the growing economic condition leads to more people move to Malaysia. Increasing usage and number of vehicles in Kuala Lumpur leads to an increased amount of air pollution.

As a solution for the environmental harm, the arrival of awareness and concern among Malaysians can be divided into two. First, Malaysia as a developing country required more money to be invested in profitable business rather than spending so much to preservation. Thus, the money they invest in the production would be increased and the country gross profit would reach to the impressive level. Second, Malaysia has to propose and implement an environmental impact assessment (EIA) to ensure that the project will not damage the environment (Malandrakis, Boyesz, & Stanisstreetz, 2011).

Finally, solving environmental issue or problems through introducing green product consumption is a new innovation in Malaysia. Nevertheless, information and knowledge about green product is a compulsory requirement that consumers need to access in order to create the intention of buying green products. However, intention is not enough for solving the environmental problem. The issue only can be solved if there is a change in purchasing or buying behaviour. This buying behaviour has potential to create through effective marketing method.

2.5 Background of Green In Malaysia

The idea of green in Malaysia might be rooted in the making of a minimum impact on environmental changes, especially climate changes. Environmental changes started with the beginning of the Industrial Revolution which has predictably resulted in global warming. As a response to this environmental change, developed countries have considered the seriousness of climate changes and have established environmental regulations. Thus, developing countries such as Malaysia has started to react positively for any environmental preservation programmes that organized by local and foreign activist and also the authorities. As a consequence, Green Building Index (GBI) has launched In 2009 (Budhiarta et al., 2012). Although the country's green building industry is still in an early stage of development, many organizations, activist and authorities in the country's real estate sectors are starting to recognise that they have a responsibility to adopt sustainable building practices and related technologies in order to play a proactive role in climate change improvement. In addition, global warming has become focused environmental issue that has potential to cause environmental disaster. Budin et al. (2012) states that in 1997 the Kyoto Protocol, a binding greenhouse gasses (GHG) reduction plan, was adopted, and in 2005 it was implemented. This effort was creating environmental consciousness among all countries over the world. The entire plan is creating awareness about the need to preserve the environment. This cause many countries agreed to this five percent global joint GHG reduction plan. According to the plan, the reduction of hydrofluorocarbons (HFCs), carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), sulphur hexafluoride (SF₆) and perfluorocarbons (PFCs) are to be regulated globally (Lo & Yap, 2011).

In line with that Malaysia government has intended to engage themselves with other countries which preparing for any natural disaster. Thus, Goal 7 vide has been enhance by the country by introducing various various green initiatives. This initiative is designed to create changes in the green efforts and encourage the residents to aware themselves about the importance of ecological preservation for future generation. As a result, in April 2009, a new Ministry was established, the Ministry of Energy, Green Technology and Water. The ministry primary objective is to promote high impact research and development of green technologies in Malaysia. The National Green Technology Policy is centred on four areas of concern viz Energy, Environment, Economy and the Social Aspects. It allows us to surf on it rather than overwhelmed by it. Apart from that, other initiatives to support of green industries are such as Second Capital Market Master Plan (CMP2), Green Building Index (GBI), Green Technology Financing Scheme (GTFS), Pioneer Status and Investment Tax Allowance for EE, RE, Waste Recycling Projects under MIDA and FiT (Fit-in Tariff) under Renewable Energy Act (Rahbar & Wahid, 2010).

On the other had, green technology also has covers variety of technologies by extracting the natural resources to reduce the waste that we produced. Most of the green technology application would include green packaging, green procurement, zero waste policy, green production, and many more. In essence, green technology is interrelated and prevails in every aspect of our daily life and behaviour. There should be a clear policy and legislation to support Green Technology. Malaysia has launched its Green Technology Policy but there is no legislation backing it. The Green Technology sector is expected to play a major directing and implementation role to move the Malaysian Green Agenda. We need strong legislation to push for 'green labeling' or Eco Label. This can be done through the Life Cycle Assessment (LCA)

process (Saleki & Seyedsaleki, 2012). Both Eco Label and LCA are expressions of the ISO 14000 series. Only through valid labeling and data sharing, can we determine the environmental impact caused by manufacturing processes, products or services rendered. But, if the government just continues to focus on attracting Foreign Direct Investment (FDI), Malaysia will develop into a hub of manufacturing and we will not be able to be 'green' (Savita & Kumar, 2010). Changing behaviour and putting into place sound green technologies takes time and needs to be developed as organically as possible.

Apart from that, green computing is a general term describing a facet of computing that is interested in improving energy efficiency and reducing waste in the full life cycle of computing equipment. The computing life cycle includes the energy consumed to create computing equipment, get the computing equipment to a consumer, energy used to run and maintain the computing equipment and recycling of computing equipment at the end of their life cycle. Computing equipment can range from desktop personal computers, laptops, servers, networking equipment, cabling, and more. Green computing is an important realm of the computing sciences because of the significant demand computing requires of resources from the environment. Green computing generally relates to the use of computing resources in conjunction with minimising environmental impact, maximizing the economic viability and ensuring social duties. It refers to supporting critical business computing needs with the least possible amount of power or sustainable computing (Ahmad et al., 2012). The computing life cycle includes pollution in the form of carbon dioxide, lead and other toxic materials. The carbon dioxide pollution occurs at power plants where electricity is generated to power computers. Attention to green computing is growing rapidly especially given its importance in playing key roles in modern IT

infrastructure, not only in environmental organisations, but also affecting every aspect of life including services related to health, banking, commerce, defence, education and entertainment. Green computing is very much related to other similar movements like reducing the use of environmentally hazardous materials like Chlorofluorocarbons (CFCs), promoting the use of recyclable materials, minimizing the use of non-biodegradable components, and encouraging the use of sustainable resources (Bergeson, 2011).

Finally, green tourism is indeed the fastest growing sub-sector of the tourism industry. Similarly, eco-tourism is becoming the fastest growing form of tourism in Malaysia. Consequently, eco-tourism has had serious impacts on the expropriation of virgin territories which include wildlife parks, national parks or other wilderness areas. Development of megaresorts, hotels, condominiums, shopping malls and golf courses in natural areas in the name of green tourism or eco-tourism to attract mass tourists (Dharmadhikari, 2012). Malaysia is blessed with breathtaking islands along with white sandy beaches and clear waters, which generate significant tourism receipts for the nation. Tourism growth in Malaysia has been assisted, to an extent, by the abundant and rich coral reefs and shallow tropical marine resources in this region. Recently, the impact of exceeding carrying capacity was seen in some of the major dive sites in the country. The closure of nine dive sites on the tropical islands of Tioman and Redang until the end of October was indeed a wake-up call for all stakeholders to play their part in an attempt to relieve stress on the fragile marine ecosystems. These popular dive sites in the South China Sea were hit by coral bleaching blamed on global warming. The closure would give the coral a chance to regenerate and remove stress caused by tourism-related activities such as scuba diving and snorkeling. Hence, if these dive sites are not serious in enforcing carrying

capacity, Malaysia may lose that part of Mother Nature that attracted many eco-tourists to our top diving sites of the world. Reports from EcoMalaysia further highlight that although Malaysia has a wide (proboscis monkeys and wildlife), Pulau Redang in Terengganu (fish, coral reefs and an attractive marine environment), Pulau Sipadan in Sabah (fish, coral reefs and an attractive marine environment), and many others (Lo & Yap, 2011). One of the best eco-tourism practices have been displayed in the Matang Mangroves Forest in Perak (Qader & Zainuddin, 2011). However, there is still lack of best eco-tourism practices displayed in many of the marine parks in Malaysia.

Globally, growing environmental concerns and climate changes have accelerated green consumerism and marketers concerns for environmental responsibility. Therefore, the Malaysian government and consumers have increasingly effort in a green field.

2.6 Green Buying Decision Making

The decision making of a purchasing pro environmental product was depends to the individual personal characteristics and capability as well. Factor influencing this green purchasing behaviour has been influence of individual factors. For instance, a person's financial position, environmental awareness and concern, cultures and peer group practice has potential for deriving this decision to be taken. In line with this, our major goal in this study is to develop an understanding of consumers green purchasing decision making behaviour in the environmentally friendly marketplace. Even though the collective style of buying behaviour may lead to the most valuable firms and managers to guess rising understanding of the decision making process and the individual differences that influence process is beneficial manner to academician too. Yet, personal characters may vary compared to others due to the differences in

factors such as values, attitudes, heuristics and subjective norms. This comparative difference will influence the probability of a person will make changes in environmentally friendly product purchase behaviour decisions in the consumer market. A review of the customer decision making study that conducted by Pallant (2011) has highlighted that to reveal the need to in order to specifically identify the unique and complex conditions represented by the ecologically friendly market.

Furthermore, the sequences that followed to process a consumer decision making has been researched for decades ago. Some scholars have found that some individual is facing difficulties in making a good decision regarding social welfare and need (Muchtar et al., 2012). However, there also some people whom more favourable to any new effort has been emphasized for social goodness. Researchers have identified that individual consumers decision making is most likely based on the value maximizing decision, rational and has cumulative advantage.

However, the literature added that consumers are incurred by few limitations. They are controlled by ability the amount of time they can spend to considering certain goods and services, to process possible information regarding the new product introduced in the marketplace, the financial limitation due to avoid overspending, limited emotional capacity and perceptual limits (Qader & Zainuddin, 2011). These limits are the part of factor influences in the purchasing decisions that had made by consumers in daily routine.

