

**INTENTION TO USE GREEN PRODUCTS AMONG CONSUMERS**

**By**

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**Thesis Submitted to**

**Othman Yeop Abdullah Graduate School of Business,**

**Universiti Utara Malaysia,**

**In Fulfillment of the Requirement for the Master of Science (Management)**

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## ABSTRAK

Kajian gelagat pengguna terhadap produk hijau telah menjadi satu kajian yang sangat penting pada masa kini. Setiap manusia memerlukan persekitaran yang berkualiti dan baik serta tahap kesihatan yang baik demi menjamin kehidupan yang bermanfaat untuk diri dan juga keluarga. Keperluan produk hijau di dalam kehidupan seharian setiap individu adalah perlu pada hari ini. Jadi, kajian lebih mendalam mengenai niat untuk menggunakan produk hijau boleh menjadi rujukan kepada pengguna dan juga organisasi. Penyelidikan ini bertujuan untuk mengkaji hubungan antara sikap, norma subjektif dan kawalan gelagat dengan niat untuk menggunakan. Pengkaji telah mengedarkan soalan kaji selidik sebanyak 120 set. Hanya satu set sahaja soalan kaji selidik yang tidak berjaya dikembalikan. Kesemua 119 set soal selidik yang dikembalikan boleh digunakan untuk analisis kajian. Antara kaedah yang digunakan di dalam penyelidikan ini adalah ujian T sampel bebas, ANOVA sehalu, korelasi pearson dan juga regresi berbilang. Hasil kajian menunjukkan kesemua pembolehubah bebas mempunyai hubungan yang signifikan dan dilihat mempengaruhi niat untuk menggunakan produk hijau di kalangan pengguna. Di antara tiga pembolehubah bebas ini, sikap adalah paling mempengaruhi niat untuk menggunakan produk hijau kerana mempunyai nilai regresi tertinggi. Ini bermakna, semakin tinggi sikap positif pengguna terhadap produk hijau, maka semakin tinggi niat mereka untuk menggunakan produk tersebut. Oleh yang demikian, para peruncit dan pemasar wajar meningkatkan keinginan pengguna untuk menggunakan produk hijau dengan mewujudkan strategi pemasaran yang berkesan. Selain itu, pihak lain seperti kerajaan dan organisasi bukan kerajaan juga perlu berusaha untuk meningkatkan sikap positif pengguna terhadap produk hijau. Perbincangan tentang implikasi dan cadangan untuk kajian akan datang juga turut diuraikan di akhir kajian ini.

Kata kunci: Produk hijau, sikap, norma subjektif, kawalan gelagat.

## **ABSTRACT**

The study of consumer behavior towards green products has become a very important research nowadays. Every human being requires a good quality of environment and good health status in order to guarantee a useful life for self and family. The needs for green products in the daily lives of individuals are necessary today. So, a deeper study of the intention to use green products may be a reference to consumers and organizations. This study aimed to investigate the relationship between attitudes, subjective norms, and perceived control behavior with the intention to use. The researcher has distributed a 120 set of questionnaires. Only one set of survey questions unsuccessful return. All 119 of the returned questionnaires could be used for analysis of the study. Among the methods used in this research are independent sample t-test, one-way ANOVA, Pearson correlation and multiple regressions. The results showed that all independent variables are significant and seen have influenced intention to use green products among consumers. Among the three independent variables, the attitude is most influenced intention to use green products because it has the highest regression. This means, the higher the positive attitude of consumers towards green products, the higher their intention to use the product. As a result, retailers and marketers should increase consumers' desire to use green products by creating an effective marketing strategy. In addition, other parties such as government and non-governmental organizations should also strive to increase positive attitudes of consumers towards green products. The discussion of the implications and suggestions for future research are also described at the end of the study.

**Keywords:** Green products, attitude, subjective norm, perceived behavior control.

## **ACKNOWLEDGEMENT**

### **In the name of ALLAH, the Gracious and the Merciful**

Alhamdulillah, I am grateful to Allah SWT, for all His bounties and blessings, so I am able to complete this thesis within the time period given. I want to give my deepest appreciation to all those involved helped me in completing this academic work. First of all, I would like to thank to my supervisor, Mr. Zulkufli bin Aziz which helped me a lots by giving a knowledge, ideas, opinions and guidance in this study.

A millions of thank to my parents Shaik Ismail bin Mohammad Yussof and Patimah binti Maidin, who has been relentless in giving moral support and prayers for my success over the years. In addition, to all my brothers and sisters who are a strong motivator for me to continue to move forward. Always embedded in my heart as a major catalyst for the spirit when are falling, my lovely fiancée, Maizatul Akmam binti Ab Hamid. I love you all.

I would also like to thank to my counterparts that are very helpful and always advise each other to complete the study. All of the discussion between us is very helpful to me. Finally, my heartfelt appreciation for the cooperation given by all the respondents who participated in this study, because of their support, this research has been completed.

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## **LIST OF ABBREVIATIONS**

<b>TPB</b>	Theory of Planned Behavior
<b>TRA</b>	Theory of Reasoned Action
<b>PBC</b>	Perceived Behavior Control
<b>UNEP</b>	United Nations Environment Programme
<b>WSSD</b>	World Summit on Sustainable Development
<b>UUM</b>	Universiti Utara Malaysia
<b>SPSS</b>	Statistical Package for Social Science
<b>ANOVA</b>	Analysis of Variance
<b>SD</b>	Standard Deviation

## CHAPTER 1

### INTRODUCTION

#### **1.0 CHAPTER INTRODUCTION**

This study explores the factors that influence intention to use green products among consumer. In brief, it will discuss on whether attitude, subjective norms, and perceived behavior control (PBC) are important in explaining the intention to choose green products among consumers. This chapter contains the discussion on the background of the study, problem statement, scope of study, research question, research objectives, significance of the study, and definitions of key terms.

#### **1.1 BACKGROUND OF THE STUDY**

The global environmental issue is growing concern since 1970s. There are varieties of environmental problems right now that adversely impact on the entire world today. As the globalization continuous, most internal environmental problems have turned into international issues. Numerous environmental disasters and problems in the late 1980s have attracted the environmentalists to fight and rectify the problem. Issues like acid rain, air pollution, global warming, ozone depletion, overpopulation, rain forest destruction and hazardous waste are some of the largest problems and now affecting the world. It is not far from us, but has to be close to us like in our backyard

and be a problem to people. Among the problems, global warming has been agreed by most scientists as the most critical issue caused by burning of fossil fuels and needing our faster action today. To address this global problem effectively, the parties involved need to spread the awareness of environmental problems to the public and to respond without delay is very necessary. The responsibility for environmental problems does not rest on industry and government, but every one of us must take responsibility as a solution to these issues even with a little effort, it was considered adequate.

Nowadays, the market is greener than before and the green market is expected to be more responsive to products and services in the 21st century as well as promising more environmentally responsible life. In addition, communities are increasingly concerned about protecting their livelihoods and their lives and taking action like make a purchase that are more focused on products perceived as environmentally friendly and reject the products that are not environmentally friendly. After several surveys, strong concerns about the environment have been shown by consumers, along with their willingness to use products or services that they believed will contribute to a healthier earth. According to Ottman (1992b), he has been said that in the 1990s, consumers are voicing their concerns in the shopping market and then they are shaping a new trend called green consumerism or environmental consumerism.



### **1.1.1 An Overview of Green Consumerism**

Green consumerism is the purchasing, utilizing, using and recycling of eco-friendly items that offer negligible harm to the nature. Green consumers just purchase and use environmental friendly or eco-friendly products that are produced from natural resources that have little or zero packaging and items that are made without bringing on contamination. According to Ottman, (1992b), he has been stated that green consumerism as “an attempt by individuals to protect themselves and the planet by buying only green products on the shelves”. The invention of green consumerism started at the time when newly-released Brundland Report heightened awareness of the global ecological crisis (Gosden, 1995). Gosden (1995) also stated that a British company called The Body Shop won the UK “Company of the Year” Business Enterprise Awards in 1987 and then “riding a high wave of green consumerism” as an outlet for “cruelty-free, minimally packaged, natural ingredient soaps”. Its remarkable triumph success inspired several authors to rapidly assemble popular guides to both green consuming and green economics.

A sign of green consumerism can be seen increase from time to time. According to Klaus Topfer (2002), Executive Director of United Nations Environment Programme (UNEP), he indicated that;

*“Changing consumption and production patterns will be high on the agenda of this year’s World Summit on Sustainable Development (WSSD)” and “Consumers will not save the world by themselves, but they are welcome allies in a struggle where we are going to need all the help we can get.”*

Additionally, consumers are showing that they want more environmentally acceptable choices than the market has been delivering and more trustworthy information about the environmental and social impact of the products they might purchase (Renner, 2002).

### **1.1.2 Green Consumer**

According to Suttle (2014), green consumers can be defined as:

*“Individuals who are careful to purchase products that are biodegradable, recyclable or otherwise safe for the environment. These individuals are sometimes called ‘tree huggers’ because of their concern for preserving natural resources.”*

Green consumers include a person who uses solar panels to power their homes, purchase hybrid cars and many others. They likewise have a tendency to avoid boxed foods or canned and generally buy more organic products than the normal consumer.

Based on BSD global.com (2013) stated that green consumers are;

*“Sincere in their intentions, with a growing commitment to greener lifestyle, almost always judge their environmental practices as inadequate and do not expect companies to be perfect in order to be considered ‘green’. Rather, they look for companies that are taking substantive steps and have made a commitment to improve.”*

Generally, green consumers have a tendency to have direct relationship to educational levels and their income. As indicated by Coddington (1993), the more schooling they have had and the more they earn, they tend to be greener. Women are more green consumers than men. A young adult tends to be the most responsive age

group of green consumers. In the United States, adults are likely less concerned than children and teens about the environment and also less knowledge about green alternatives (BSD global.com, 2013). Indirectly, they have influence and increase their parent's purchasing decisions to be more on greener products. In the following decade, a large number of them will achieve adulthood, and increase purchasing power of their own. And they are called the "Generation Y".

### **1.1.3 Generation Y and Green Consumerism**

Generation Y, also commonly referred to as the millennium generation, is the generation that came after Generation X. It also likes the offspring of Baby Boomers. As indicated by Paul (2001), Generation Y was born between the years 1977 until 1994, also known as the millennial generation. Characteristics of this generation vary by local social and economic conditions. However, this generation has the ability to learn things quickly, especially in communication, media and digital technology.

The difference between these generations can be determined based on the experiences that occur during childhood and adolescence. For example, Baby boomers born after World War 2, that between the years 1946 to 1964. They are known for hard-working, obedient attitude, do your best to head and organizational. They grew up with the influence of TV, Rock and Roll, the Cold War, Vietnam War, the Threat of nuclear war and the decimal currency. Whereas generation X grew up with the post-assassination of John F. Kennedy, the AIDS epidemic, the war on drugs, the Persian Gulf War, the rise of the internet and the Dot-com bubble. Generation Y is faced with the birth of Google, Facebook and Twitter. During this generation, they are socialize freely, voicing opinions, choose their news and entertainment channels by own.

Based on research by Environmental Leader (2007), their study of shopping behavior of Gen Y shows about 50 percent of respondents said that the policies of retailers will influence their shopping behavior. About 46 percent said they would shop at a retailer more if it is environmentally friendly. The study also revealed that 47 percent of them would be willing to pay more for environmentally friendly services, products or brands.

## **1.2 PROBLEM STATEMENT**

Concern about the environment has grown since the 1960s (Straughan and Roberts, 1999). In the 1970s, concern for environmental issues continues to rise due to a number of legislative initiatives designed to improve environmental problems. However, numerous tragedies and events related to the environment occurring in the late 1980s have made environmental issues as the focus of the world once again. One of the events was the discovery of the hole in the ozone layer that protects the earth (Ottman 1992b).

In the United States, more and more people who see environmental problems as a serious problem, getting worse and threaten human well-being (Dunlap and Scarce, 1991). In a survey conducted in 1991, one over sixth of adults who were interviewed chooses the environment as the most important issue facing the United States. While the economy is still the preferred choice of many people, more and more individuals refuse to sacrifice environmental quality for better economic conditions (Ottman 1992b).

In Malaysia, early studies conducted in Kuala Lumpur during the 1970s and 1980s has showing people are becoming more conscious about environmental

degradation but they do not give adequate attention to reducing environmental problems. The public at the time was more focused on the more pressing problem for them as the housing problems, unemployment and poverty (Abdul Samad, 1990). Another early study conducted in Pulau Pinang also showed similar findings in which the people found generally greater concerned of other issues such as education, inflation and unemployment than environmental issues (Chelliah 1983). This indirectly illustrate that the level of public concern about the environment at that time was low. However, lately, people are becoming aware of the importance of preserving the environment and trying to find other alternatives for environmental sustainability. Community concerns on environmental issues are rising, particularly among urban consumers in Malaysia and it supported by a study conducted by Md. Nor and Suriyati (2000) in Petaling Jaya and Kuala Lumpur.