Probably, environmentally friendly products have their range. This product can be divided into low involvement to very high. This level of product has their own premium price and group of consumers according to the level of awareness. Thus, it is difficult to apply one general notion of 'involvement' to the entire ecological product market. As an alternative, this study investigates the probability exists of an

underlying value relevant factor to ensuring that the majority of consumers purchase decisions considering that value make. That value here is defined as consumer pro environmental characteristics, or level of environmental consumer whom brings the appropriate purchase decision. This value, combined with other factors is measured through evaluating demographic variables, and other individual-related factors such as environmental awareness or concern and marketing effectiveness. Thus, this research has highlighted a tool to measure these values is an important addition that added to ensuring the literature will assist better understand to the consumption decisions of an increasingly large market. Particularly, the field of consumer decision making is relatively huge to be researched. However, only a small number of studies have been conducted among the socially conscious consumer. Yet, obviously much research has been published on general decision making behaviour and consumer choice. Many favourable contributions from that stream of research are directly applicable to the questions this research asks about environmentally conscious consumers. Few of very common assumptions such as Qader and Zainuddin (2011) discussing that consumer choice is intrinsically constructive will be used as this research determining a high involvement of product purchase decision, which has tended to be a constructive process as described by the authors. In addition, another study investigated the attributes influencing the choice process itself. Budhiarta et al. (2012) has suggested customers decision or choices are implicit and difficult to identify. They are changing according to their mindset at that specific event or position. But, they have their special reasons for reacting so. Yet, Budhiarta et al. (2012) divide the consumer choice process into few components such as task, individual difference, and task x individual difference interactions.

On the other hand, other research in the field of decision making determines associated factors influencing choices. Tan (2011) studied about the configuration of reference about buying decision. The scholar recognizes that fashion and current trend had influenced consumers buying behaviour or decision. In addition Watson et al. (2012) identified that the scale of framing effects pointed after actual product were introduced. The authors study reflects that identification of specific product purchasing decision is relying on the information that they received about the product manufacturing process. In the meantime, they're also highlight about the green technology. This technology topic is prominent among companies which intend to implement those technologies to reducing cost and increase their social marketing skills. The author identified that there is a significant impact on the purchasing decision and environmentally friendly technology. Overall the, green buying decision making is varied based on the situation.

2.7 Marketing Effectiveness

Marketing strategy is an effective way of delivering messages and product in a strategic manner. Conventional marketing mix strategies 4Ps (product, price, place and promotion) are a prominent way that can be emphasized by any new product establishment in emerging markets. The same method possibly can apply in the green marketing area. In particular new product development, marketers should provide information on the green consumptions issue and green product aspects such as bio-chemicals, energy saving, organic, etc to provide the needs of consumers who prefer an environmentally friendly product. Hyun (2012) adds to the above matter by indicating that information is an important measure that can be implemented to promoting a new product in market places and it also has potential to affect behavioural intention. In his study the scholars added that in term of green marketing

information is necessary to protecting the environment, saving resources and acquiring awareness and concern to the customers. On the other point of view, the author pointing that pricing charge for plastic usage during shopping may reduce the heavy plastic consumption produce by the customers. This directly able to reducing the usage of plastic bags and start using paper as grocery bags or other environmentally friendly material bags. Apart from that building warehouses near to production plants may help reduce transportation emissions. Furthermore, Aman et al. (2012) adds the green promotions involves configuring of the tools or method of promotion, such as publicity, advertising, presentations and marketing materials with keeping the environment and human safe in the earth. Thus, in order to attract more consumers, product packaging and material used for packaging should be environmentally friendly alert the consumers by increasing their level of concern and awareness towards the environment. Regarding the green effort, certain marketers are practicing and implementing eco-label system on their product as their concerto the environment. Budin et al. (2012) argues that environmental concern is materialized through the application of viral marketing and corporate social responsibility (CSR). For instance, exhibitions, seminars, or other green related proceedings can create changes in buying behaviour of green product among customers. The government is also introducing certain programmes through their strategic planning team to avoid environmental consequences in future. Thus, an ongoing awareness campaign that introduces by the government is on Saturday, Sunday and Monday as “no plastic bags days”. It is a guideline for business institution and the marketers to imitate those types of campaign by to their own business to encouraging green product attendance in the market.

Generally, the green marketing concept believes through trust emphasis by increasing knowledge about green concept. According to Rahbar and Wahid (2011), environmental advertisement is a form of knowledge about green products. Thus, the author recommends that green marketers and manufacturers has to pay particular attention in designing and promoting eco-branded product. In line with that, Rahim et al. (2012) emphasizes certain effective guideline to modify green advertisement in term of message delivery and creativity that can use to attract people's attention. The author elaborates that the message delivers should blend with good headlines and easy understanding of meaning. For instance, celebrities can use to be somewhat whom effectual in the creativity or design of the potential advertisement. The advertisement exudes a comical or humour also can switch to green living concept. However, Qader and Zainuddin (2011) claim that the level of exposure to environmental issue is still low due to different types of media that does not really prompt bring environmental updates. Furthermore, the author highlight that educator as motivators to the society are more concern to overseas news rather than local news that emphasize environmental issue.

However, implementation of accurate marketing strategy becomes a major constraint in establishment of green marketing. Therefore, the eco-product advertisement required new strategy which implementing and differentiating marketing elements from other consumer product. A survey about personal marketing has been conducted by Hyun (2012) and the finding indicated that 67 percentage of the respondents do not notice any eco-marketing as more effective. Thus, the scholar suggests that eco-marketing should design to attract customers who are sceptical of marketing. Marketing methods should postulate the differentiation in the product features and delivering accurate messages once they hold the product. In addition, the

name of the product has to represent the image of eco-friendly apparels. This may cause the environmental issue that highlighted with the name of product can impact the purchasing decision of 1 out of 2 consumers who familiar with green marketing issue (Braimah & Tweneboah, 2011).

Yet, the green marketing effectiveness in Asian countries has not materialized without government support (Kan, 2010). Government as a leading body has authority to monitor and control any new products promoted in the marketplace. For instance, the government probably request reliable information such as data on the nutritional value of food products and extend of chemical usage details. This product details contain environmental calculation so consumers are exposed to green consumption of the product that they decided to purchase. This is a form of healthy promotion that encourage by government (Lin & Chang, 2012; Watson et al., 2012). Hence, Malaysia government has assigned a body to monitor and ensure that product are labelled with appropriate information as consumer reference. Standards and Industrial Research Institute of Malaysia (SIRIM) has launched eco-labelling scheme to encourage consumer aware and change their purchase behaviour by purchasing green products. This organization was hardly intended to minimize the effect of individual consumption through eco-labelling. This scheme offered in four categories of product such as non-toxic plastic packaging material, recycled paper and hazardous metal-free electrical, electronic equipment, and biodegradable cleaning agents (Tan, 2011). Furthermore, environmental issues such as long life, degradability or decomposability, reusability, recyclability, refill ability, high quality in terms of its green performance, and energy saving using recycled or reused materials has been noted as a reminder in eco-labelling for consumer to reduce their individual consumption ("Product data display in the Eco-product Directory 2008," 2008).

Apart from that, another term that frequently used to alert the users about the green product is “sustainable”, “natural” and “organic” (Bergeson, 2011). Another marketing techniques that were newly introduced by most of the western countries were branding. Branding is a precious tool that used to manipulating or forming an attitudes. Currently, brands are effective because they have a cause on the affected areas such as rational reasons that can influence a person's attitude. Therefore, brands are reacting as measures to shift consumer attitudes to more environmentally friendly behaviour (Pickett-Baker & Ozaki, 2008).

Another element that brings awareness to the consumer through marketing tools is green brand. Although the green brand is a trend in modern business, certain developing countries such as Malaysia is still lacking in the implementation. Demand for green brand in the worldwide also not high as expected. Thus, Braimah and Tweneboah (2011) has blame that the green brand awareness is low in Ghana due to higher product price rather than concern for the environment. The scholar claims that the country entrepreneur and business owner use green products for marketing purposes rather than developing awareness among the society. Maybe they can use green marketing as their corporate social responsibility (CSR) activity to ensure that they reach their financial goal by not neglecting their social responsibility to protect the environment.

Although, multiple strategy was recommended to change the consumer green buying behaviour, channels of communication play vital role to ensure that the information and messages are reaching to the customer for considering this eco-friendly product. Nowadays, technology advance has create medium to easily connect to the customers by sharing information. Specifically media such as Facebook, Twitter and YouTube extensively used by individual persons to seeking information

especially current issue. They also use this channel to discuss and comment on that issue. For instance environmental preservation initiative activities such as Earth Hour have used social media for sharing the campaign objective and goal (Ahmad et al., 2012). Therefore, it is recommended to use those social media for marketing green product to easily attract customers especially youth attention whom has high purchasing power. The same study was conducted by Budin et al. (2012) to identify appropriate channel of communication to share information about recycling among students and the author found that electronic media including social media become an obvious medium to share information. However, another element that influence the social media messages also has to observe closely by the marketers to avoid social and financial risk. Generally, green customers are aware of their surrounding issues. They are investigating for their product that become their choices of uses. Thus, word of mouth as a communication tool can influence these green customers. Dagher and Itani (2012) study tells word of mouth is has potential to increase the green purchasing behaviour. This communication tool is a way of shaping social influences.

Meantime Bryman and Bell (2003) intent to study the small and medium enterprises (SME's) adoption to the green concept. The author found that large organization are profit oriented they always neglecting social welfare to become leading in the market place. Probably, this irresponsible organization directly or indirectly becomes cause for the global warming, pollution, waste consumption and etc. Thus, green marketing informing the customer to select an organization that proceeding business activities that are preserving the environment. Saleki and Seyedsaleki (2012) adds green marketing aligning business strategy and policy. Green marketing is creating intention to the consumers to purchase the product and at the

same times pay a higher price for preserving the environment and saving the future generations.