This awareness has led to a new initiative of the use of green products. Green products is very important in order to maintain and ensure environmental stability in the future so it does not continue to be destroyed and removed because the act of humans themselves. Although the green movement in our country lags behind Western countries, the environmental concerns among the population are on the rise (Esther *et al.*, 1998). Environmental awareness requires us to be aware of the way of life that will have a negative impact on the environment, and try to change the attitude of the new attitude to maintain and promote the good quality of the environment. According Roarty (1997), "green consumers" are defined as those who care about the environment and try to buy products that do not harm the environment. Positive attitude towards the environment makes them more inclined not to buy products from companies that pollute the environment and are willing to sacrifice to reduce pollution. Chan and Lau (2000) found that concern and

knowledge about the environment (ecology) also influence consumers to adopt environmentally friendly behaviors such as the practice of buying and using green products.

Previous studies also show a relationship between demographic variables of consumers with their practices of green consumerism. Straughan and Roberts (1999) found that the characteristics of respondents which are age, gender and educational attainment has its significant correlation with the behavior of eco-friendly consumers. A study conducted by Laroche et al. (2001) showed that the gender factor influencing consumers' willingness to pay more for green products. The study found that 57% of female respondents are willing to pay more for green products, but only 40% of men are willing to do so.

### **1.3 RESEARCH QUESTIONS**

Based on the preceding discussion, the research questions developed for this study are as follows:

- 1) Are there any differences between demographic factors (gender, age and education level) towards the intention to use green products among consumers?
- 2) Are there any relationship between attitude, subjective norm and perceived behavior control with the intention to use green products among consumers?
- 3) What are the factors (attitude, subjective norm and perceived behavior control) that influence consumers' intention to use green products?

#### **1.4 RESEARCH OBJECTIVE**

In general, the objective of this study is to understand attitude, subjective norm, and perceived behavior control of the consumer on their intention toward using green products. The study aims to:

- 1) To investigate the differences between demographic factors (gender, age and education level) towards the intention to use green products among consumers.
- 2) To examine the relationship between attitude, subjective norm and perceived behavior control with the intention to use green products among consumers.
- 3) To determine the factors (attitude, subjective norm and perceived behavior control) that influence consumers' intention to use green products.

#### **1.5 SIGNIFICANCE OF THE STUDY**

This research will be benefiting the business in terms of knowledge and knowing the potential of the green market, mainly targeting to the green consumers. It is important for marketers to understand their target market in order to conquering the market. The ability to understand the target market could help the company to establish and maintaining their products in the market.

This study also would helps marketers for better understanding of green consumers' purchasing behavior. Marketers need to determine which products that consumer preferred the most in the market and also will help marketers to produce products that are affordable for every consumer levels. In addition, this study also helps marketers for better understanding of green purchasing behavior's trend.

## **1.6 SCOPE OF THE STUDY**

The scope of this research shows the context or focus of study and the respondents involved in this study. The context of the study is on intention to use green products among consumers. This study will be conducted amongst people in Universiti Utara Malaysia (UUM), Kedah including undergraduate and postgraduate students, academic and non-academic staffs. Therefore, this study is more relevant and applicable to the population at UUM because consumers here have different levels of education starting from the lower level to the highest level. These findings do not reflect the entire population of consumers of green products in Northern of Malaysia. The study was conducted in a relatively short period of time due to the inherent constraints. If this study can be implemented in the long term, information or related materials can be increased further.

## **1.7 DEFINITION OF KEY TERMS**

This study is based on a number of topics, which are the definition of green consumerism, Theory of Planned Behavior (TPB), and all of the independent and dependent variables. The definitions of terms that used to implement this study are as follows:

### **1.7.1 Green Consumerism**

Green consumerism is the purchasing, utilizing and recycling of eco-friendly items that offer negligible harm to the nature. According to Ottman, (1992b), he has been stated that green consumerism as “an attempt by individuals to protect themselves and the planet by buying only green products on the shelves”.



### **1.7.2 Theory of Planned Behavior (TPB)**

Theory of Planned Behavior (TPB) is a theory that describes the three variables namely; attitude, subjective norm and perceived behavioral control (Ajzen, 1991).

### **1.7.3 Attitude**

Attitude is defined as the positive or negative feelings about performing a behavior. According to Ajzen (1991), attitude is stated as "the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question".

### **1.7.4 Subjective Norms**

Subjective norm is a person's perception of social pressure to perform or not perform the behavior (Ajzen, 1987). In the model Theory of Reasoned Action and Theory of Planned Behavior, subjective norm is a function from the normative beliefs, which represents the individual's perception of whether people important to others about what the behavior should be performed.

### **1.7.5 Perceived Behavior Control (PBC)**

Perceived behavior control can be defined as the level of control that a person perceives over performing the behavior (Chen, 2007; Kang et al., 2006). Ajzen (2001) has described perceived behavior control is "the extent to which a person feels able to engage in the behavior".

### **1.7.6 Intention to Use**

Intention is the intention to perform an action. According to the definition of the intention given by Fishbein and Ajzen (1975) which states that intention as a person's location on a subjective probability dimension involving a relation between

himself and some action. A behavioral intension, therefore, refers to a person's subjective probability that they will perform some behavior.

## CHAPTER 2

### LITERATURE REVIEW

#### **2.0 CHAPTER INTRODUCTION**

Chapter two provides the data of secondary sources which are reviews from scholars and some explanation that related to the main variables and the basic theory of the study. This chapter starts with review of green products phenomenon, followed by dependent variable, and then the Theory of Planned Behavior and its variables.

#### **2.1 GREEN PRODUCTS PHENOMENON**

Environmental problems such as air and water pollution are not something foreign to us. Over the past decade, events such as the Exxon oil spill in 1990 have destroyed wildlife, and some Alaskan sea basin. In 1991, the burning oil wells in Kuwait releasing 200 million tons of carbon dioxide into the atmosphere (Winchip, 2003). Environmental damage is very closely related to human action itself. Development by humans that emphasizes economic growth solely contributed to the pollution and shrinkage of natural resources. The problem of environmental pollution that increases seriously has shifted ecological movement from the edge and put environmental concerns on mainstream (Ottman, 1992a). In the west countries, the green movement has become one of the important issues in the community over the

past decade. The businesses, governments and consumers are becoming increasingly aware and concerned about environmental issues (Martinsons *et al.*, 1996). Development of concern for the environment has begun to change attitudes and behavior of people towards environment. More and more individuals are aware that their purchase and use can give impact on the environment.

Thus, a change in consumer buying patterns have occurred with increasing number of consumers shift their purchases to products that are sustainable or environmentally friendly and set aside products that can harm the environment (Morris *et al.*, 1995). This new trend has been known as green consumerism. Ottman (1992a) has defined green consumerism as the efforts by a group of individuals to protect themselves and the world through the power of purchase and use. The green consumers will always ensure that the product used and purchased does not harm the environment in their efforts to protect nature. Although the practice of green consumerism has long flourished in the west countries, the concept is still foreign to most users in our country. Therefore, this study will review on the practice green consumerism among consumers. In addition, this study will focus on consumers' intention to use green products.

Today, the word 'green' and 'environmentally friendly' are gaining popularity. Yes, because of the emergence of global warming and climate change in extreme, the phenomenon of green products gathering popularity campaign. In the era of free trade, the issue is then associated with business demands. Without using the "frills" of green products, do not expect the product to be received in the international markets. Awareness of green products not only in business, but each individual must be aware of it. People are aware that environmental protection is

inclusive their responsibility as consumers, not only responsibility of firms and institutions.

The term 'green product' is used to describe products, which are not harmful for the environment or products which are environmental friendly. Chemical compositions of the products are also environment friendly and suitable to recycle (Alsmadi, 2007). Green products can be divided in different categories. Consuming products is one category, which includes food item. According to Thogersen (2006), this category especially emphasizes on the food manufacturing process where pesticides or harmful chemicals are not use during the manufacturing process of the food. Technological products or home appliance products are under electronic product category that includes washing machine, freezers, coffee machine, computer (Young *et al.*, 2010). One research was conducted on the ecological products where food, medicine, cosmetics and furniture were present as four different categories. Among those categories, food item showed most awareness and satisfaction from the consumers (Chitra, 2007).

Considering the environmental impacts towards human is seamless and the quality of life for present and future depends on the care and protection of ecosystems, the environmental concerns need from all parties. At the same time, it is important for users to build a sense of responsibility for the deteriorating condition of the ecosystem by buying and using products that can help protect our earth (Winchip, 2003). This is because environmental problems are caused by industrial production patterns, consumption patterns and consumer behavior either directly or indirectly.

Although the green movement in Malaysia and other developing countries is growing, but its development is still at a slow rate (Mohd Rafi *et al.*, 2003). Until

now little research has been done to study the practice of green consumerism and consumer perception of green products in Malaysia. Therefore this study in particular to find answers to the following questions: (i) what is the profile of the user who practices green consumerism? (ii) Are there any relationships between factors (independent variables) with the intention to use green products? And (iii) are these factors (independent variables) affecting the intention to use green products among consumers?

## **2.2 INTENTION TO USE**

Complete Dictionary of Psychology works of J.P. Chaplin (2004) defines intention as the struggle to achieve one goal. First sense implies that the intention is something deliberate or unconscious has even begun. This is confirmed in the same dictionary of (Chaplin, 2004) of the term intentional, that is "offensive intent, intentions, or goals; purposeful; realized, or of their own accord". Referring to the original meaning of this word, in the English-Indonesian Dictionary mentioned, intention means intent, intentions, or goals. This word has derived adjective intentional, which means "deliberate" (Echols and Shadily, 2000).

In other words, intention is the intention to perform an action. More comprehensive understanding of the intentions given by Fishbein and Ajzen (1975) which states:

*“We have defined intention as a person’s location on a subjective probability dimension involving a relation between himself and some action. A behavioral intension, therefore, refers to a person’s subjective probability that they will perform some behavior.”*

The definition, according to (Anwar et al., 2005) suggests that the intention is the probability or likelihood that the subjective nature, the estimation of how likely a person to perform a certain action. That means, measuring the intention is to measure the likelihood of a person in performing a particular behavior. Hereinafter, according to Ajzen (2005) in his theory called the Theory of Planned Behavior, intention is influenced by three factors, namely:

- 1) Attitude toward the behavior.
- 2) Subjective norms.
- 3) Perceived behavioral control.

Morrison (1979) has stated that, previously, a large number of studies have used intention to purchase or use. Silk and Urban (1978) presented that intention to purchase as one of the input for a new product model. Pessemier and Lehmann (1972) also used intention to purchase for brand preference and choice. In Addition, intention to purchase was also being used to segments markets for proposing new products. Smith (1965) in his study also used intention to purchase to evaluate the effectiveness of automobile advertising.

In order to make a strategic decisions for both new and existing products, and also supporting marketing programme, marketing managers also routinely used the data of intention to purchase. According to Silk and Urban (1978); Urban and Hauser (1993), intention to use or purchase also helps managers to make decision to which customer segments and in which geographic markets the product should be launched.

Most of pro-environmental researchers for intention to use have applied the Theory of Reasoned Action in their research. According to Chan and Lau (2000), the behavior and environmental attitudes of consumers in China tested the relationships

among intention, environmental knowledge, affect and behavior. Chan and Lau (2000) found that, there are significant and positive relationship exists. It can be shown that Chinese consumers express a positive ecological affect and they have intention to purchase and use green products. As indicated by Follows and Jobber (2000) in their research to predict environmental responsible purchase intention and environmental responsible purchase behavior also found a significant relationship. Follows and Jobber (2000) stated that a person who more likely to intend to engage in using and purchasing of green product, is the person who felt that environmental consequences of pro-environmental buying were so important.

Additionally, Ramli (2009) in his study review the awareness of eco-label Malaysia's green marketing initiative. At the end, the result showed that individual who have stronger relationship between intention to purchase and use environmental friendly products and concrete knowledge about it, would have high awareness on eco-label. In other studies, Lee (2008) examined gender differences and intention to purchase green products. He found that female consumers were the main green consumers higher than male. In brief, intention to use is adapted as dependent variable in this study.