2.8 Environmental Awareness Or Concern

Green awareness or concern constructs through knowledge regarding the green concept. The knowledge about the importance of adoption and implementation is a fundamental need to bring awareness of buying eco-friendly product. Awareness and understanding are related each other. Awareness builds from the deep understanding of a concept. Knowledge pertaining specific concept guide and individual to understand about information that carried by a concept. Therefore, an individual would understand and aware a concept through knowledge pertaining related area (Ahmad et al., 2012). Hence, awareness and concern define that having knowledge of being conscious of the specific situation, practice and concept. Basically, human realize the need to protect the environment. Yet, the amount of effort required to tackle environmental problems differ between individual due to different levels of awareness and concern. In line with this, Kainth (2009) elaborate that improve the environment will improve our quality of life. Thus, environmental awareness and concern is a tool assisting social group and individuals to acquire an awareness and sensitivity about environmental problems. In line with that the most important fact is a healthier community life style begin with environmental concern and adoption of eco-friendly behaviour. This will ensure that current and future generation enjoy quality of life (Royne et al., 2011).

The growing concern and awareness of green product depends on product effectiveness. Probably, the usage pattern of green customer varies on the obvious result that they obtain through usage of that specific green product. Thus, green product has to attract customer positive perception of those products. Hence, perceive

the effectiveness of green product improve by credible endorsement and discrepancy of green and regular product usage (Lin & Chang, 2012). In addition, Rahbar and Wahid (2010) added if consumers have previous knowledge that the goods are prepared and produced in an environmental-friendly manner, they are more keen to the purchase the product compare to those has lack of knowledge regarding the pertaining environmental matters. In spite of the form of previous knowledge possessed, pollution is expected as long as consumers believes and consume by changing patterns of buying behaviour due to dangers caused by waste consumption that can cause to environmental pollution. Individual awareness levels may increase if a customer becomes knowledgeable had previous knowledge about the environment and the causes and impact of pollution. The knowledge may encourage individuality to react favourable to toward green products by changing their buying behaviour.

On the other hand, few literature has found about the description of demographic detail of the customer whom aware and concern about environmental issues. According Savita and Kumar (2010), female, urban people and youngsters are more concern and aware rather than male, rural society and old generation. The scholar elaborate that involvement of female in environmental attitude and programmes are more incredible. They are more concerned and aware of after use features of eco-friendly product by disposing the product according to the appropriate manner that may reduce environmentally harmful. However, the author has discussed that the urban and rural people has differed in the adoption of a green attitude due to lack of environmental knowledge. The finding shows that urban people more favourable towards raw material, packaging and after use features of green product rather than rural counterparts. Rural people have limited knowledge about the importance of adoption of green product. Probably, the reason would be the variation

in disposable income that they use for their expenses. Particularly rural people are depending to agricultural activities that low in return. Thus, they have very little income to spend for buying those green products that slightly higher price than common consumer product (Ishaswini & Datta, 2011).

In order to ensure customers are aware of the green product, Malaysia government has to take the initiative to implement various green policies and regulations. Although certain authors claim that initially government is lacking in the implementation of environmental concern, Ahmad et al. (2012) has elaborated that government cooperate with foreign countries to establish this green concept in Malaysia. Especially, social media technology enhances by government to bring awareness about this green issue. This method assists issue of the environment being globalise and concern about the issue has easily developed. On the other hand, subsidiaries are a tool that government can utilize to increase awareness about the need of green product. Royne et al. (2011) has indicated that increasing government subsidies for companies manufacturing environmental friendly product would reduce the cost. This can encourage the manufacturer to involve in those green businesses and increase green product in the marketplace. In order to attract customers, the companies would efficiently initiate to marketing these products to bring awareness and increase their sales. In addition green marketing and green brand awareness would affect the customers buying behaviour (Brimah & Tweneboah, 2011).

Another social body that has responsibility to create awareness and concern among society about eco-friendly product is non-governmental organization (NGO). NGOs is driving force that enhances green consumerism. China as high population country has recognized NGOs to raise public awareness of environmental issue. Furthermore, the county government allowed NGOs to act as watchdog to alert public

about environmental issues (Kan, 2010). Although awareness and concern were created to motivate buying green products, level of acceptance those issues are depends to the individual. For instance, a survey conducted among Univeristi Malaysia Sabah (UMS) students about the recycling programme detail show that the students do not take any initiative to understand the programme (Budin et al., 2012).

2.9 Buying Behaviour

Behaviour defines as human characteristic that postulated their attitudes and practices. For instance, pro-environmental behaviour describe that they are responsible for avoiding environmental harm by any attitude and practices such as once a product is bought he or she understand that it become useless and need to be discarded. Pro-environmental behaviour consumer would ensure that the product safely discard so that it does not have any adverse impact on the environment. There are individual whom very conscious about the features of the product to avoid environmentally harmful. For instance, these people will even ensure that the product package they bought is easily recyclable and reusable (Savita & Kumar, 2010). According to Rahbar and Wahid (2010) green purchasing or buying behaviour is a form of act purchasing product that does not harm the environment and also beneficial for the customers. This behaviour has classified as matured customer behaviour whom has environmental and behavioural knowledge by expressing their concern as well. These customers have more social responsibility compare to ordinary consumers reluctant regarding any environmental issues. They practice green purchase behaviour to avoid negative environmental impacts and they involve actively to any efforts regarding protecting natural resources. A high degree of environmental awareness and concern leads to pro-environmental behaviours. However, premium or higher price of green products and lack of product substitutes or green product are the major reasons

for adverse consumer purchase behaviour. Thus, Pickett-Baker and Ozaki (2008) decide that pro environmental behaviour leads by pro environmental values.

In line with that, buying behaviour defines as purchasing attitude or disciplinary that consider the effect to the environment. Probably individual whom conscious about health advantages will engage in such behaviour (Royne et al., 2011). This individual understands that how the environment and health are intertwined. However, Tan (2011) survey found that nature and motivation for buying behaviour of green product are diverse compared to general purchase related behaviour. The intention and motivation of buying green apparel beginning from the manufacturer whom decide on the feasibility of entering operation in the green market. Basically, these manufactures required guidelines on how to position this product to attract the target market in order to satisfy the customers. Hence, behavioural changes noticeable when advertisement messages convincing to stimulate green purchase action. The fear arise such as danger and the threat of environmental worsening on health and perceived knowledge on environmental issues that individual has in solving environmental problem effective in promoting favourable attitude and sustainable behaviour.

Green buying behaviour would be generalize if there is increasing number of customers use green products. Generally, consumers will react to the level of awareness and exposure that they have in a specific product. Thus, this green concept has to establish until the targeted customers for green product include with mass consumers whom has more purchasing power. However, the question mark is how to attract this mass customer to purchase green products. Hyun (2012) suggest that in order to improve numbers of customers, the effort must be multiplied to improve product features such as quality, price and environmental friendliness. Another reason

that become obstacles to purchase green product is very few retain customers were found for these eco-friendly product. Lin and Chang (2012) reviewed customers whom more environmentally conscious tend to use more eco-friendly product in single selection rather than customers less in environmental awareness. Thus, the author explains that individual perception and differences influence customer behaviour. Therefore, programmes and initiatives that strengthening customers' knowledge is a prominent way to build believe among consumers to react positively to the environment (Royne et al., 2011). In addition, companies also play an important role to educate the customer regarding procedures use the product so that possible negative impact on environment easily reduced. The company owners also should aware about the potential environmental harm that cause by their product and as a precaution it is the companies' responsibility to alert the customer about the appropriate procedure to use and dispose manner (Budhiarta et al., 2012).

Price factor creates another boundary to customers for purchase green product (Brimah & Tweneboah, 2011). There is a general view that environmentally sustainable product needs more cost to produce those products. During recession time customer tends to be bought general product rather than green product which high in price. This is due to high cost of manufacturing that incurred with producing of eco-friendly products (Kan, 2010). Initially, eco-friendly product more costly to the manufacturers due to less in demand and use of high technology to producing of green product. Thus, many manufacturers required by the government to comply with certain guidelines in manufacturing environmental friendly product (Royne et al., 2011). Therefore, Associate Director of Panasonic Malaysia Cheng Chee Chung suggest that in order to drop the price of green product gradually, demand of the

product need to increase and this is form of solution to bring changes in customers buying behaviour ("Consumer Appliances in Malaysia," 2012).

In regards to this study, it is important to view the buying behaviour of students in the university which also become the sample for our study. Nameghi and Shadi (2013) has conducted as green buying behaviour research among university students. The authors found that attitude is a significant predictor of green buying behaviour among their sample of university students. They argued that the consumer behaviour are depend on the level of education because these educate customers has an attitude and willingness to practicing green product due to their knowledge enhancement. The government has played a vital role to encourage those students to practicing this green attitude. Although through the scholars observation, they have failed to find any infrastructures in public universities unless recycle bins to encourage the students to participating in this green effort. In addition, there is also proposed from the education ministry to add environmental education in their syllabus. Thus, the study proposed that the university can become a medium to disseminate a green buying practicing culture to the students and this is a indirect way that may used to reach the matter to the society. Tan and Lau (2011) been conducting a green buying behaviour study among private university students. The studies had sampling 220 undergraduate students from private universities in Malaysia. The study results indicated that consumers green purchase attitude of the students and green purchase behaviour are significant. The students green purchase attitude measuring through specific attitude towards the environmental behaviour. This means the respondents who engaged themselves in purchasing environmentally friendly products because they are assuming that their actions purchasing green products able to help minimise the environment harm. This point also supported by

Paul and Rana (2012) by describing the educated consumers are tend to buy green product such as organic food.

2.10 Intention

A measure of intention, however, will only be an accurate interpreter of behaviour if there is a large degree of association between the measure of intention and the behavioural criterion, and if the intention leftovers stable over time. According to the theory, four elements, consisting of achievement, target object, circumstance, and time period, must be addressed to ensure that the intentional measurement corresponds to the behavioural criterion. There is a correspondence between intention and behaviour, when these elements are indistinguishable and coordinated for the intention as well as the behaviour (Rahim et al., 2012).

An intention measurement that does not specify all four elements might guide to the conclusion that there is a low correlation between intention and behaviour. Concerning time period, Ajzen and Fishbein (1980) recommends a short time gap between the time a measure of intention is taken and the time the behaviour is observed. The longer the interval is the greater the probability that circumstances will occur which result in changes in intention. In other words. a longer period of time would tend to have a harmful impact on the precision of the behavioural prediction. For instance, a person's original intention to purchase a new car may change due to a job loss. In turn. a person's initial intention not to purchase a new car may change as a result of an unanticipated pay raise, promotion, or winning a big lottery prize.

However, a major distinction predicting between a single sample individual behaviour and a large sample of people's behaviour through behavioural intention is the stability and consistency. Ajzen and Fishbein (1980) report that using intention to predict a large sample of people's behaviour tends to be more stable over time because

idiosyncratic events are likely to balance out at the aggregate level. By using a longer time period, predictions are more likely to be used to forecast or project behavioural trends in large segments of the population.

2.11 Theoretical Framework

Studies on green buying behaviour among students were developed based on a Theory of Reasoned Action (TRA) Ajzen and Fishbein (1980) and constructs. The theoretical framework for this research was developed based on the Theory of Action (TRA) model and the variables derived through the extant literature in the area of green purchase intention and behaviour. The independent variable influence green purchase intention may vary between the study. However, these specific variable are selected from extant literature in the area of green purchasing. In specifically, this study adapts TRA theory to investigate the extent of green buying behaviour among UUM undergraduate students. Bryman and Bell (2003) mentioned that many studies have used the Theory of Reasoned Action (TRA) to investigate factors affecting green buying behaviour and buying intention. Figure 2.1 shows framework identifies two individual dimensions that may influence green buying behaviour; environmental concern or awareness and marketing effectiveness.

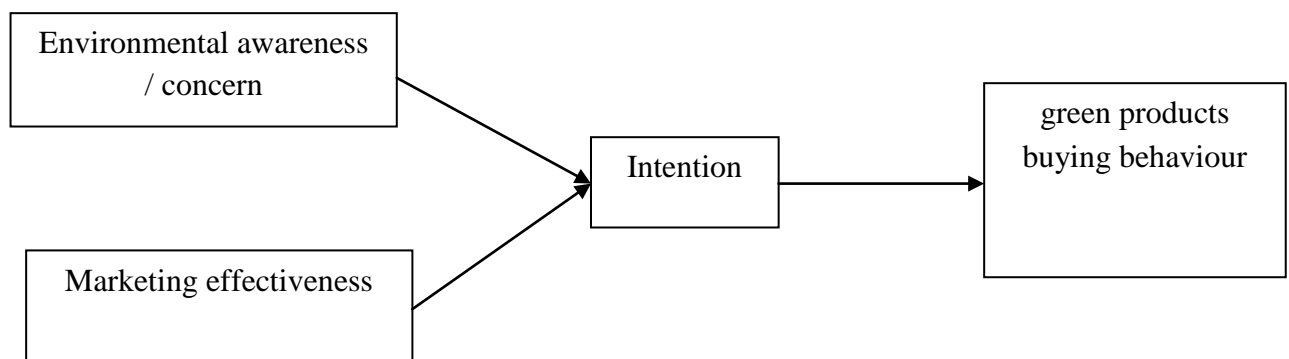


Figure 2.1

Green buying behaviour framework

There were other study also have using same theory to determine green intention and green buying behaviour. Saleki and Seyedsaleki (2012) has conduct a study using TRA theory to identify the factor influencing purchase behaviour of organic products in Malaysia. Rahbar and Wahid (2010) testified the green consumers attitude towards environmental protection and knowledge of environmental issue affect actual purchasing behaviour. Mei, Ling, and Piew (2012) were used TRA theory to determine the factors influences the green purchase intention among Malaysian customers. The survey was conducted among activist group of NGO and the result found that all the variable derive through the TRA theory were showing significantly create intention to buying green product. Lee, Ling, Yeow, and Hasan (2012) study has used TRA to determine to identify factors influencing green product purchase behaviour in Malaysia contest. The author had select respondent from two major cities of Malaysia. The study proposed that pro environmental behaviour is most significant factor that influencing green buying behaviour among Malaysian residents. Dagher and Itani (2012) select three factors such as social influence, environmental attitude, and environmental concern to recognize those factors affect to the environmentally friendly product and also purchasing behaviour. A significant result was found between social influence, environmental concern and green buying behaviour.

The growing concern and awareness of green product depends on product effectiveness. Probably, the usage pattern of green customer varies on the obvious result that they obtain through usage of that specific green product. Thus, green product has to attract customer positive perception of those products. Hence, perceive the effectiveness of green product improve by credible endorsement and discrepancy of green and regular product usage (Lin & Chang, 2012). Thus, the following

hypothesis has been develop to test level of environment awareness or concern that may change green buying behaviour among UUM students.

H1: There is a positive relationship between environmental awareness and green product buying behaviour.

Although, multiple strategy was recommended to change the consumer green buying behaviour, channels of communication play vital role to ensure that the information and messages are reaching to the customer for considering this eco-friendly product. Nowadays, technology advance has create medium to easily connect to the customers by sharing information. Specifically media such as Facebook, Twitter and YouTube extensively used by individual persons to seeking information especially current issue. They also use this channel to discuss and comment on that issue. For instance environmental activities such as Earth Hour have used social media for sharing the campaign objective and goal (Ahmad et al., 2012). Therefore, following hypothesis was developed to test the influence of green marketing to create green buying behaviour among Um students.

H2: There is a positive relationship between marketing effectiveness and green product buying behaviour.

Ajzen and Fishbein (1980) added that using intention to predict a large sample of people's behaviour tends to be more stable over time because characteristic events are likely to balance out at the collective level. By using a longer period of time, predictions are more likely to be used to forecast or to project behavioural trends in large segments of the population. Thus, following hypothesis test the influence of intention that created using environmental awareness and marketing effectiveness that potentially influence UUM undergraduate students green buying behaviour.

H3: There is a mediating effect of intention on the relationship between environmental effectiveness and green product buying behaviour.

H4: There is a mediating effect of intention on the relationship between marketing effectiveness and green product buying behaviour.

H5: There is a relationship between intention and green buying behaviour.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter briefing about the contexts and factors that could help to answer the research questions and clarify the understanding and awareness of the participants towards the subject of study in question. The research framework for this study draws heavily using the Theory of Reason Action. The theory includes dimensions such as; the environmental awareness and concern, marketing effectiveness, intention and the buying behaviour. This study included two independent variables, one mediator, and one dependant variable.

3.2 Research Design

The research design used for this research is a quantitative study approach and using a survey method. Durif et al. (2010) proposed that a quantitative research method can reliably explain the variable, idea or concept better than the alternative method. This method enabling and encouraging researchers to measure and control the variables. Structured questionnaire was used in this study as tools for performing the research. The probability sampling technique was employed in the data collection. This means that each element or unit in the sampling frame has an equally identification, non-zero chance of being incorporated in the sample to be tested, which allow for statistical assumption. This enabling scholars to answer research questions, aligning research objective and to rectify research purposes that require to estimating statistical the characteristics of the population inferred from the sample selected.

3.3 Questionnaire Design

The questionnaire developed for this study were closed-ended questions. This close-ended questionnaire was adapted from other similar study and change according

to our study need and objective. Part One of the questionnaire (respondent's demographic) were adapted and made possible changes according to the need of our study requirement. In addition, the five-point scale questions were adopted in part two of the questionnaire. This question consists of items measuring independent variables, the mediator and the dependent variable.

The questionnaire for the study was divided into two parts. First part of the questionnaire measuring details about the personal information of the respondents. A total of six items were available in this first part of the study questionnaire. The second part of the questionnaire measuring the independent variables, mediator and dependent variable of the overall UUM undergraduate students' intention and their green buying behaviour. A total of 23 items were use to measuring the second part of the questionnaire.

The items for the study and also for the questionnaire for this research were adopted from the same sources. Then a five-point Likert-scale used and anchored by “strongly agree” (1) to “strongly disagree” (5) which was adopted from Rahim et al. (2012), a five-point Likert-scale anchored by “strongly disagree” (1) to “strongly agree” (5) was adopted as the attitude measurement for independent variables, mediator and dependent variable, including: ‘environmental awareness or concern’, ‘marketing effectiveness’, ‘intention’ and ‘green buying behaviour’.

3.4 Population And Sampling Procedures

The data were collected from the undergraduate students of UUM. There is specific reason for selecting students from undergraduate to align with purpose of study and to demonstrate buying behaviour of green product among UUM undergraduate students. The sample was chosen based on the availability of data from a list of students that obtain from the UUM student affairs department. The number of

undergraduate students registered with various courses under UUM undergraduate students total is 14229. The respondents in the study were the UUM undergraduate students. A simple random sampling method was used in this study. The random sampling technique was used because it is able to provide appropriate information about a given sample size (Bryman & Bell, 2003).

Based on the total population of 14229 UUM undergraduate students, the appropriate sample size selected is 375. This sample size also conforms to using a sample size table that propose by Krejcie, R., & Morgan, D. (1970) . Considering the response rate of 80 to 90 percent for a face to face questionnaire distribution, the number of questionnaires distributed were 445. Thus, two undergraduate classes students were randomly selected to participate in this study.

3.5 Measures And Instrumentation

The element utilize in the research instruments were developed using prior research and it had been previously tested for reliability (Roberts & Bacon, 1997). Some of the statement and questions used were slightly modified and adapted to ensure that the statement and questions are relevant to the purpose of this study. A scale validation procedure was performed using factor analysis and coefficient alpha.