### **2.3 THEORY OF PLANNED BEHAVIOR**

The "Theory of Planned Behavior" proposed by Ajzen in 1985 through his article titled: "From intentions to actions: A theory of planned behavior". The theory is developed from the Theory of Reasoned Action (TRA), designed and proposed by Martin Fishbein together with Ajzen in 1975. In other words, theory of planned behavior is an extension of theory of reasoned action model. Theory of planned



behavior adds a factor into three factors which theory of reasoned action has only two factors alone. There are three components that explain further intention to behave and thus behavior itself in theory of planned behavior, which is attitude toward the behavior, the subjective norms surrounding the performance of the behavior and perceived behavior control (individual's perception of the ease with which the behavior can be performed).

TPB has its own strengths. The TPB can cover people's non-volitional behavior which cannot be explained by the theory of reasoned action. An individual's behavioral intention cannot be the exclusive determinant of behavior where an individual's control over the behavior is incomplete. By adding "perceived behavioral control," the theory of planned behavior can explain the relationship between behavioral intention and actual behavior. Several studies found that the TPB would help better predict health-related behavioral intention than the theory of reasoned action (Ajzen, 1988). The TPB has improved the predictability of intention in various health-related fields such as condom use, leisure, exercise, diet, etc. In addition, the theory of planned behavior as well as the theory of reasoned action can explain the individual's social behavior by considering "subjective norms" as an important variable.

However, TPB also has certain limitations or weaknesses. Among the limitations are, it assumes the person has acquired the opportunities and resources to be successful in performing the desired behavior, regardless of the intention. Besides, it does not account for other variables that factor into behavioral intention and motivation, such as fear, threat, mood, or past experience. While it does consider normative influences, it still does not take into account environmental or economic factors that may influence a person's intention to perform a behavior. It also assumes

that behavior is the result of a linear decision-making process, and does not consider that it can change over time. Lastly, although the added construct of perceived behavioral control was an important addition to the theory, it doesn't say anything about actual control over behavior. Figure 2.1 below showed the sample of the theory.

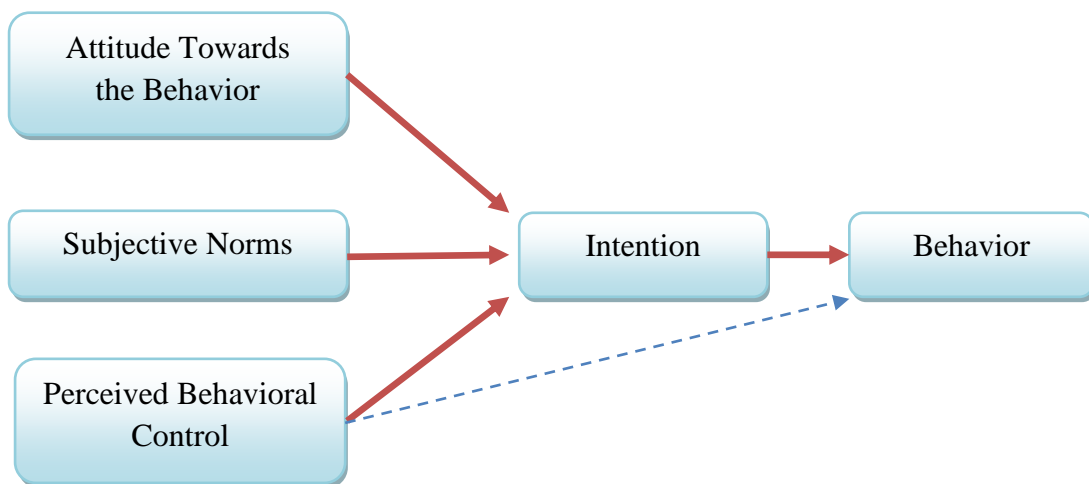


Figure 2.1  
*Theory of Planned Behavior, adopted from (Ajzen, 2005).*

The theory of planned behavior states that the emergence of behavioral is determined by a person's intention to behave (Ajzen, 1991). Theory of planned behavior suggests that the proximal determinants of behavior are intentions to engage in a behavior and perceived behavioral control over the behavior. Intentions represent a decision or conscious plans to exert effort to perform the behavior. Perceived behavioral control is the perception that performance of the behavior is within person's control.

Attitudes, subjective norm, and perceived behavioral control will determine the intention. Attitudes are overall evaluations of the behavior. Subjective norms are beliefs about whether significant others think that the individual should engage in the behavior. Perceived behavioral control is the perception that the performance of a specific behavior is within an individuals' control (Higgins, & Conner, 2003). These three factors have their role where an attitude toward the behavior refers to the favorable or unfavorable intention to use green products. The second factor is that subjective norms refer to the social influence of the public or the people closest to perform or not perform an intention to make a use of green products. The last factor is the perceived behavioral control refers to the perceived ease or difficulty of the intention to use green products.

## **2.4 ATTITUDE**

Theory of Planned Behavior elaborates that intention of individual is controlled by three determinant factors, one is personal factor or nature of the person, second is social influence on actions by others and third is perceived behavior control that controlled by controls believes. Personal factor is evaluation of positive or negative behavior which a person intending to perform. Furthermore, personal factor is called as attitude toward the behavior where an individual's belief towards the object will lead to his/her behavior. According to Ajzen (2005), positive and negative beliefs are stimulators to perform a behavior or not. Attitude towards behavior refers to the individual's attitude towards performing a specific behavior. Ajzen and Fishbein (1980) stated that attitude towards any concept is simply a person's general feeling of favorable or unfavorable towards that concept. A person will hold a favorable

attitude towards performing the behavior when he/she believes that performing a given behavior will lead to positive outcomes.

Attitudes are evaluative statements about objects, people or events. This is a reflection of one's feelings about something. Attitude toward the behavior is defined as "determined by a person's evaluation of those outcomes as favorable and unfavorable" (Ajzen and Fishbein, 1980). According to Blackwell et al., (2006), attitude is the evaluation of performing a particular behavior involving the attitude object, such as buying and using the product.

While La Pierre ( through Anwar, 2003) provide a definition of attitude as a pattern of behavior, tendencies or anticipatory readiness, predisposing to adapt in social situations, or simply, the attitude is a response to social stimuli that have been conditioned. Furthermore, Soetarno (1994) gives the definition of the attitude is views or feeling that accompanied by the tendency to act on a particular object. Attitude directed towards objects, people, events, views, institutions, norms and others.

Although there are some differences in the meaning of attitude, but based on the opinions mentioned above it can be concluded that the attitude is a state in which human moves to act or do in social activities with certain feelings in response to the object or situation surrounding environmental conditions. In addition it also provides a readiness to respond to the positive or negative nature of the object or situation.

There are a number of previous studies which tells the story of the relationship between attitudes and behavior. Taib et al., (2008) in their studies about postgraduate students' attitude towards diminishing partnership home financing and the level of its acceptance, and found there are positive significant relationship.

Attitude also has been identified as a key factor to use online trading system (Gopi and Ramayah, 2007). In addition, Ramayah and Suki (2006) also found that there are significant relationship between Master of Business Administration students' attitude and intention to use mobile personal computers.

Other prior studies also have shown that there are significant and positive impact between attitude and intention (Davis *et al.*, 1989; Rhodes and Courneya, 2003; Ing-Long and Jian-Liang, 2005; Baker *et al.*, 2007). This reinforces the fact that attitude have positive relationship with intention. In a recent study conducted by Alam and Sayuti (2011), who studied the intention to purchase food, has showed a positive relationship between attitude and intentions. It also supported by Iakovleva *et al.*, (2011), who study about entrepreneurial students' intention in developing and developed countries.

## **2.5 SUBJECTIVE NORM**

The second factor of the Theory of Planned Behavior is the subjective norm which is controlled by normative beliefs. Subjective norm reflect social influence, namely the person's perception of social pressure from the community and people around to perform or not perform a behavior. From the consumer behavior perspective, it appears that people can be influenced by their reference group in choosing a product. Highly visible products lead themselves to acquiring positive or negative social influence. Osterhus (1997) has supported that behavior tends to remain consistent within a social group.

Bearden *et al.*, (1989) stated that influence of others is the important determinant for individual's behavior. The used of well-known spokespersons to

portrayal and endorsing of products being consumed in social situations can be proof of this determinant. According to Bandura (1977; 1986; 1989), this can be clarify a major part of consumer susceptibility of interpersonal influence, which advocates a two-way interaction and can also occur between personal characteristics and environmental. Physical structures and social influences within the environment will modify and develop beliefs, human expectations, and cognitive competencies. Thus, social environments can strongly influence the attitudes toward buying or using decision. Social environments here include family, friends, and peers. Cheah and Phau (2005) supported that interpersonal processes and relationships between professionals and opinion leaders have a positive impact on attitude in purchasing decisions.

Previous researchers have shown that how parents and/or peers influence the attitudes of individual (Carlson *et al.*, 1994; Lacznik *et al.*, 1995; Keillor *et al.*, 1996; Bush *et al.*, 1999). Individuals learn attitudes and general behaviors from their past experiences. As stated by Bandura (1977), behaviors, attitudes, values and skills have been learned by consumers through their observation of others or through observations of print or electronic media. This clearly shows that social agents like family, peers, schools and media are the one that plays a role to develop adolescent shopping behavior (Moschis, 1981; Ozgen, 2003). Social influences from social agents among adolescent are very powerful and may impact whether buy or not buy a products or brands. Adolescents' media use and presence or absence of relative communication will changed the shopping patterns of young consumers. In simple terms, social agents or environmental agents is an important in influence adolescent buying and using decision.

Another influence that gives a big impact to intention to use or purchase is social media. Based on research by (Business Wire, 2009), they have conducted a survey to study about online, traditional and social media on influencing purchasing decisions. The results found about 57% of 18 to 24 years old and 48.5% of 25 to 34 years old said that their choice of day spa or hair salon have been influenced by social media. Social media seen had the most impact to purchasing and using decisions. Ramos (2009) in his study stated that “buyers who use social technology don’t rate it highly in terms of its influence on their buying and using decisions, despite the fact that they count on peers’ opinion to make decisions”.

As indicated by Ajzen (2005), normative beliefs are individual’s beliefs to perform or not to perform any behavior that is motivated by the individual or group of people that close to the performer of the behavior. Any person or group that serves as a point of comparison for an individual in forming either general or specific values, attitudes, or specific guides for behavior is called a reference group. According to Schiffman and Kanuk (2000), reference group that influence broadly defined values are called normative reference group. As stated by Ajzen and Fishbein (1980), subjective norms are important attribute in shaping a persons’ attitude towards performing a specific behavior.

Previous research has shown mixed results between some positive and negative regarding subjective norms as a factor that stimulates the intention. Some studies show a significant relationship between subjective norms and intentions (Taylor and Todd, 1995; Ramayah et al., 2003; Baker et al., 2007). On the other hand, some studies showed no significant relationship between subjective norms and intentions (Davis et al., 1989, Chau and Hu, 2001; Lewis, Agarwal & Sambamurthy, 2003). In a recent study conducted by Alam and Sayuti (2011), who studied the

intention to purchase food, has showed a positive relationship between subjective norms and intentions.

## **2.6 PERCEIVED BEHAVIOR CONTROL**

The third factor of the Theory of Planned Behavior is perceived behavior control which is controlled by controls believes. Perceived behavior control is an added factor in the theory of planned behavior, in addition to the attitude and subjective norm in the theory of reasoned action. Perceived behavioral control is the perception that the performance of certain behaviors within individual's control. Individual who believe they lack the opportunities to perform a particular behavior or necessary resources are unlikely to form strong behavioral intentions despite the fact that their attitude and subjective norm may be favorable. Perceived behavior control can also influence behavior directly, as well as independent of their actions through the intention (Madden, Ellen, and Ajzen, 1992). So, the perceived behavior control is said to be able to influence the behavior and intentions. A person's behavior is influenced by confidence that they have the ability to perform the behavior. Control beliefs help or hinder a person in performing the behavior can be used to measure the perceived behavior control.

As stated by Ajzen (1991), perceived behavioral control is the extent to which a person feels able to engage in the behavior. It has two aspects. The first one is how much a person has control over behavior. Second is how confident a person feels about being able to perform or not perform the behavior. It is determined by the person's beliefs about the power of both situational and internal factors to facilitate the performing of the behavior. That means, the more the control he or she feels



about make a use of green product, the more likely he or she will be to do so. In addition, perceived behavior refers to the degree of control that an individual perceives over performing the behavior. As supported by other researchers, when people believe they have more resources such as money, time, and skills, so their perceptions of control are high and hence their behavioral intentions increase.

Past research shows that there are significant positive relationship between the perceived behavior control and the intention in various studies such as health behavior, information technology, physical activity, and many others (Ing-Long and Jian-Liang, 2005; Wise et al., 2006; Gopi and Ramayah, 2007; Blanchard et al., 2008). In a recent study conducted by Alam and Sayuti (2011), who studied the intention to purchase food, has showed a positive relationship between perceived behavior control and intentions. So, clearly indicating an intention to use green products is high when a person has more perceived behavior control within themselves.