3.5.1 Measures

3.5.1.1 Environmental Concern Or Awareness

For environmental concern or awareness, scales were measuring the degree of awareness and concern to the green product buying behaviour among UUM undergraduate students. Therefore, based on Roberts and Bacon (1997) the scale items in Table 3.1 below were adopted for measuring the environmental concern or awareness in this study. The items are measured on a five-point scale, where a scale of 1 represents ‘strongly disagree’, and a scale of 5 represents ‘strongly agree’.

Table 3.1

Scale items for environmental concern or awareness

Measures	Question
Environmental concern or awareness	I have heard about eco-friendly products..
	I aware of any such products.
	I aware that purchasing eco-friendly products will contribute to the sustainable future.
	I aware that purchasing eco-friendly products will contribute to the sustainable future.
	I consider the effect on the environment as a consumer before purchasing general day to day products.
	I consider that my purchase correct from the environmental point of view.
	I consider the product and its package are designed to be recycled before making a purchase.
	If the product is eco-labelled, this information would change my choice of purchase.
	I bought or considered buying eco-friendly products available in the market.

3.5.1.2 Marketing Effectiveness

For marketing effectiveness, scales were measuring the extent of marketing effectiveness influence UUM undergraduate students green buying behaviour . Therefore, based on (Roberts & Bacon, 1997) the scale items in Table 3.2 below

were adopted for measuring the marketing effectiveness in this study. The items are measured on a five-point scale, where a scale of 1 represents ‘strongly disagree’, and a scale of 5 represents ‘strongly agree’.

Table 3.2

Scale Items for Marketing Effectiveness

Measures	Question
Marketing effectiveness	After I get information about an environmental problem, I am likely to think about it.
	It is important for me to interpret information about the environment in a way that applies directly to my life.
	When I read or hear about an environmental problem, the more viewpoints I get the better.
	When I encounter information about the environment, I read and listen to most of it.
	I will adopt a green lifestyle when exposed to persuasive green messages
	Green advertising/campaigns are interesting to see.

3.5.1.3 Intention

For intention, scales were measuring the mediating effect of intention to UUM undergraduate students green buying behaviour . Therefore, based on (Roberts & Bacon, 1997) the scale items in Table 3.3 below were adopted for measuring the intention in this study. The items are measured on a five-point scale, where a scale of 1 represents ‘strongly disagree’, and a scale of 5 represents ‘strongly agree’.

Table 3.3

Scale items for intention

Measure	Question
Intention	I intend to purchase green products.
	I plan to purchase green products.
	I want to purchase green products.

3.5.1.4 Buying behaviour

For the buying behaviour, it is appropriate to recognise attitude and practice of green purchase decision of UUM undergraduate students. . Therefore, based on Roberts and Bacon (1997) the scale items in Table 3.4 below were adopted for measuring the buying behaviour in this study. The items are measured on a five-point scale, where a scale of 1 represents ‘strongly disagree’, and a scale of 5 represents ‘strongly agree’.

Table 3.4

Scale items for buying behaviour

Measure	Question
Buying behaviour	I would describe myself as environmentally responsible.
	I care about buying environmentally friendly products.
	When I purchase products, I try to make efforts to buy products that are low in pollutants.
	If I understand the potential damage to the environment that some products can cause, I do not purchase those products.
	I have purchased light bulbs that were more expensive but saved energy.

3.5.2 Instrumentation

Data were collected through the use of fully structured questionnaires. All constructs included in this study were measured using established measures drawn from previous studies. Some of the questions used in this study were slightly modified to ensure that the statement and questions are more relevant to the purpose of this study to be conducted. The questionnaire was originally developed in English. The survey questionnaire developed for this study has two sections. Section A intends to look at the respondents' personal particular and section B measuring the study variables. Each section has a brief and precise instruction to help the respondents in attempting the survey questionnaire.

3.6 Reliability

3.6.1 Reliability

Reliability test needs to be conducted to determine the internal consistency of the developed instruments. Cronbach's alpha has used as a reliability coefficient that describing the item's ability in a set are positively correlated to one another and it is calculated and computed in the form of the average inter-correlations among the items measuring each of the concepts. Cronbach's alpha was chosen due to its adaptability which make use of continuous variables. A reliability test was conducted to determine the internal consistency and usability of the instruments employed in this study. Table 3.5 shows a summary of the total number of items for each instrument and their reliability coefficient. The Cronbach's alpha for 'buying behaviour', 'intention', 'environmental concern or awareness', and 'marketing effectiveness' were all above 0.7 which is interpreted as a high reliability and within acceptable limits.

Table 3.5

Summary on total number of items for each instrument and their reliability coefficient

No.	Instruments	Number of items	Cronbach's Alpha Value
1.	Buying behaviour	5	.738
2.	Intention	3	.705
3.	Environmental concern or awareness	9	.787
4.	Marketing effectiveness	6	.847

3.7 Data Collection Procedure

After the completion of a literature review, a revised survey questionnaire was prepared. A survey was used to collect the data. Respondents selected for this study were undergraduate students of UUM. Students were targeted in the survey because they are the persons who has potential to bring changes in future buying behaviour because they were become working adults in the future whom have more purchasing power. A total of 445 questionnaires was distributed directly to the students in the lecture hall. Respondents were asked to complete the questionnaire and return it immediately.

3.8 Data Analysis

The data collected were analysed using the famous SPSS software. Descriptive statistics were emphasis to analyse the types of the respondents by including frequency tables, means and measures of variability. The multivariate technique employed for this study was a multiple regression analysis. Multiple regressions is the suitable statistical method to use when there is an attempt to identify the effect independent variables, mediating effect and dependent variable. Regression

results demonstrate the significance of each independent variable and their associated effects on the dependent variable.

During the regression analysis were conducted, data must adhere to the actual assumptions of the normality. This normality is measured by either graphical or statistical methods. Two familiar components of the normality are skewness and kurtosis. Skewness rate presenting by the symmetry of the distribution scores and a skew variable measure will be moving from the centre of distribution. Kurtosis confers matters relates to the 'peakness' of distribution . This peakness either too peaked (with short and thick tail) or too flat (with long and thin tail) (Tabachnick & Fidell, 2007).

CHAPTER 4

ANALYSIS AND FINDINGS

4.1 Introduction

This chapter explains about the results, analysis and finding of the data gathered to meet the research objectives and related hypotheses that have been proposed by this study. The study's respondents and participants are described, the properties, detail and item of the survey instrument used in the study are adapted and presented, and the analysis used to identify the research objectives is described, with the constructive findings and results of the analysis. The chapter ended with a summary of the study relates to the findings.

4.2 Data Collection and Survey Response

The population surveyed for this study was the students registered with various undergraduate courses in UUM. The sample for the study was chosen based on the availability of data from the student affairs department of UUM. A total of 445 questionnaires were distributed to the selected samples and respondents. The undergraduate students were chosen because they were potential customer whom start their career in near future. In order to promote a good return rate from the survey, a face to face survey were conducted in the lecture hall.

Once the students finish answering the questionnaire, 375 usable questionnaires were received for a 84.27 percent overall return rate. A response rate of 84.27 percent is acceptable due to the data collection is conducted using face to face collection method. The data obtained from these questionnaires were used for the final analysis.

4.2.1 Demographic Profile Of The Respondents

Table 4.1 below describes the profile of respondents by age, gender, ethnic, and college that student attach. The table shows that 84 (22.4%) of the respondents were males and the remaining 291 (77.6%) respondents were females. This shows that females are dominating the education system that has potential purchasing power in future of buying green apparels. The table also shows that 293 or 78.1 percent of the respondents were in the range of 19 to 20 years old. Then, 21 to 22 years respondent were at 58 or 15.1 percent. Another 20 or 5.3 percent were in the range of 23 to 24 years. In addition, respondents age between 25 to 26 shown only 1 or 0.3 percent. Above 19 years is 2 respondents with 0.5 percentages and under the age of 26 is only 1 or 0.3 percent of the respondents. These university undergraduate students were selected due to possible reason that has been highlighted by Kriwy and Mecking (2012) relates to their potential behaviour that may correlate with the age factor. The author describes students specifically tertiary education students are more eager to invest in their health compare to other adults. Environmental condition become a common topic for these categories of educated people. Willingness to invest in environmentally friendly product in middle age is a prominent for future investment.

In terms of ethnic, more than 40 percent were Malays and Chinese. Balance 17 or 4.5 percent were Indian and 19 or 5.1 percent were others. The analysis shows that the majority of the respondents were Malays and Chinese. In term of students base colleges, most of the respondents were from the College of Business (COB) shows 295 or 78.8 percent. However, respondents from the College of Arts and Sciences (CAS) and College of Law, Government and International Studies (COLGIS) were approximately 8.3 and 13.1 percentage. Okada and Mais (2010) elaborate that higher education influence the purchasing pattern of students especially those intending to

purchase organic products. This interpretation justifying that educational attainment precedes consumption decisions. Thus, the scholar adds their implication by indicating that consumers accounting for future gain has the potential for becoming organic or green product customer.

Table 4.1

Profile of the respondents (students)

Variable		Frequency	Percentage
Gender	Male	84	22.4
	Female	291	77.6
	Total	375	100
Age (Years)	Below 19	2	5
	19 - 20	293	78.1
	21 - 22	58	15.5
	23 - 24	20	5.3
	25-26	1	3
	Above 26	1	3
	Total	375	100
Ethnic	Malay	182	48.5
	Indian	17	4.5
	Chinese	157	41.9
	Others	19	5.1
	Total	375	100
College	COB	295	78.7
	CAS	31	8.3
	COLGIS	49	13.1
	Total	375	100

4.3 Testing On Goodness Of Data

4.3.1 Outliers

Outliers are explanation which shows contradictory with the remainder of the data set. The attendance or appearance of outliers can change the analysis and result of the data analysis. Tabachnick and Fidell (2007) suggested that outliers can be rectified through observing at Mahalanobis distance. Mahalanobis distance is the gap of a the case in the samples from the centroid of the remaining sample cases where the centroid is the direction created by the means of all independence variables and dependence variables.. To detect univariant outliers, inspection through extreme cases in boxplot analyses was carried out for each variable in this study.