## CHAPTER 3

### RESEARCH METHODOLOGY

#### **3.0 CHAPTER INTRODUCTION**

In a research study, the methodology is an important factor to enable the results obtained has a high validity and reliability. Therefore, the approach to sampling and analyzing data method used should be identified so that it is compatible with the research objectives that have been outlined because the failure to use the methods of data collection or research methodologies appropriately and effectively can produce inaccurate information, blurred and could lead to information overload. This section explains the research method or approach used to collect and analyze data in order to achieve the research objectives. Information given in this chapter is covering aspects of theoretical framework, hypotheses development, research design, research sample, data collection method, pilot test, reliability test, and statistical methods used.

### 3.1 THEORETICAL FRAMEWORK

Theoretical frameworks of this study are presented in Figure 3.1. The dependent variable in this study is the intention to use. The independent variables are attitude, subjective norm and perceived behavior control.

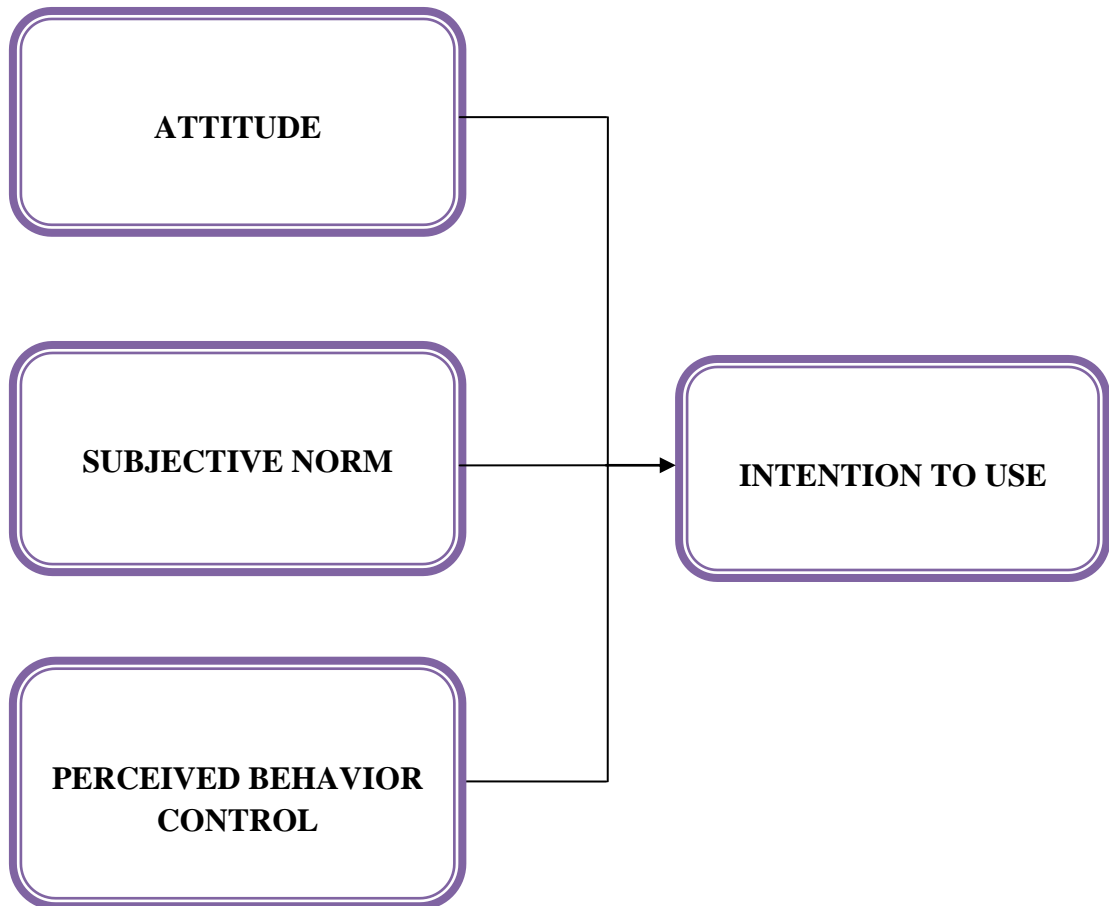


Figure 3.1  
*Theoretical Framework*

## 3.2 HYPOTHESES DEVELOPMENT

The hypotheses that related to the objectives of this study are as follows:

- H<sub>a</sub>1: There is significant difference between gender towards the intention to use green products among consumers.
- H<sub>a</sub>2: There is significant difference between age towards the intention to use green products among consumers.
- H<sub>a</sub>3: There is significant difference between education level towards the intention to use green products among consumers.
- H<sub>a</sub>4: There is positive significant relationship between attitude with the intention to use green products among consumers.
- H<sub>a</sub>5: There is positive significant relationship between subjective norm with the intention to use green products among consumers.
- H<sub>a</sub>6: There is positive significant relationship between perceived behavior control with the intention to use green products among consumers.
- H<sub>a</sub>7: Attitude, subjective norm and perceived behavior control have significant influence on the consumers' intention to use green products.

### **3.3 RESEARCH DESIGN**

The research design is a framework or plan of action to carry out marketing research projects. It stated the details or procedures necessary to obtain information needed for structuring and or overcome problems of marketing research (Malhotra, 1999). A causal research design has been used in this study. According to DJS Research Ltd (2009), causal design reviews the effect of one variable to another. It is said to be causal when there is a relationship between the independent variables and the dependent variable. In terms of the nature of causality, the two variables are related if certain values of the variable coincide with certain variables another variable. And, when the values of a variable generating value of other variables, the relationship is a relationship of cause and effect or causal relationship (Lawrence, 2009).

### **3.4 RESEARCH INSTRUMENT**

Research instrument is a way used to collect information. In order to collect data of the study, various methods can be used like get the data through questionnaires, observations and interviews. According to Zikmund (2000), the most popular method to collect the data is through the questionnaire because it is inexpensive and can cover a large number of respondents. Therefore, the data collection in this study was done in the questionnaire method. The questionnaire that was used is divided into two sections. Section A consists of items that are geared to the respondent demographic information such as gender, age, nationality, race, level of education as well as general information related to green products.

Section B of the questionnaire consists of 18 items related to the independent variables and the dependent variable. For the full sample of questionnaire can be

referred in Appendix A. It is divided into three independent variables and one dependent variable as follows:

1. **“Attitude”** consists of six items that were adapted from Taylor and Todd (1995), Taib et al., (2008).
2. **“Subjective Norm”** consists of four items that were adapted from Taylor and Todd (1995), Taib et al., (2008), Ramayah and Suki (2006).
3. **“Perceived Behavior Control”** consists of three items that were adapted from Taylor and Todd (1995).
4. **“Intention to Use”** consists of five items that were adapted from Taylor and Todd (1995), Hanudin Amin (2011).

The summary of all items for each section in the questionnaire is shown as in Table 3.1 below:

Table 3.1  
*Summary of the Questionnaire*

<b>Variables</b>	<b>No. of Items</b>	<b>Question No.</b>
<b>Section A:</b>		
Gender	1	Section A: 1
Age	1	Section A: 2
Nationality	1	Section A: 3
Race	1	Section A: 4
Level of Education	1	Section A: 5
Ever use or not	1	Section A: 6
Environment practicing or not	1	Section A: 7
<b>Section B</b>		
Attitude	6	Section B: 1-6
Subjective Norm	4	Section B: 7-10
Perceived Behavior Control	3	Section B: 11-13
Intention to Use	5	Section B: 14-18

This study has used a Likert scale to obtain a statistical measure in Section B. According to Keegan (2009), a Likert scale is a measure of attitude that developed by Likert Rensis. Using Likert scale has obvious advantages that "they are easy to construct, administer and score" (Keegan, 2009). This questionnaire has been designed using a five point Likert Scale method as indicated below:

1 = Strongly Disagree

2 = Disagree

3 = Not Sure

4 = Agree

5 = Strongly Agree

### **3.5 RESEARCH SAMPLE**

The target population of this study is the consumer within Universiti Utara Malaysia (UUM). These include the undergraduate and postgraduate students, as well as academic and non-academic staffs in UUM. Researcher selects undergraduate and postgraduate students and also academic and non-academic staffs in UUM as a sample because each individual seen has a different level of education. A study by Straughan and Roberts (1999) found that the characteristics of respondents which are age, gender and educational attainment has a significant correlation with the behavior of eco-friendly consumers.

Random sampling method was used in this study since all respondents in this study are easy to reach. Yamane (1967) has provided a table for determining the

sample size according to the population. According to information obtained from the Registrar's Department, UUM (2014), the total number for undergraduate and postgraduate students in UUM is 23,708 people. Meanwhile, the total number of academic and non-academic staffs in UUM is 3,421 people. So, the total population of students, academic and non-academic staffs is 27,129 people. Based on the table of sample size by Yamane, when population size,  $N=15000$ , sample size  $(n) = 99$ , and when  $N > 20000$ ,  $n=100$ . As the population in this study exceeds 20000 people, so the sample size used was 100 of respondents. As indicated by Martin and Bateson (1986), the more data collected is the better, because the higher the sample size, steadily improved the statistical power. Instead of using 100 samples, researchers have chosen to use 120 samples to get a more accurate result.

### **3.6 DATA COLLECTION METHOD**

In this study, the researcher has used primary data of a questionnaire distributed to the respondents which are consumers within Universiti Utara Malaysia. This questionnaire contains questions that are arranged in an orderly manner to be answered by the respondents. The questionnaire is an important tool for researchers in carrying out a study because the quality of the questionnaire will determine the value of research as a whole. If the questions posed in the questionnaire vague or blurred, then the answer will not come at the real meaning and this will ruin the results or findings of a study.



### **3.7 PILOT TEST**

Questionnaires must be tested through a pilot test to see a weaknesses contained therein. Pilot test should be conducted using reasonable samples which represent the target population. According to Cooper et al., (2006), "weakness in design and instrumentation can be detected thru a pilot study and it can provide proxy data for selection of profitability sample." This questionnaire was tested on 20 respondents which consisted of undergraduate and postgraduate students and also academic and non-academic staffs in order to see how the reliability of each item used to measure the relationship between the independent variables and the dependent variable.

### **3.8 RELIABILITY TEST**

In general, reliability is a measure of the ability of a research instrument in measuring the variables of the study consistently each time it is used at a time, place and different samples. There are various methods of measurement that can be used to determine the reliability coefficient of the instrument. Reliability of the questionnaire was tested using Cronbach's Alpha procedure based on a model of internal consistency. The closer the Alpha value to 1, it indicates a high level of reliability (Cronbach's Alpha = > 0.90). If the Alpha value is less than 0.6, it may be assumed that the instrument used in the study had low reliability (Cronbach's Alpha = < 0.60). Good and acceptable reliability if the value of Alpha is more than 0.7 (Cronbach's Alpha = 0.7 to < 0.90). Table 3.2 shows the range of reliability values of Cronbach's Alpha are as follows:

Table 3.2  
*Coefficient of Cronbach's Alpha*

<b>Values</b>	<b>Levels</b>
< 0.6	Weak
0.6 to < 0.7	Moderate / Received
0.7 to < 0.8	Good
0.8 to < 0.9	Very Good
> 0.9	Strong

The results of the reliability test of the pilot instrument fall within 0.751 to 0.919. Hence, variables measured in this study are considered reliable because their alpha values are 0.7 and higher. Table 3.3 shows the results of the pilot test are as follows:

Table 3.3  
*Reliability Statistic for the Pilot Test*

<b>Items</b>	<b>Number of Items</b>	<b>Cronbach's Alpha</b>
Attitude	6	0.751
Subjective Norm	4	0.807
Perceived Behavior Control	3	0.817
Intention to Use	5	0.919

### **3.9 STATISTICAL METHODS**

The data was analyzed using quantitative methods. In this study, Statistical Package for the Social Science 19.0 (SPSS) was used to analyze the data. Descriptive statistics is a method used by researchers to compile and interpret the raw data. This statistic is a technique used to take a raw data and summarized or be processed in a more concise form. In this research, the data collected from survey was tested using statistical techniques such frequencies distribution, t-test, one way ANOVA, correlation and regression analysis.

### **3.10 CHAPTER SUMMARY**

Details of the research design are provided in this chapter. Development stage of the questionnaire also discussed and it has aligned with the aims and research objectives and also the literature reviewed. In addition, this chapter also shows the reliability of the variables used through the pilot test that have been conducted. The analysis of the results of this study will be presented in the next chapter.

## CHAPTER 4

### RESULTS AND DISCUSSION

#### 4.0 CHAPTER INTRODUCTION

This chapter presents the results and findings of the study that has been conducted. Data analysis and presentation of the results of the study are based on a number of objectives that have been established as in Chapter 1. Analysis of the data was performed using the software Statistical Package for Social Sciences (SPSS) version 19.0. All the analysis data and the results can be referred in Appendix B. The data obtained were analyzed by several methods as follows:

- Descriptive Statistics;
  - Mean and Standard Deviation
- T-test;
- One-way ANOVA;
- Correlation;
- Regression.

#### 4.1 SAMPLE CHARACTERISTICS

A total of 120 questionnaires were distributed to consumers or respondents consisting of undergraduate and postgraduate students as well as academic and non-academic staffs in Universiti Utara Malaysia. It takes about two weeks to get back all the questionnaires were distributed. Out of the 120 questionnaires, only one questionnaire was not returned by the respondents as shown in the Table 4.1. All returned questionnaires were used for data analysis.

Table 4.1  
*Response Rate*

	<b>Total</b>	<b>Percentage</b>
Questionnaire distributed	120	100.0
Collected questionnaires	119	99.2
Uncollected questionnaires	1	0.8

#### 4.2 BACKGROUND OF THE RESPONDENTS

The results in this section will present a descriptive analysis of the demographic characteristics of the respondents. Demographic factors are presented as gender, age, nationality, race, and education level. In addition, there is also a related analysis of the questions asked in the demographic such as; do you ever use green products? And does your environment (UUM) practicing the use of green products?

#### 4.2.1 Gender of Respondents

Table 4.2 represents the gender of respondents of this study. The results showed that the respondents were male (51 respondents or 42.9%), while the respondents were female (68 respondents or 57.1%).

Table 4.2  
*Gender of Respondents*

<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>
Male	51	42.9
Female	68	57.1
<b>Total</b>	<b>119</b>	<b>100.0</b>

#### 4.2.2 Age of Respondents

Table 4.3 shows the age of the respondents. The table shows (10 respondents or 8.4%) are from the age 20 years old and below. Besides, (75 respondents or 63.0%) are from the age of 21 - 30 years old group while (15 respondents or 12.6%) are from 31 - 40 years old group. Then, (13 respondents or 10.9%) are from age 41 - 50 years old. Lastly, (6 respondents or 5.0%) are from the age of 51 years old and above.

Table 4.3  
*Age of Respondents*

<b>Age</b>	<b>Frequency</b>	<b>Percentage</b>
20 years and below	10	8.4
21 – 30 years	75	63.0
31 – 40 years	15	12.6
41 – 50 years	13	10.9
51 years and above	6	5.0
<b>Total</b>	<b>119</b>	<b>100.0</b>

### 4.2.3 Nationality of Respondents

Table 4.4 shows the nationality of respondents. The results showed that the respondents were citizen (101 respondents or 84.9%), while the respondents were non-citizens (18 respondents or 15.1%).

Table 4.4  
*Nationality of Respondents*

<b>Nationality</b>	<b>Frequency</b>	<b>Percentage</b>
Citizen	101	84.9
Non-citizens	18	15.1
<b>Total</b>	<b>119</b>	<b>100.0</b>

### 4.2.4 Race of Respondents

Table 4.5 shows the race of the respondents. The table shows the most highly of respondents are Malay with (70 respondents or 58.8%). Then, the second highest are Chinese with (26 respondents or 21.8%) while (4 respondents or 3.4%) are Indian, and (19 respondents or 16.0%) are from other races.

Table 4.5  
*Race of Respondents*

<b>Race</b>	<b>Frequency</b>	<b>Percentage</b>
Malay	70	58.8
Chinese	26	21.8
Indian	4	3.4
Others	19	16.0
<b>Total</b>	<b>119</b>	<b>100.0</b>

#### 4.2.5 Education Level of Respondents

Table 4.6 shows the education level of respondents. The table shows (19 respondents or 16.0%) are from certificate level. Besides, (14 respondents or 11.8%) are from diploma level while (61 respondents or 51.3%) are from bachelor degree level. Then, (19 respondents or 16.0%) are from master level. Lastly, (6 respondents or 5.0%) are from PhD level of education.

Table 4.6  
*Education Level of Respondents*

<b>Level of Education</b>	<b>Frequency</b>	<b>Percentage</b>
Certificate	19	16.0
Diploma	14	11.8
Bachelor Degree	61	51.3
Master	19	16.0
PhD	6	5.0
<b>Total</b>	<b>119</b>	<b>100.0</b>

#### 4.2.6 Ever Use Green Product

Table 4.7 shows the frequency distribution of the respondents ever or never uses green products. A total of (91 respondents or 76.5%) have ever used green products while (28 respondents or 23.5%) have never used green products.

Table 4.7  
*Ever Use Green Product*

<b>Ever use green product</b>	<b>Frequency</b>	<b>Percentage</b>
Yes	91	76.5
No	28	23.5
<b>Total</b>	<b>119</b>	<b>100.0</b>



#### 4.2.7 Environment Practicing the Use of Green Product

Table 4.8 shows the frequency of respondents' environment (UUM) that practices the use of green products. A total of (78 respondents or 65.5%) said their environments (UUM) practicing the use of green products, while (41 respondents or 34.5%) said UUM not practicing the use of green product.

Table 4.8  
*Environment Practicing the Use of Green Product*

<b>Environment practicing the use of green product</b>	<b>Frequency</b>	<b>Percentage</b>
Yes	78	65.5
No	41	34.5
<b>Total</b>	<b>119</b>	<b>100.0</b>

### 4.3 DESCRIPTIVE STATISTICS OF DATA COLLECTION

According to Norusis (1999), Johnson and Christense (2000), "descriptive statistics are methods used to organize, display, describe and explain a set of data with the use of tables, graphs and summary measures". Therefore, these methods are used to describe what the data shows. As stated by Coakes and Steed (2007), "descriptive statistics are used to describe, examine and summarize the main features of a collected data quantitatively".

All respondents were asked to show their perception towards the questions or statements in the questionnaire, using the Five Point Likert-Scale. Scale are ranging from 1 = strongly disagree; to 5 = strongly agree. Based on the answers and scores for each question, researchers have found an average score (mean) for each question and every variable. This value is then evaluated according to the following categories:

- *1.00 to 2.25 = Low*
- *2.26 to 3.75 = Moderate*
- *3.76 to 5.00 = High*

Table 4.9 shows the variable attitude towards intention to use green products among consumers or respondents was high (mean = 4.08, sd = 0.670). This indicates that the attitude of the consumers themselves play a strong role in influencing their intention to use green products.

For subjective norm variable also showed higher mean values (mean = 3.76, sd = 0.688). So, it is clear that the subjective norm for each consumer, such as family and friends influence their intention to use green products. The third variable was the

perceived behavior control also have high mean values (mean = 3.85, sd = 0.816). It also shows the perceived behavior control among consumers is high in stimulating their intention to use green products.

For dependent variable which is intention to use, it is also seen to have a high mean value (mean = 3.96, sd = 0.747). Therefore, it can be concluded that most of the consumers or the respondents have the intention to use green products.

Table 4.9  
*Descriptive Analysis (Mean and Std. Deviation) of the Variables.*

<b>Variables</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Skewness</b>	<b>Kurtosis</b>	<b>Level</b>
Attitude	119	4.08	0.670	-0.803	0.480	High
Subjective Norm	119	3.76	0.688	-0.358	-0.693	High
PBC	119	3.85	0.816	-0.714	-0.016	High
Intention to use	119	3.96	0.747	-1.094	1.518	High

Table 4.10 to Table 4.13 shows the scores for the mean and standard deviation of each independent variable and the dependent variable. All of the mean values of 18 items measured on a five point scale and showed a high and moderate scores which ranged from 3.66 to 4.17.

### **4.3.1 Attitude**

Table 4.10 shows the mean and standard deviation scores for the independent variable "Attitude". As shown in Table 4.10, all items have a mean value between 3.88 and 4.17, and it shows a high level of influence attitude towards intention to use green products.

All six items have shown a high level of mean values. Five of the items scored most equal value of mean ranging from 4.07, 4.09, 4.11, 4.14 and 4.17. There are item one "*I feel that green products have a positive impact on the environment*"

(mean = 4.17, sd = 0.886), item two “*I think choosing green products is beneficial to consumers*” (mean = 4.14, sd = 0.773), item three “*I think choosing green products is a good idea*” (mean = 4.09, sd = 0.844), item four “*I feel that using green products is a wise idea*” (mean = 4.07, sd = 0.918) and item six “*I feel that I need to appreciate green products*” (mean = 4.11, sd = 0.790). Whereas, item five “*I think using green products would be pleasant to me*” (mean = 3.88, sd = 0.875) has score the lowest value of mean.

Table 4.10  
Mean and SD of Attitude Items

<b>Item</b>	<b>Mean</b>	<b>Standard Deviation</b>
<i>I feel that green products have a positive impact on the environment.</i>	4.17	0.886
<i>I think choosing green products is beneficial to consumers.</i>	4.14	0.773
<i>I think choosing green products is a good idea.</i>	4.09	0.844
<i>I feel that using green products is a wise idea.</i>	4.07	0.918
<i>I think using green products would be pleasant to me.</i>	3.88	0.875
<i>I feel that I need to appreciate green products.</i>	4.11	0.790

### 4.3.2 Subjective Norm

Table 4.11 shows the mean and standard deviation scores for the independent variable "Subjective Norm". As shown in Table 4.11, all items have a mean value between 3.66 and 3.87, and it shows a high and moderate level of subjective norm towards intention to use green products.

Two of the items have scored a high level of mean values. There are item two “*People who are important to me think that green products are very useful*” (mean = 3.82, sd = 0.833) and item three “*People who are close to me think that I should choose green products*” (mean = 3.87, sd = 0.892). Another two items have scored a

moderate level of mean values. There are item one “*People are assuming that I am familiar with the needs of environmental friendly*” (mean = 3.71, sd = 0.905) and item four “*Other people expect that I have to choose green products*” (mean = 3.66, sd = 0.906).

Table 4.11  
*Mean and SD of Subjective Norm Items*

<b>Item</b>	<b>Mean</b>	<b>Standard Deviation</b>
<i>People are assuming that I am familiar with the needs of environmental friendly.</i>	3.71	0.905
<i>People who are important to me think that green products are very useful.</i>	3.82	0.833
<i>People who are close to me think that I should choose green products.</i>	3.87	0.892
<i>Other people expect that I have to choose green products.</i>	3.66	0.906

### 4.3.3 Perceived Behavior Control

Table 4.12 shows the mean and standard deviation scores for the independent variable "Perceived Behavior Control". As indicated in Table 4.12, all items have a mean value between 3.81 and 3.91, and it shows a high level of perceived behavior control towards intention to use green products.

All three items have shown a high level of mean values. The highest score of mean fall at item one “*I have the ability to use green products*” (mean = 3.91, sd = 0.957). Followed by item two “*I have the knowledge to make use of green products*” (mean = 3.85, sd = 0.945) and item three “*I have the resources (including money) to make use of green products*” (mean = 3.81, sd = 0.932). It shows that consumers or respondents have positive perceived behavior control towards intention to use green products when all the items score a high level value of mean.

Table 4.12  
*Mean and SD of Perceived Behavior Control Items*

<b>Item</b>	<b>Mean</b>	<b>Standard Deviation</b>
<i>I have the ability to use green products.</i>	3.91	0.957
<i>I have the knowledge to make use of green products.</i>	3.85	0.945
<i>I have the resources (including money) to make use of green products.</i>	3.81	0.932

#### 4.3.4 Intention to Use

Table 4.13 shows the mean and standard deviation scores for the dependent variable "Intention to Use". As indicated in Table 4.13, all items have scored a high level of mean. The highest score of mean value in this variable is item three, "I am interested to use green products in the future" (mean = 4.03, sd = 0.901). On the other hand, the lowest score is item one, "I like to use green products" (mean = 3.88, sd = 0.913).

Table 4.13  
*Mean and SD of Intention to Use Items*

<b>Item</b>	<b>Mean</b>	<b>Standard Deviation</b>
<i>I like to use green products.</i>	3.88	0.913
<i>I am interested to use green products in the immediate term.</i>	3.96	0.807
<i>I am interested to use green products in the future.</i>	4.03	0.901
<i>I intend to use green products more frequently.</i>	4.00	0.939
<i>I would definitely recommend this green product to others.</i>	3.94	0.968

#### 4.4 T-TEST ANALYSIS

According to Coakes and Steed (2007), the purpose of using t-test is to determine whether there is a significant difference of mean between the two sets of scores. There are several different types of t-test such as one sample t-test, independent sample t-test, and repeated measures (paired sample t-test). For discussion of this research, researcher was using independent sample t-test to examine whether the "gender differences" between male and female significantly to the intention to use green products.