4.3.2 Normality

Normality can be assessed either through the statistical or graphical methods. Two components of normality test shown by the statistic or graph skewness and kurtosis. Skewness values exhibit the symmetry of distribution or allocation score and a skew variable interpreted as unable to be at the centre of study distribution. Kurtosis presents details and information related to the 'peakness' of distribution which can be either too peaked (with short and thick tail) or too flat (with long and thin tail) (Tabachnick & Fidell, 2007). When a distribution were normal, the valuation of skewness and kurtosis should be close to zero. Positive skewness value will have a cluster of cases to the left at a low value and negative skewness will have the score cluster or pile at the right hand with a long tail. Kurtosis that has values of less than or below zero will point to a relative flat distribution known as 'platykurtic' and the kurtosis values more than or above zero signify a peak distribution or 'leptokurtic'. Pallant (2011) recommended the refusal of the normality assumptions at absolute values at $p < 0.05$ and the significant level at $p > 0.05$. But p value 0.00 is common in

large samples. For graphical technique, normality can be determined by evaluating the residual plots. If the assumption has met the expectation, the residuals should be normally and independently distributed (Pallant, 2011).

The assumption of normality in this study was diagnosed by looking at the residual plots as suggested by Pallant (2011). The figure 4.1 and 4.2 show the cumulative probability ICT adoption residuals. The docted line is the normal line while the straight line is standardized residuals. The figures indicated that the observed residuals are clustered closely around the normal straight line. Therefore it indicates that the data captured for buying behaviour variable is normally distributed. Normal probability plots for other variables were also employed and found that observed residuals of all the variables used in this study is closely clustered around the straight line. Even if it is not found very much closed to the normal straight line in some cases, the observed residuals are however, not too much far above and far below from the normal straight line. This indicates that the normality assumption of the data used in this study.

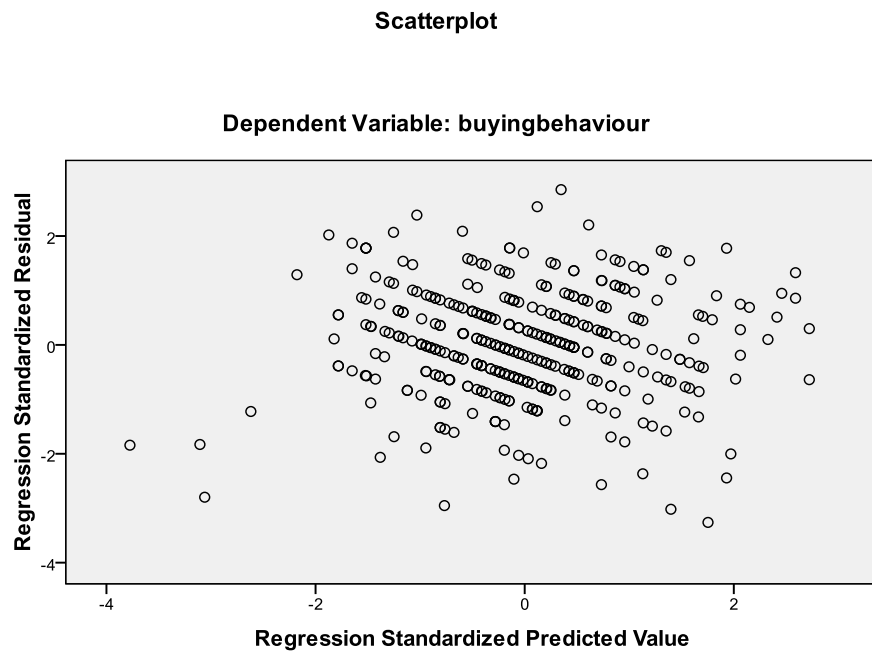


Figure 4.1

Scatter plot for buying behaviour variable

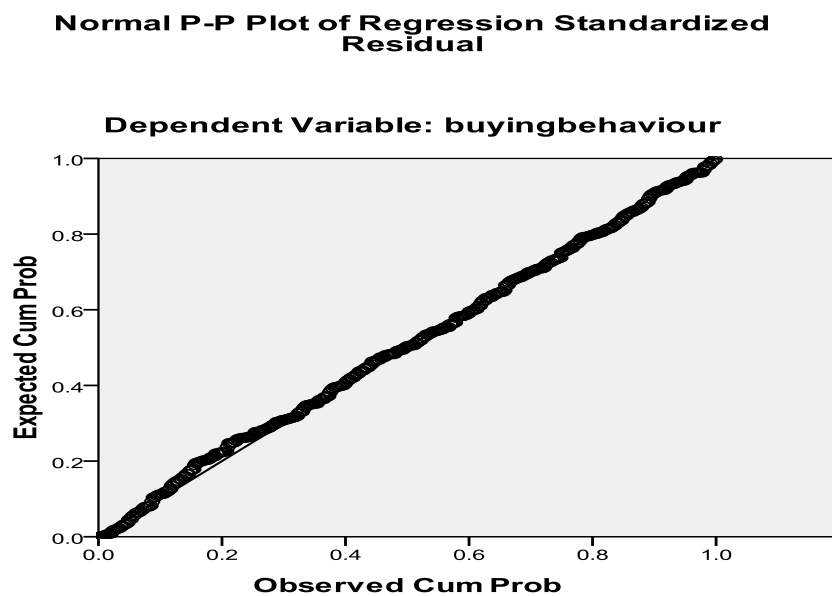


Figure 4.2

Normal probability residual plot for buying behaviour variable

4.3.3 Factor Analysis

Factor analysis is an exclusive analysis that emphasis to check construct validity and strength on all of the scales. The results would be used as a important determine the dimensionality of constructs. The results of the factor analysis were based on two critical measures. The first is the Kaiser-Meyer-Olkin (KMO) measure. The KMO measures the sampling adequacy. According to Pallant (2011), KMO is an index used for comparing the magnitudes of the observed correlation coefficient to the magnitudes of partial correlation coefficient. If the sum of the squared partial correlation coefficient between all pairs of variables is small when compared to the sum of the squared correlation coefficient, the KMO will be closer to one (1.0). The closer the value of KMO is to one, the more appropriate the factor analysis will be. Pallant (2011) described KMO measures according to their closeness to one as 'Marvelous' if KMO is in the range of 0.90; 'Meritorious' if it is in the range of 0.80; 'Middling' if it is in the range of 0.70; 'Mediocre' if it is in the range of 0.60; and 'Miserable' if it is in the range of 0.50. The factor analysis procedure of SPSS was performed to determine the constructs. Kaiser-Meyer-Olkin (KMO) measure, was used. All items with Kaiser-Meyer-Olkin (KMO) measure of sample accuracy were above 0.70. Table 4.2, 4.3, 4.4 and 4.5 postulate the factor analysis results.

Table 4.2

KMO and Bartlett's Test (Buying behaviour)

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.738
Bartlett's Test of Approx. Chi-Square	303.539
Sphericity df	10
Sig.	.000

Table 4.3

KMO and Bartlett's Test (Intention)

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.705
Bartlett's Test of Approx. Chi-Square	502.457
Sphericity df	3
Sig.	.000

Table 4.4

KMO and Bartlett's Test (Environmental concern or awareness)

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.787
Bartlett's Test of Approx. Chi-Square	1106.987
Sphericity df	36
Sig.	.000

Table 4.5

KMO and Bartlett's Test (Marketing effectiveness)

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.847
Bartlett's Test of Approx. Chi-Square	642.709
Sphericity df	15
Sig.	.000

4.4 Hypotheses Testing

This section will elaborate and address each of the stated hypotheses relevance to the study. Multiple regression analysis was performed to assess the direct and indirect relationships within the proposed model and also the stated hypotheses. Regression analysis is a process that assists in the determination of the probabilistic form of the relationship between variables. This method can predict or estimate the

value of one variable (dependent variable) corresponding to a given value of other types of variable (independent variable). The regression procedure results in a beta weight (β) and this statistic shows the relative contribution (or weight) of the predictor variable. The beta (β) also provides a useful interpretation of the relationship between independent and dependent variables (Carrete, Castano, Felix, Centeno, & Iez, 2012). The (β) value, which may be either positive or negative, indicates the amount of increase or decrease in a dependent variable for one unit of difference in the independent variable. The P value is also an important indicator in the regression analysis. The P value corresponding to each coefficient of estimates refers to the level of significance of that independent variable. If the P value of the independent variable is less than the level of significance, it indicates that the independent variable had a significant relationship with the dependent variable. In addition, the regression output provides the correlation coefficient (r), coefficient of determination (R^2), and adjusted coefficient of determination (adjusted R^2), both of which indicate how well an independent variable predicts the dependent variable. The coefficient of determination (R^2) represents the degree of variance accounted for by the independent variable. In other words, the R square (R^2) indicates the percentage of the total variation in the dependent variable values attributable to, or explained by, the independent variable in a regression equation (Pallant, 2011). The F value is a criterion to evaluate the overall usefulness of the regression model in analysing, predicting, or explaining the variation in the dependent variable. In this study, the relationship is statistically significant if the value of F is larger than .05 ($\text{Prob} > F$) which is the level of significance.

Hypotheses 1 and 2: There are significant relationships between environmental concern, marketing effectiveness and green buying behaviour. In order to assess these

relationships, a multiple regression analysis was conducted, and the results are shown in Table 4.6. The overall model was significant ($F= 86.588, p< .001$) accounting 31.4 percent of the variance of green buying behaviour. When all two independent variables were regressed simultaneously in the model, environmental concern, marketing effectiveness had a positive significant relationship with green buying behaviour. Thus, H1 and H2 is supported.

Table 4.6

Regressions of environmental concern or awareness and marketing effectiveness on buying behaviour

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.203	.190		6.339	.000
environmentalconcerna	.345	.060	.317	5.747	.000
wareness					
Marketingeffectiveness	.309	.055	.308	5.591	.000

Significant * $p<.05$, ** $p < .001$

Table 4.7

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.564 ^a	.318	.314	.42663

R Square and Adjusted R Square within 0.2 to 0.5

Table 4.8

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	31.521	2	15.760	86.588	.000 ^a
	Residual	67.710	372	.182		
	Total	99.230	374			

Significant if the value of F is larger than .05

Hypotheses 3, 4 and 5: There are significant relationships between environmental concern or awareness, marketing effectiveness, intention and green buying behaviour.

In order to assess these relationships, a multiple regression analysis was conducted, and the results are shown in Table 4.9. The overall model was significant ($p < .05$).

When all two independent variables and one mediator were considered simultaneously in the model, all variable showed a significant positive contribution to the green buying behaviour. Therefore, Hypothesis 3, 4 and 5 is supported.

Table 4.9

Pearson Correlation of environmental concern or awareness, marketing effectiveness, intention and green buying behaviour

		Buying behaviour	intention	Environmental concern awareness	Marketing effectiveness
Buying behaviour	Pearson Correlation	1	.567**	.510**	.507**
	Sig. (2-tailed)		.000	.000	.000
	N	375	375	375	375
intention	Pearson Correlation	.567**	1	.598**	.522**
	Sig. (2-tailed)	.000		.000	.000
	N	375	375	375	375
Environmental concern/awareness	Pearson Correlation	.510**	.598**	1	.629**
	Sig. (2-tailed)	.000	.000		.000
	N	375	375	375	375
Marketing effectiveness	Pearson Correlation	.507**	.522**	.629**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	375	375	375	375

Significant ** $p < .05$

4.5 Multiple Regression Analysis

This research evaluated through multiple regression method. The analysis is presented the relationship between independent variable (environmental awareness or concern and marketing effectiveness), mediator (intention) and dependence variable (green buying behaviour). This analysis carried out to determine and test the four hypotheses. The result of the multiple regression analysis and finding were presented in Table 4.16.

Based on the finding from Table 4.9, the p value of the environmental awareness or concern ($p = 0.000$) is less than the alpha value of 0.05. Therefore, the research concludes that environmental awareness or concern is positively related to

the green buying behaviour. Hypothesis 1 is supported. In addition, the result from Table 4.16 indicated that the p value for the marketing effectiveness is ($p = 0.000$) is also less than the alpha value of 0.05. Therefore, it can be suggested that the marketing effectiveness is positively related to the green buying behaviour. Hypothesis 2 is therefore supported. Furthermore, the p value for the intention as mediator and environmental awareness or concern and buying behaviour ($p = 0.000$) is also less than the alpha value of 0.05. Therefore, it can be suggested that there is a mediating effect of intention on the relationship between environmental awareness or concern and green product buying behaviour. Hypothesis 3 is therefore supported. Table 4.16 also indicated that the p value for the intention as mediator, marketing effectiveness and buying behaviour ($p = 0.000$) is also less than the alpha value of 0.05. Therefore, it can be suggested that there is a mediating effect of intention on the relationship between marketing effectiveness and green product buying behaviour. Hypothesis 4 is therefore supported. Finally, the p value for the intention is ($p = 0.000$) is also less than the alpha value of 0.05. Therefore, it can be suggested that the intention is positively related to the green buying behaviour. Therefore, hypothesis 5 also supported.

Based on extant literature, there were various reasons which indicated that environmental awareness or concern does stimulates green buying behaviour. Okada and Mais (2010) added that customers are nowadays more aware about the need to preserve the earth and they are actively involved in all programmes that creating concern about the ecological preservation. Marketing tools rectify as an important measures that have the potential to gain trust about any product that produced and prepare using these green concepts (Sampaio, Thomas, & Font, 2012). According to Tan and Yeap (2012), consumers expressed their interest in identifying eco-labels and

the regulations which authorize companies to place labels on their products when they trust of eco-labels. This attitude is due to the attendance of intention to purchasing green product.

Based on the SPSS output, the following multiple regression equation was formed:

$$\text{Buying behaviour} = 1.203 + 0.567(\text{intention}) + 0.510(\text{environmental concern or awareness}) + 0.507(\text{marketing effectiveness})$$

Source: Developed for this research

The values of Unstandardized Beta Coefficient among the independent variables tested in the hypotheses ranged almost same from significant relationship of 0.567 (between intention and green buying behaviour), 0.510 (between environmental awareness or concern and green buying behaviour) and 0.507 (between marketing effectiveness and green buying behaviour). Thus, from the above analysis we can conclude that both three variables are powerful antecedent in affecting the green buying behaviour. The change of the green purchase buying behaviour is explained 31.8 percent ($R^2 = 0.318$) by a combination of various independent variables, including, environmental awareness or concern, marketing effectiveness and mediator (intention). In addition, the data of Standardized Coefficients explains the intensity among variables. Variables are ranked as follows based on intensity: environmental effectiveness (0.317) and marketing effectiveness (0.308). It can be concluded that environmental awareness or concern is the most relatively powerful independent variable in determining green buying behaviour among UUM undergraduate students.

Table 4.10

Summary of hypotheses test

Hypothesis	Result
H1: There is a positive relationship between environmental awareness and green product buying behaviour.	Supported
H2: There is a positive relationship between marketing effectiveness and green product buying behaviour.	Supported
H3: There is a mediating effect of intention on the relationship between environmental awareness and green product buying behaviour.	Supported
H4: There is a mediating effect of intention on the relationship between marketing effectiveness and green product buying behaviour.	Supported
H5: There is a relationship between intention and green buying behaviour.	Supported

As hypotheses summary exhibited in the table 4.10, all the hypotheses were supported by answering research questions and reflecting research objectives. Environmental awareness or ecological concern has found insisting the health conscious among UUM undergraduate students whom intent and changing their behaviour by purchasing green products. However, Rahbar and Wahid (2010) study contrary to the result of the study because the author finding indicates that the effect of environmental awareness and knowledge about environmental purchasing behaviour was not significant. Yet, education factor influence the behaviour of certain individual whom reluctant to change according to current needs and wants. Knowledge gain through education is a foundation for the behavioural change either positively or negatively. For instance Kriwy and Mecking (2012) and Rahim et al. (2012) added the literature by justifying that higher education and concern were

closely correlated. The author conducted a research identifying organic food purchasing behaviour among adults. The study proves that environmental and health consciousness robust through education is influencing organic food buying behaviour among adults. However, Ha and Janda (2012) has elaborated subjective norm such as level of education failed to enhance a consumers' eagerness of environmental. Although these findings are contradicted with our research certain local study were supported the variable has been tested in this study. Aman et al. (2012) had conducted a research to determine the level of green purchase intention among Sabahans. The study finding shows that more knowledgeable Sabahans were keen to purchase environmentally friendly products. These knowledge creating awareness and concern among the Sabahans about the need for preserving the environment for future generation. This knowledge creates intention to purchase green products. Thus, awareness and concern caused by environmental knowledge have obviously become best predictor for the customer buying behaviour (Junaedi, 2007).

Apart from that the findings of the study also supported above hypotheses regarding marketing effectiveness. The finding were similar to the Ha and Janda (2012) study describing brand as companies marketing effective method that green product need to ensure their potential customers have favourable attitudes towards their brand. The scholar added that beliefs, trust and knowledge, such companies need to develop informational and effectiveness of an advertisement that clearly illustrate the green concept consequences of their particular brands. Moreover, Pickett-Baker and Ozaki (2008) beliefs that word of mouth would create trust and confidence to specific new effort such as environmentally friendly product which entering emerging markets. Current product sustainability very influential due to ability of creating intention about product advantages to customer, society and the environment too. On

the other hand, Soyez (2012) proposes marketers to provide exclusive priority to the communication method. The author's beliefs that effective marketing can be provided through appropriate communication skill and communication channel. For instance, production of advertisement by matching a brand to the characteristics of consumers or reference group. For environmental product particular values, needs or goals are exploiting prior knowledge in launching a new green product. Greater marketing experience matters relate to environmental sustainability. As the responses show, clients would choose to environmentally friendly brands. The study respondents indicated that they felt superior about buying brands that were less damaging to the environment. Yet, they signify that it was sometimes difficult to recognize these products. Probably, business entities were not aware of relevant marketing, which they felt should include information about the benefits and possible improvements to the product.

In general, the study suggests that the marketing for greener products is under-exploited by marketers within consumer with pro-environmental values. Thus, the finding suggests the greater use of communication tool and channel to sell green products that are genuinely environmentally friendly.

CHAPTER 5

FINDINGS AND CONCLUSIONS

The purposes of this study of predicting green intention and green buying behaviour of environmentally sound or green products among UUM undergraduate students. Overall, this chapter concludes and discusses the finding of the empirical analysis. This chapter divided into four sections. The study first section presents the summary and conclusion of the descriptive statistics analysis and findings, hypothesis testing and its results, and results of the multiple regression analysis. The second part is a discussion and evaluation of the statistical results. The third part concludes the research contribution, implications of the study. Finally, the fourth part presents limitations of the study and recommendations for future research.

5.1 Descriptive Statistics

This section discusses the data that were collected from a sample of UUM undergraduate students. Descriptive statistics data indicated that most respondents are female (77.6 percent) between 19-20 years old. The mean and standard deviation of male toward purchasing a green product are 0.0612 and 0.311, however, for a female is 3.6660 and 0.5030.