**H<sub>a1</sub>: There is a significant difference between gender towards the intention to use green products among consumers.**

In table 4.14, the analysis showed a male consumers have (mean = 3.7373, sd = 0.79749), while female consumers have (mean = 4.1324, sd = 0.66342) for the intention to use green products. The female consumers showed a higher intention to use green products than male consumers. The findings revealed that there is a significant difference of gender between male and female consumers in intention to use green products (t-value = -2.871, p = 0.005). The significant value of 0.005 is smaller compared with the alpha value (0.005 < 0.05). This study provides significant results. Therefore, we can **accept the Hypothesis 1**.

Table 4.14  
*T-test between Gender and Intention to Use*

	<b>Gender</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>t</b>	<b>Significant</b>
<b>Intention to Use</b>	Male	3.7373	0.79749	-2.871	0.005
	Female	4.1324	0.66342		

## 4.5 ONE WAY ANOVA ANALYSIS

ANOVA or "analysis of variance" is used to determine the mean difference between the dependent variable and the independent variables. In the t-test analysis of the previous discussion, we examine differences in the dependent variable independent variables of the two groups, but for the ANOVA study consisted of three groups or more. This test will determine whether there are significant differences in the mean population from which the sample were drawn.

In this research, we do analyzed age and education level with the dependent variable. These two factors are analyzed with the intention to use in order to examine the differences between these populations. For age, there are 20 years and below, 21-30 years, 31-40 years, 41-50 years and 51 years and above. And for education level, there are Certificate, Diploma, Bachelor Degree, Master and PhD.

### 4.5.1 Age with Intention to Use

**H<sub>a2</sub>: There is a significant difference between age towards the intention to use green products among consumers.**

The results of ANOVA for age factor are shown in Table 4.15. The results indicate the intention to use green products for the age range 21-30 years was the highest with (mean = 4.1707, sd = 0.61398). And the age range 31-40 years showed the intention to use green products with the lowest (mean = 3.4667, sd = 0.80238). Although there are differences in mean intention to use green products by the age range, we cannot say there is a significant difference here. Therefore, to investigate these differences are more significant, we must look to the value of F and significant. This study found that the value of (F = 5.236, p = 0.001). Significant value is much



lower than alpha value ( $0.001 < 0.05$ ). Thus, this study provides significant results.

Therefore, we can **accept the Hypothesis 2.**

Table 4.15

*One Way ANOVA between Age with Intention to Use*

Age	Mean	Std. Deviation	F	Significant
20 years and below	3.9400	0.56608		
21-30 years	4.1707	0.61398		
31-40 years	3.4667	0.80238	5.236	0.001
41-50 years	3.5538	1.01046		
51 years and above	3.5333	0.84538		
<b>Total</b>	<b>3.9630</b>	<b>0.74696</b>		

#### 4.5.2 Education Level with Intention to Use

**H<sub>a3</sub>: There is a significant difference between education level towards the intention to use green products among consumers.**

The results of ANOVA for education level factor are shown in Table 4.16. The results indicate the intention to use green products for the respondents whose Master's holder was the highest (mean = 4.20, sd = 0.59628). And followed by Bachelor Degree (mean = 4.0623), Certificate (mean = 3.9263), Diploma (mean = 3.50), and lastly is PhD level (mean = 3.40). Although there are differences in mean intention to use green products by the level of education, we cannot say there is a significant difference here. Therefore, to investigate these differences are more significant, we must look to the value of F and significant. This study found that the value of ( $F = 3.174$ ,  $p = 0.016$ ). Significant value is much lower than alpha value ( $0.016 < 0.05$ ). This study provides significant results. Therefore, we can **accept the Hypothesis 3.**

Table 4.16  
*One Way ANOVA between Education Level with Intention to Use*

<b>Education Level</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>F</b>	<b>Significant</b>
Certificate	3.9263	0.77806		
Diploma	3.5000	0.81807		
Bachelor Degree	4.0623	0.66787	3.174	0.016
Master	4.2000	0.59628		
PhD	3.4000	1.13842		
<b>Total</b>	<b>3.9630</b>	<b>0.74696</b>		

#### 4.6 CORRELATION ANALYSIS

Pearson Correlation is a bivariate analysis that examined the relationship between two variables respectively measured using interval or ratio scale. This test is able to describe the correlation or relationship between independent variables with dependent variable has a significant relationship or not. According to Nizamuddin *et al.*, (2010), there are four characteristics of the relationship between the two variables tested. Those features involve significant relationships, strength of the relationship, shape of the relationship, and direction of the relationship. Table 4.17 shows Pearson's Correlation scale that describes relationship strength between dependent variable and independent variables. We will also discuss a hypothesis that has been tested to see whether significant relationship or not between the two variables.

Table 4.17  
*Pearson's Correlation Scale*

<b>Pearson Correlation</b>	<b>Relationship Strength</b>
Between $\pm 0.91$ to $\pm 1.00$	Very Strong
Between $\pm 0.71$ to $\pm 0.90$	Strong
Between $\pm 0.41$ to $\pm 0.70$	Moderate
Between $\pm 0.21$ to $\pm 0.40$	Weak
Between $\pm 0.01$ to $\pm 0.20$	Very Weak

Source: Hair *et al.*, (2008).

#### **4.6.1 Hypotheses Testing**

In the research, a hypothesis that formed should be in line with the research questions. This is because the hypothesis will answer what being questioned by research question. Below is a hypothesis that is analyzed in this test. This hypothesis as set out in chapter three has three independent variables or factors that have a relationship with the intention to use green products namely attitudes, subjective norms, and perceived behavior control. All the results are shown in the Table 4.18 to Table 4.20.

##### **4.6.1.1 Attitude with Intention to Use**

**H<sub>a</sub>4: There is positive significant relationship between attitude with the intention to use green products among consumers.**

The first independent variable is "attitude". This hypothesis aims to see the relationship between Attitude and Intention to Use green products. Table 4.18 shows the result of correlation between variables of attitude and intention to use. The result shows the relationship between attitude and intention to use are significant at the alpha level of 0.01. The value is significant at ( $p = 0.000$ ), so it is smaller than the alpha value ( $0.000 < 0.01$ ). In addition, the strength of the relationship expressed by the Pearson Correlation also strong ( $r = 0.731$ ) based on Table 4.17. The relationship between attitude and intention to use also showed a positive direction. So, we **accept Hypothesis 4.**

Table 4.18  
*Correlation between Attitude and Intention to Use*

		<b>Intention to Use</b>
<b>Attitude</b>	Pearson Correlation	0.731 (**)
	Sig. (2-tailed)	0.000
	N	119

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

#### 4.6.1.2 Subjective Norm with Intention to Use

**H<sub>a</sub>5: There is positive significant relationship between subjective norm with the intention to use green products among consumers.**

The second independent variable is "subjective norm". The hypothesis intends to see the relationship between Subjective Norm and Intention to Use green products. Table 4.19 shows the result of correlation between variables of subjective norm and intention to use. The result shows the relationship between subjective norm and intention to use are significant at the alpha level of 0.01. The value is significant at ( $p = 0.000$ ), so it is smaller than the alpha value ( $0.000 < 0.01$ ). Besides, the strength of the relationship showed by the Pearson Correlation ( $r = 0.542$ ) is moderate as referring to Table 4.17. The relationship between subjective norm and intention to use also showed a positive direction. So, we **accept Hypothesis 5**.

Table 4.19  
*Correlation between Subjective Norm and Intention to Use*

		<b>Intention to Use</b>
<b>Subjective Norm</b>	Pearson Correlation	0.542 (**)
	Sig. (2-tailed)	0.000
	N	119

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

#### 4.6.1.3 Perceived Behavior Control with Intention to Use

**H<sub>a6</sub>: There is positive significant relationship between perceived behavior control with the intention to use green products among consumers.**

The third independent variable is "perceived behavior control". The hypothesis intends to see the relationship between Perceived Behavior Control and Intention to Use green products. Table 4.20 shows the result of correlation between these two variables. The result shows the relationship between perceived behavior control and intention to use are significant at the alpha level of 0.01. The value is significant at ( $p = 0.000$ ), so it is smaller than the alpha value ( $0.000 < 0.01$ ). Besides, the strength of the relationship that shown by the Pearson Correlation ( $r = 0.650$ ) is moderate as referring to Table 4.17. There also a positive relationship between perceived behavior control and intention to use. Therefore, we **accept Hypothesis 6**.

Table 4.20  
*Correlation between Perceived Behavior Control and Intention to Use*

		<b>Intention to Use</b>
<b>Perceived Behavior Control</b>	Pearson Correlation	0.650 (**)
	Sig. (2-tailed)	0.000
	N	119

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

Based on the results of hypothesis testing, can be summed up here that attitudes, subjective norms, and perceived behavior controls have significant positively relationship with intention to use green products among consumers.

## 4.7 REGRESSION ANALYSIS

Regression analysis is used when we want to predict the influence of independent variables on the dependent variable. Sekaran and Bougie (2010) indicated that, when there are situation where one or more independent variables are hypothesized to affect dependent variable, then regression analysis is needed. Regression test will show how much variance in the independent variables is explained by the dependent variable. In this study, multiple regression analysis is used to analyze the influence of attitude, subjective norm, and perceived behavior control towards intention to use green products among consumers.

As a first step, we need to check whether the tests are performed is significant or not. To determine whether is significant or not, we will see the ANOVA table. Table 4.21 shows the value of F (58.770) is significant at the 0.000 level.

Table 4.21  
*Regression Analysis on ANOVA Test*

<b>Model</b>	<b>F</b>	<b>Sig</b>
1	58.770	0.000(a)

Table 4.22 shows that value of R, which is correlation of attitude, subjective norm and perceived behavior control with intention to use, is equal to 0.778. To see the extent of the three independent variables affect the dependent variable, we will see the 'R Square'. The value of 'R Square' is 0.605. This means that 60.5% of the three independent variables have affecting the dependent variable.

Table 4.22  
*Regression Analysis on Model Summary*

<b>Model</b>	<b>R</b>	<b>R Square</b>
1	0.778(a)	0.605

Table 4.23 below showed the coefficient between attitude, subjective norm and perceived behavior control with the intention to use. The table shows results for Beta of attitude is (0.508), subjective norm (0.153), and perceived behavior control (0.232). As showed in the results, the highest factor that affecting on intention to use is attitude.

In addition, the results also shows all the independent variables are significant with attitude ( $p = 0.000$ ), subjective norm ( $p = 0.043$ ), and perceived behavior control ( $p = 0.007$ ). Therefore, all three independent variables are significant predictors for intention to use green products. So, we **accept H<sub>a7</sub> that attitude, subjective norm and perceived behavior control have positive significant influence on the consumers' intention to use green products.**

Table 4.23  
*Coefficients (a)*

<b>Model</b>	<b>B</b>	<b>Std. Error</b>	<b>Beta</b>	<b>t</b>	<b>Significant</b>
(Constant)	0.210	0.298		0.706	0.482
Attitude	0.566	0.086	0.508	6.584	0.000
Subjective Norm	0.166	0.081	0.153	2.042	0.043
Perceived Behavior Control	0.213	0.078	0.232	2.735	0.007

#### 4.8 SUMMARY OF HYPOTHESES TESTING

Based on the results derived from hypothesis testing conducted through the independent sample t-test, one-way ANOVA analysis, Pearson correlation analysis and multiple regression analysis, the Table 4.24 shows a summary of the results of hypotheses either accepted or rejected.

Table 4.24  
*Overall Summary of Hypotheses Testing*

<b>Hypothesis</b>		<b>Result</b>
H <sub>a1</sub>	There is significant difference between attitude towards the intention to use green products among consumers.	Accepted
H <sub>a2</sub>	There is significant difference between subjective norm towards the intention to use green products among consumers.	Accepted
H <sub>a3</sub>	There is significant difference between perceived behavior control towards the intention to use green products among consumers.	Accepted
H <sub>a4</sub>	There is positive significant relationship between attitude with the intention to use green products among consumers.	Accepted
H <sub>a5</sub>	There is positive significant relationship between subjective norm with the intention to use green products among consumers.	Accepted
H <sub>a6</sub>	There is positive significant relationship between perceived behavior control with the intention to use green products among consumers.	Accepted
H <sub>a7</sub>	Attitude, subjective norm and perceived behavior control have significant influence on the consumers' intention to use green products.	Accepted



#### **4.9 CHAPTER SUMMARY**

From a study conducted on a sample of 120 respondents from undergraduate students and postgraduate students as well as academic and non-academic staffs at Universiti Utara Malaysia, can be summarized that all three hypotheses examined give a significant results. There are two level of statistical analysis were conducted which are descriptive statistic (an overview of the basic characteristics of the data) and statistical analysis (independent sample t-test, one way ANOVA, Pearson correlation and multiple regression). As referring to the results, all the hypotheses are accepted. It can be concluded that this study has achieved the objectives as set out in chapter one.

## CHAPTER 5

### CONCLUSION AND RECOMMENDATION

#### **5.0 CHAPTER INTRODUCTION**

This chapter discusses further on the findings and output of this study. Firstly, we will further explain the discussion of the findings. Then, this chapter will present the implications of the study. Finally, several recommendations for future research are suggested and also conclusion.

#### **5.1 DISCUSSION OF THE FINDINGS**

The objectives of this study are to investigate the differences between demographic factors (gender, age and education level) towards the intention to use green products among consumers, to examine the relationship between independent variables and dependent variable, and to determine the factors (attitude, subjective norm and perceived behavior control) that influence consumers' intention to use green products. The result shows that there are significant differences between demographic factors towards the intention to use green products. There also shows a significant relationship between independent variables with dependent variable. Besides, we will compared the results of the study with the previous study to see whether it have similarity or not.

### **5.1.1 Demographic Factors (Gender, Age, Education Level)**

The results of this study indicate that there are significant differences between gender, age and education level towards the intention to use green products. Firstly, we take a look at gender factor. Based on the result of t-test, the findings revealed that there is a significant difference of gender between male and female consumers towards intention to use green products ( $t = -2.871$ ,  $p = 0.005$ ). The significant value of 0.005 is smaller compared with the alpha value ( $0.005 < 0.05$ ). Based on the mean value, t-test results also showed that female respondents more prefer to use green products than male respondents.

The second factor is age. As referring to the result of ANOVA analysis in chapter four, this study found that the value of ( $F = 5.236$ ,  $p = 0.001$ ). Significant value is much lower than alpha value ( $0.001 < 0.05$ ). Thus, this study provides significant difference between ages towards intention to use. Age range 21-30 years showed the highest mean readings. So, this means that consumers aged between 21 to 30 years have a higher intention to use green products compared to their younger and older from the age range.

The third factor is education level. This factor also analyzed using one way ANOVA. The result found that the value of ( $F = 3.174$ ,  $p = 0.016$ ). Significant value is much lower than alpha value ( $0.016 < 0.05$ ). Then, this study also provides significant results. The result showed that respondents who their education at Master level are seen to have higher intention to use green products. This means that the higher the level of education a person is, the more he or she chooses to use green products.

These results are consistent and similar with previous study by Straughan and Roberts (1999) that found the characteristics of respondents which are age, gender and educational attainment has its significant correlation with the behavior of eco-friendly consumers. It also supported by Laroche *et al.* (2001) that showed the gender factor influencing consumers' willingness to pay more for green products. Thus, it can be said that there are significant differences between gender, age and education level towards the intention to use green products among consumers.

### **5.1.2 Attitude**

According to the research objectives, the researcher wants to examine the relationship between attitudes with the intention to use green products among consumers. As indicated in chapter four of this study, the result show there is a significant relationship between attitude and intention to use. Based on the result of correlation analysis, the value is significant at ( $p = 0.000$ ), so it is smaller than the alpha value ( $0.000 < 0.01$ ). Besides, the strength of the relationship expressed by the Pearson Correlation also strong at the value ( $r = 0.731$ ).

In addition, the coefficient result also shows significant at ( $p = 0.000$ ). Then, the value for Beta of attitude is (0.508), and it is the highest factor ranked, that has influencing on intention to use green products among consumers. This means, the higher the consumers' attitudes towards green products, the higher their intention to use it.

These results are consistent and similar with previous studies by (Davis *et al.*, 1989; Rhodes and Courneya, 2003; Ing-Long and Jian-Liang, 2005; Baker *et al.*, 2007) that said there are significant and positive impact between attitude and intention. It also supported by recent study conducted by Alam and Sayuti (2011),

who studied the intention to purchase food, has showed a positive relationship between attitude and intention. Therefore, it can be summed up that attitude have positive significant influence on the consumers' intention to use green products.

### **5.1.3 Subjective Norm**

As referring to the objectives of this study, the researcher wants to examine the relationship between subjective norms with the intention to use green products among consumers. The result show there is a significant relationship between subjective norm and intention to use. Based on the result of correlation analysis, the value also significant at ( $p = 0.000$ ), so it is smaller than the alpha value ( $0.000 < 0.01$ ). Besides, the strength of the relationship showed by the Pearson Correlation ( $r = 0.542$ ) is moderate and lower than variable of attitude.

In addition, the coefficient result also shows significant at ( $p = 0.043$ ). Then, the value for Beta of subjective norm is (0.153), and based on this study it is the third or the lowest factor ranked, that has influencing on intention to use green products among consumers. The results are significant, indicating that the stronger the influence of subjective norms such as friends and family on the consumers, the higher their intention to use green products.

These results are consistent and similar with previous studies by (Taylor and Todd, 1995; Ramayah et al., 2003; Baker et al., 2007) that show a significant relationship between subjective norm and intention. This also proved by recent study conducted by Alam and Sayuti (2011), who studied the intention to purchase food, has showed a positive relationship between subjective norm and intention. Therefore, it can be said that subjective norm have positive significant influence on the consumers' intention to use green products.

#### **5.1.4 Perceived Behavior Control**

According to the research objectives, the researcher wants to examine the relationship between perceived behavior controls with the intention to use green products among consumers. As indicated in chapter four of this study, the result show there is a significant relationship between perceived behavior control and intention to use. As on the result of correlation analysis, the value is significant at ( $p = 0.000$ ), so it is smaller than the alpha value ( $0.000 < 0.01$ ). Besides, the strength of the relationship that shown by the Pearson Correlation ( $r = 0.650$ ) is also moderate.

In addition, the coefficient result also shows significant at value ( $p = 0.007$ ). Then, the value for Beta of perceived behavior control is (0.232), and it is the second higher factor ranked, that has influencing on intention to use green products among consumers.

These results are similar and consistent with previous studies by (Ing-Long and Jian-Liang, 2005; Wise et al., 2006; Gopi and Ramayah, 2007; Blanchard et al., 2008) that also found there are significant relationship between perceived behavior control and the intention. It also supported by recent study conducted by Alam and Sayuti (2011), who also got the same result of significant relationship between perceived behavior control with the intention to purchase food. Therefore, it can be conclude that perceived behavior control have positive significant influence on the consumers' intention to use green products.

## **5.2 RECOMMENDATIONS**

Although the level of concern for the environment among consumers is high, their use in practice can be improved in line with environmental campaigns that actively advocated by the ministry. Thus, the various parties, including the government, manufacturers, consumer associations and other non-governmental organizations should play a role to improve the practice of using green products among consumers. It is recommended that the curriculum at primary and secondary school in the future to implement environmental education in the education system. Education at this early stage is very important for shaping individual behavior in adulthood. In this aspect, the teacher plays an important role to guide and encourage young generation to adopt a sustainable lifestyle or environmental friendly.

The government also needs to intensify its campaign to educate the public about the importance of the practice of using green products through various channels such as newspapers, television, radio and exhibitions. Such campaigns should be intensified across the country so that the consumers are aware that the purchase behavior and their consumption practices will have a tremendous impact on the environment. In addition to recycling campaign that was organized, the government can also organize other campaigns that focus on the practice of reducing consumption (reduce) and reuse as well as knowledge about environmentally friendly products. Such campaigns will lead to the practice of using green products among consumers.

Positive perception of green products among consumers in this study indicates the potential market for green products in our country. So, the manufacturer may produce green products with more proactive and educate consumers about the

importance of using green products. Most consumers are willing to pay more for some green products only, and still others who are not ready. Therefore, the manufacturers and dealers need to identify the type of green products that are willing to be purchase and often used by consumers. In addition, dealers should also reduce the price of green products so that it can be bought by the majority of consumers. In this case, the government must play an important role by giving subsidies to research in green technology products. Research and development will encourage innovation in the manufacturing of green products which are still lacking in Malaysia. In addition, the dealers also need to promote green products more aggressively via the mass media especially the electronic and print media. Green product advertising through newspapers, magazines and television can help disseminate information about this product and its features to the public more effectively. At the same time, the promotion of these products can also focus on specific target groups based on user profiles that make a practice of using green products that were identified in the study.

In addition, consumer associations and other non-governmental organizations such as environmentalists associations should play a more proactive role in promoting environmentally friendly products and encourage the practice of using green products among consumers. These associations need to educate consumers about ways to prevent or minimize the impact of their purchase and consumption on the environment. The associations also need to educate consumers to boycott products that can have adverse effects on the environment whether it is during the processing, use or disposal.



### **5.3 SUGGESTIONS FOR FUTURE RESEARCH**

For the study, researcher only uses population at Universiti Utara Malaysia as respondents. So it does not reflect the overall population in the North of Peninsular Malaysia and also across the state of Kedah. I hope for studies in the future, the researchers can do a more comprehensive study in the North of Peninsular Malaysia covering the states of Perlis, Kedah and Penang. The decision might be received is better and more accurately reflects the intention of the consumer to use green products. For more great research, it is better if researchers can conduct research in Malaysia covering 13 states and three Federal Territories. It will show how the adoption and use of green products by the entire population in Malaysia.

In this study, I identified the value of R-square is 0.605 which is mean that those variables have influenced the respondents' intention to use green products at 60.5%. So, I believed that there still have other variables that can influence consumers' intention to use green products since there are still lacks of 39.5%. For future studies, it is hoped that researchers can add a few more factors that are seen able to influence the intention to use green products such as knowledge, environmental concerns and others. This will show whether or not there is a relationship between these factors with the intention to use.

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## **APPENDIX A**

# Questionnaire

No. Siri / Serial Number				
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## SOAL SELIDIK

### QUESTIONNAIRE

#### FAKTOR YANG MEMPENGARUHI NIAT UNTUK MENGGUNAKAN PRODUK HIJAU DI KALANGAN PENGGUNA

*FACTORS AFFECTING INTENTION TO USE GREEN PRODUCTS AMONG CONSUMER*

**Encik/Cik/Tuan/ Puan/ Dato'/ Datin/ Dr/ Prof Madya/ Profesor**

*Mr./ Ms./ Sir/ Madam/ Dato ' / Datin/ Dr./ Associate Professor/ Professor*

Terima kasih di atas kesudian memberi ruang masa 10-15 minit menjawab soal selidik ini. Segala kerjasama yang diberikan amat dihargai. Jawapan daripada anda akan menghasilkan maklumat yang amat bermanfaat dalam menjayakan kajian ini. Semua jawapan yang diberikan adalah SULIT dan hanya digunakan untuk tujuan penyelidikan bagi memenuhi keperluan pengajian Sarjana Sains Pengurusan daripada Universiti Utara Malaysia.

*Thank you for your willingness to give time space 10-15 minutes to answer this questionnaire. Any assistance given is greatly appreciated. The answer from you will produce information that will be beneficial to the success of this study. All the answers are **STRICTLY CONFIDENTIAL** and used only for research purpose to meet the requirements of a Master of Science Management from Universiti Utara Malaysia.*

**Pengertian / Meaning:**

Produk hijau adalah sesuatu produk atau perkhidmatan yang tidak berbahaya kepada alam sekitar. (OxfordDictionaries.com). Sebagai contoh penggunaan beg kertas, bekas makanan mesra alam, kereta hybrid dan lain-lain lagi. Kepenggunaan hijau adalah satu usaha oleh individu untuk melindungi diri mereka sendiri dan planet ini dengan hanya membeli produk hijau. (Ottman, 1992).

*Green product is a product or service that is not harmful to the environment. (Oxford Dictionaries.com). For example the use of paper bags, eco-friendly food containers, hybrid cars and many others. Green consumerism is an attempt by individuals to protect themselves and the planet by buying only green products. (Ottman, 1992).*

## BAHAGIAN A: Latar Belakang

### Section A: Background

Sila tandakan (√) pilihan yang tepat mengenai latar belakang di kotak yang disediakan.

Please tick (√) the right choice of the background in the box provided.

1. **Jantina / Gender:**

**Lelaki / Male**

**Perempuan / Female**

2. **Umur / Age:**

**20 tahun dan ke bawah / 20 years and below**

**21-30 tahun / 21-30 years**

**31-40 tahun / 31-40 years**

**41-50 tahun / 41-50 years**

**51 tahun dan ke atas / 51 years and above**

3. **Kewarganegaraan (Malaysia) / Nationality (Malaysia):**

**Warganegara / Citizen**

**Bukan Warganegara / Non-citizens**

4. **Bangsa / Race:**

**Melayu/ Malay**

**Cina / Chinese**

**India / Indian**

**Lain-lain / Others**

(Sila nyatakan / Please state): .....