5.2 Hypothesis-Testing Results

5.2.1 Environmental Concern Or Awareness-Related Hypothesis

The analysis was conducted by calculating the Pearson correlation coefficients based upon a one-tailed test at the .05 level of statistical significance. The hypothesis are practically called the proposition. The results show that environmental concern or awareness toward purchasing a green product correlates positively with intention to purchase a green product. Paul and Rana (2012) describe students especially higher education students are believed in self improvement and they keen to take measures

which is more challenging. They are the group whom interested in preserving the ecology and preferring the environmental lifestyle. For instance, the scholar describes these peoples' characters by revealing they are environmentally conscious, they are selecting and rejecting products and also volunteering themselves in various environmental related events, which are introduced to protect the environment.

5.2.2 Marketing Effectiveness-Related Hypothesis

The analysis was conducted by calculating the Pearson correlation coefficients based upon a one-tailed test at the .05 level of statistical significance. The results show that marketing effectiveness with respect to purchase a green product correlates positively with intention to purchase a green product and green buying behaviour.

5.2.3 Intention-Related Hypothesis

The analysis was conducted by calculating the Pearson correlation coefficients based upon a one-tailed test at the .05 level of statistical Significance. As mentioned earlier, the results show that intention to purchase a green product correlates positively with every independent variable (H3, H4, and H5 are supported). These independent variables are environmental concern or awareness and marketing effectiveness toward purchasing a green product.

5.3 Multiple Regression Analysis Results

Multiple regression analysis using hierarchical and stepwise method was performed to study the association between independent variables (environmental concern or awareness and marketing effectiveness) mediator (intention) and dependent variables (green buying behaviour) in order to predict the dependent variables from these independent variables. The multiple regression models were formulated as following.

$$\text{Buying behaviour} = 1.203 + 0.567(\text{intention}) + 0.510(\text{environmental concern or awareness}) + 0.507(\text{marketing effectiveness})$$

Source: Developed for this research

5.4 Discussion

The conceptual model which was developed by modifying the basic components of the Theory of Reasoned Action was proposed for this study. The theoretical foundation of the model, along with other literature research in the area of green study, guided the empirical model that was used in this study. The major determinants of the proposed model rectifying behaviour toward purchasing a green product. This study found that the relationships between behaviour toward purchasing a green product and environmental concern or awareness, marketing effectiveness and intention to purchase a green product are positive. It also reveals that the relationship between behaviour toward purchasing a green product and factor influences. The results support some previous empirical research findings in the area of green marketing (Lin & Chang, 2012). In regards to this study, Saleki and Seyedsaleki (2012) study have encompassed this issue because current lifestyle requiring preservation of the environment due to avoid environmental harm. This caused to the high demand for organic food and green product in the market. This creates a need for organic culture, environmental concern and awareness, price sensitivity, the effect to the subjective norms, required to maintain quality, and familiarity identified affect the attitudes and thereby purchasing organic food and green product.

Apart from the concern and awareness, marketing effectiveness also demanding for these types of green product. Especially youngsters whom actively involve to cyber world looking for the advertisement aligning to their busy life.

Probably, nowadays student spending more time in social media rather than other electronic media such as television or radio. They are moving fast forward social media such as Facebook, Twitter and other cyber media connectivity. For instance, our sample was university students claiming themselves that they are attached more time to this social media because they use a laptop all the time for assignment purposes. At the same time they are connected each other by exchanging messages and assignment details. Thus, advertising through these social media easily reach to the students rather than working adults. Malandrakis et al. (2011) discussing that students were using social media when they received the recommendation that urge them to purchase the new product such as green products. The survey finding shows that from the total number of respondents 59% of respondents were using Facebook as their social media tool when they received a product recommendation and 37% of them were using Twitter.

The results of this study indicate that intention, among variables correlate with and environmental concern or awareness and marketing effectiveness attitude. This positive relationship supports previous studies on the relationship between attitude and environmentally behavioural intention in a specific level of environmental concern or awareness, marketing effectiveness is attitude measurement (Bryman & Bell, 2003). Although the research is conducted in Malaysia context, the behaviour of certain groups of samples such as adults in higher institution has performed similar behaviour. Rahbar and Wahid (2010) conduct a research in Penang, Malaysia. The scholar has selected the sample to the respondents whom was using environmentally friendly products among customers whom shopping in 5 major shopping malls in Penang. According to the demographic details the customers that aware the need of green product and had purchased green product were middle age group people whom

had an impressive educational background. The second largest group that the scholar identify as green customers were university and college students whom still pursuing their studies there. According to the research finding, Penang adults were concerned about environment due to government policies that have been implemented in the state regarding environmental pollution. Thus, Penang residents are more aware and preparing themselves for facing any environmental consequence. This may lead them preparing themselves for living with preserving the environment. The study indicating that attitude toward individual responsibility in environmental protection is high due to the positive behavioural change in actual purchasing behaviour.

An Application of the Theory of Reasoned Action to this study explained the variable relationship clearly. The results from the correlation analysis reveal that there is support for the Theory of Reasoned Action (TORA) model. In the context of TORA, the behaviour is determined by behavioural intention, and intention is determined by attitude and subjective norm(Ajzen & Fishbein, 1980).

In this study, although the attitude toward purchasing a green product, environmental concern or awareness, marketing effectiveness with respect to purchase a green product, intention to purchase a green product specifically considered, the relationships among these variables are consistent with the TORA model.

5.5 Research Contribution And Implications

5.5.1 Research Contribution

The results of this study contribute to the marketing field with respect to consumer behaviour and public policy. In the marketing field, understanding the environmental concern or awareness, marketing effectiveness and intention, as well as actual behaviour enables marketers to segment markets and to identify the target market based upon green or environmental orientation. Environmental concern is the

most useful predictor of intention to purchase a green product among the UUM undergraduate students. It is also the effective source of information to communicate the benefits of green product offers to the adult market. For public policy, the government and environmental activists can utilize these results to enhance the adults environmental knowledge through the appropriate choice of media.

5.6 Implications

It is noticeable that environmental or green issues are of great importance in the global economy. Many countries are looking to harmonize their efforts into a system of strict pollution control and environmental concern. Firms may have to reconsider their current environmental positions in terms of their operational and production processes, product mix, price, distribution channel, and the marketing promotion of their product to achieve the firm's goals, consumers' goals as well as the public's goal.

The two major questions about the marketing implications can be answered through this study. First, The marketing managers need to understand how environmental or "green" concern influences consumer purchasing behaviour by better defining "green" concerned consumers. Tan and Lau (2011) suggest that marketers and companies promoting environmentally friendly products would be in a better position to market their goods if they could assuming specific consumer attitude such as green purchase attitude rather than a general attitude in predicting consumer behaviour in purchasing special feature product such as green products. Second, it also would be assisting companies producing more attractive advertising with appropriate information and awareness campaign to convince consumers to change their buying behaviour and their decision in purchasing the company's green products would make a difference in preserving the environment from further deterioration.

Third, consumers need to concern, aware and believes that their changes in buying behaviour pattern are a contribution to these matters. Only then would they be willing to contribute in purchasing green products. However, the marketing managers have to better define the "green" concerns of the various stakeholder groups such as stockholders, lenders, government, society, employees, and consumers. Thus, as stated above there are three implications of this study and the TORA model that are useful to marketing managers and public policy planners.

5.7 Limitations And Recommendations For Future Research

5.7.1 Limitations Of The Study

This study was limited in the following areas:

The relatively small sample size ($n = 445$) of UUM students. In order to generalize the results, the sample size should be larger and come from different higher institution in the country to extract more valid results. Furthermore, the research used convenience sampling method by selecting students in the a public university and obviously this figure or sample is not representative all Malaysian populations. Thus, for future research this study should consider of using probability sampling method and also conducting a cross sectional survey that reflecting all the Malaysian population. In addition, a large number of sample size would be more favourable to assessing the stability and accuracy of the results and findings. Besides, there is a need to replicate the study to another country specifically South East Asian countries and nations. Generalization of the sample may provide possible information to those country that not fully exposed to green product and their uses.

The measurement of the variable used for the intention (3 items) may be sufficient to measure the variables in this exploratory study, but they may not be sufficient to examine the causes and effects on future research.

5.7.2 Recommendations For Future Research

The future research recommended in this study is the methodological recommendations. Future research should expand the sample size and conduct the survey or pilot study in different locations. Furthermore, a comparative study across cultures should also be done to extend the results.

In terms of research and theoretical foundation recommendation, future studies should ask questions such as "How do the individual factors develop and change?", "How can marketers develop marketing strategies to achieve the green consumers' needs?", "What is the appropriate way to motivate non-green consumers to purchase green products?". Also future research should integrate the essential factors that may affect consumers' intention to purchase green products in the model.

5.8 Conclusion

The study uses the theory of reason action to change the buying behaviour of UUM undergraduates for environmentally friendly or green product. Specifically, the relationship between buying behaviour and each of the following mediator and the variables were examined: intention, environmental awareness or concern and marketing effectiveness. For the participants in this study, the data confirm the relationship between purchase behaviour through intention as mediator and environmental awareness or concern and marketing effectiveness as independence variable. The results show that environmental concern or awareness, marketing effectiveness and intention toward purchasing a green product correlates positively with green purchase behaviour.

This study is an attempt to explore the green buying behaviour among undergraduate students in UUM, besides identifying factor influencing them to purchase green products. This also investigates the relationship between the three

contexts; environmental concern or awareness, marketing effectiveness and intention on the green buying behaviour. The findings of this study provide a better understanding of the effect of the two variables identified in the TORA theory to the buying behaviour. This could lead to the successful practice of green buying behaviour among adults. Green product has the potential to dramatically improve quality of the environment and is an increasingly essential effort of the students to avoid environmental effect. Without these green buying behaviour switch our future generation lives is not guaranteed.

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