5. **Tahap pendidikan (semasa) / Level of Education (current):**

**Sijil / Certificate**

**Diploma / Diploma**

**Sarjana Muda / Bachelor Degree**

**Sarjana / Master**

**PhD / PhD**

6. **Adakah anda pernah menggunakan produk hijau? / Do you ever use green products?**

**Sekiranya YA ataupun TIDAK, teruskan menjawab soalan sehingga tamat. / If YES or NO, please continue to answer questions until the end.**

**Ya/ Yes**

**Tidak / No**

7. **Adakah persekitaran anda (UUM) mengamalkan penggunaan produk hijau? / Does your environment (UUM) practicing the use of green products?**

**Ya/ Yes**

**Tidak / No**

**BAHAGIAN B: Faktor-faktor yang mempengaruhi penggunaan produk hijau di kalangan pengguna.**

*Section B: Factors influencing the use of green products among consumers.*

**Sila bulatkan nombor-nombor pilihan terbaik bagi menunjukkan sejauh manakah anda bersetuju atau tidak bersetuju dengan kenyataan di bawah.**

*Please circle the numbers that best indicate the extent of you agree or disagree with the following statement.*

1	2	3	4	5
<b>Sangat Tidak Setuju</b> <i>Strongly Disagree</i>	<b>Tidak Setuju</b> <i>Disagree</i>	<b>Tidak Pasti</b> <i>Not Sure</i>	<b>Setuju</b> <i>Agree</i>	<b>Sangat Setuju</b> <i>Strongly Agree</i>

1	<b>Saya merasakan bahawa produk hijau memberi impak yang positif alam sekitar.</b> <i>I feel that green products have a positive impact on the environment.</i>	1	2	3	4	5
2	<b>Saya merasakan memilih produk hijau memberi manfaat kepada pengguna.</b> <i>I think choosing green products is beneficial to consumers.</i>	1	2	3	4	5
3	<b>Saya merasakan memilih produk hijau adalah idea yang bagus.</b> <i>I think choosing green products is a good idea.</i>	1	2	3	4	5
4	<b>Saya rasa menggunakan produk hijau adalah idea yang bijak.</b> <i>I feel that using green products is a wise idea.</i>	1	2	3	4	5
5	<b>Saya berpendapat menggunakan produk hijau akan memudahkan saya.</b> <i>I think using green products would be pleasant to me.</i>	1	2	3	4	5
6	<b>Saya merasakan bahawa saya perlu menghargai produk hijau.</b> <i>I feel that I need to appreciate green products.</i>	1	2	3	4	5
7	<b>Orang ramai beranggapan bahawa saya biasa dengan keperluan yang mesra alam sekitar.</b> <i>People are assuming that I am familiar with the needs of environmental friendly.</i>	1	2	3	4	5
8	<b>Orang yang berkepentingan kepada saya berfikir bahawa produk hijau adalah sangat berguna.</b> <i>People who are important to me think that green products are very useful.</i>	1	2	3	4	5
9	<b>Orang yang rapat dengan saya menganggap saya perlu memilih produk hijau.</b> <i>People who are close to me think that I should choose green products.</i>	1	2	3	4	5

10	<b>Orang lain menjangkakan bahawa saya perlu memilih produk hijau.</b> <i>Other people expect that I have to choose green products.</i>	1	2	3	4	5
11	<b>Saya mempunyai keupayaan untuk menggunakan produk hijau.</b> <i>I have the ability to use green products.</i>	1	2	3	4	5
12	<b>Saya mempunyai pengetahuan untuk menggunakan produk hijau.</b> <i>I have the knowledge to make use of green products.</i>	1	2	3	4	5
13	<b>Saya mempunyai sumber (termasuk duit) untuk menggunakan produk hijau.</b> <i>I have the resources (including money) to make use of green products.</i>	1	2	3	4	5
14	<b>Saya suka untuk menggunakan produk hijau.</b> <i>I like to use green products.</i>	1	2	3	4	5
15	<b>Saya berminat untuk menggunakan produk hijau dalam tempoh terdekat.</b> <i>I am interested to use green products in the immediate term.</i>	1	2	3	4	5
16	<b>Saya berminat untuk menggunakan produk hijau pada masa depan.</b> <i>I am interested to use green products in the future.</i>	1	2	3	4	5
17	<b>Saya ingin menggunakan produk hijau dengan lebih kerap.</b> <i>I intend to use green products more frequently.</i>	1	2	3	4	5
18	<b>Saya pasti akan mengesyorkan produk hijau ini kepada orang lain.</b> <i>I would definitely recommend this green product to others.</i>	1	2	3	4	5

**BAHAGIAN C: Cadangan dan pandangan terhadap penggunaan produk hijau di kalangan pengguna.**

*SECTION C: Recommendations and views of using green products among consumers.*

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**“TERIMA KASIH DI ATAS KERJASAMA YANG DIBERIKAN”**

*“Thank you for your cooperation”*

## **APPENDIX B**

# Results from SPSS Tests

- Pilot Test – Reliability Analysis
- Frequency Analysis
- Mean and Standard Deviation
- T-test Analysis
- ANOVA Analysis
- Correlation Analysis
- Regression Analysis

**Reliability Analysis for Pilot Test**

**Attitude**

**Case Processing Summary**

	N	%
	20	100.0
	0	.0
	20	100.0

deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	Items
.751	6

**Subjective Norm**

**Case Processing Summary**

	N	%
	20	100.0
	0	.0
	20	100.0

deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	Items
.807	4

**Perceived Behavior Control**

### Case Processing Summary

	N	%
	20	100.0
	0	.0
	20	100.0

deletion based on all variables in the procedure.

### Reliability Statistics

Cronbach's Alpha	Items
.817	3

### Intention to Use

### Case Processing Summary

	N	%
	20	100.0
	0	.0
	20	100.0

deletion based on all variables in the procedure.

### Reliability Statistics

Cronbach's Alpha	Items
.919	5



## Frequency Analysis

### Statistics

	nder	ge	onality	ce	cation	ever use product?	r environment cticing the use n products?
	119	119	119	119	119	119	119
	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	5	2	4	5	2	2

### Frequency Table

#### gender

	quency	cent	d Percent	ative Percent
	51	42.9	42.9	42.9
	68	57.1	57.1	100.0
	119	100.0	100.0	

#### age

	quency	cent	d Percent	ative Percent
nd below	10	8.4	8.4	8.4
ars	75	63.0	63.0	71.4
ars	15	12.6	12.6	84.0
ars	13	10.9	10.9	95.0
nd above	6	5.0	5.0	100.0
	119	100.0	100.0	

**nationality**

	quency	cent	d Percent	ative Percent
is	101	84.9	84.9	84.9
	18	15.1	15.1	100.0
	119	100.0	100.0	

**race**

	quency	cent	d Percent	ative Percent
	70	58.8	58.8	58.8
	26	21.8	21.8	80.7
	4	3.4	3.4	84.0
	19	16.0	16.0	100.0
	119	100.0	100.0	

**education**

	quency	cent	d Percent	ative Percent
egree	19	16.0	16.0	16.0
	14	11.8	11.8	27.7
	61	51.3	51.3	79.0
	19	16.0	16.0	95.0
	6	5.0	5.0	100.0
	119	100.0	100.0	

**do you ever use green product?**

	quency	cent	d Percent	ative Percent
	91	76.5	76.5	76.5
	28	23.5	23.5	100.0
	119	100.0	100.0	

**oes your environment (UUM) practicing the use of green products?**

	quency	cent	d Percent	ative Percent
	78	65.5	65.5	65.5
	41	34.5	34.5	100.0
	119	100.0	100.0	

## Mean and Standard Deviation

### Attitude

**Item Statistics**

	Mean	Deviation	N
Green products have a positive impact on the environment.	4.17	.886	119
Using green products is beneficial to consumers.	4.14	.773	119
Using green products is a good idea.	4.09	.844	119
Using green products is a wise idea.	4.07	.918	119
Buying green products would be pleasant for me.	3.88	.875	119
People need to appreciate green products.	4.11	.790	119

**Item-Total Statistics**

	Mean if Item Deleted	Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Green products have a positive impact on the environment.	20.29	11.498	.646	.865
Using green products is beneficial to consumers.	20.32	11.609	.751	.848
Using green products is a good idea.	20.37	11.557	.679	.859
Using green products is a wise idea.	20.39	10.953	.719	.852
Buying green products would be pleasant for me.	20.58	11.669	.624	.869
People need to appreciate green products.	20.35	11.705	.710	.854

## Subjective Norm

**Item Statistics**

	Mean	Deviation	N
assuming that i am familiar with of environmental friendly.	3.71	.905	119
o are important to me think that ucts are very useful.	3.82	.833	119
o are close to me think that i ose green products.	3.87	.892	119
le expect that i have to choose ucts.	3.66	.906	119

**Item-Total Statistics**

	Mean if Item Deleted	Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
assuming that i am familiar eds of environmental	11.34	4.649	.537	.754
o are important to me think products are very useful.	11.23	4.753	.583	.731
o are close to me think that i ose green products.	11.18	4.248	.686	.676
le expect that i have to een products.	11.39	4.612	.548	.749

## Perceived Behavior Control

**Item Statistics**

	Mean	Standard Deviation	N
ability to use green products.	3.91	.957	119
knowledge to make use of products.	3.85	.945	119
resources (including money) to purchase green products.	3.81	.932	119

**Item-Total Statistics**

	Mean if Item Deleted	Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation if Item Deleted
ability to use green products.	7.66	2.804	.710	.744
knowledge to make use of products.	7.71	2.833	.714	.740
resources (including money) to purchase green products.	7.76	3.033	.644	.808

## Intention to Use

**Item Statistics**

	Mean	Deviation	N
use green products.	3.88	.913	119
do not intend to use green products in the long	3.96	.807	119
rate term.			
do not intend to use green products in the short	4.03	.901	119
term.			
I intend to use green products more than	4.00	.939	119
other products.			
I will not indefinitely recommend this green product to	3.94	.968	119
others.			

**Item-Total Statistics**

	Total if Item Deleted	Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
use green products.	15.93	9.250	.696	.860
do not intend to use green products in the long	15.86	9.869	.676	.865
rate term.				
do not intend to use green products in the short	15.78	9.054	.753	.847
term.				
I intend to use green products more than	15.82	8.999	.722	.854
other products.				
I will not indefinitely recommend this green product to	15.87	8.789	.736	.851
others.				

## Descriptive Analysis

**Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum	Skewness	Kurtosis				
		Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Std. Error	
Frequency	119	3.17	1.83	5.00	4.0770	.67011	.449	-.803	.222	.480	.440
Subjective_Norm	119	3.00	2.00	5.00	3.7605	.68766	.473	-.358	.222	-.693	.440
Perceived_Behavior_	119	3.33	1.67	5.00	3.8543	.81608	.666	-.714	.222	-.016	.440
Intention_To_Use	119	3.60	1.40	5.00	3.9630	.74696	.558	-1.094	.222	1.518	.440
(twice)	119										



**T-test: Gender**

**Group Statistics**

	N	Mean	Deviation	Error Mean
ntion_To_Use	51	3.7373	.79749	.11167
	68	4.1324	.66342	.08045

**Independent Samples Test**

	Test for Equality of Variances	t-test for Equality of Means										
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	Lower		Upper	
									Lower	Upper	Lower	Upper
ntion_To_Use	ances	.418	.519	-2.947	117	.004	-.39510	.13407	-.66061	-.12958		
	ances not			-2.871	96.061	.005	-.39510	.13763	-.66829	-.12190		

## One Way ANOVA: Age

### Descriptives

ntion\_To\_Use

	N	Mean	Standard Deviation	Standard Error	Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
and below	10	3.9400	.56608	.17901	3.5351	4.3449	2.60	4.60
ars	75	4.1707	.61398	.07090	4.0294	4.3119	1.80	5.00
ars	15	3.4667	.80238	.20717	3.0223	3.9110	1.40	4.60
ars	13	3.5538	1.01046	.28025	2.9432	4.1645	1.40	4.80
and above	6	3.5333	.84538	.34512	2.6462	4.4205	2.40	4.40
	119	3.9630	.74696	.06847	3.8274	4.0986	1.40	5.00

### Test of Homogeneity of Variances

ntion\_To\_Use

Levene Statistic	df1	df2	Sig.
2.050	4	114	.092

### ANOVA

ntion\_To\_Use

	Sum of Squares	df	Mean Square	F	Sig.
Groups	10.219	4	2.555	5.236	.001
Within Groups	55.618	114	.488		
Total	65.837	118			

## Post Hoc Test

### Multiple Comparisons

ntion\_To\_Use

)

		Difference (I-J)	Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
nd below	ars	-.23067	.23515	.863	-.8825	.4211
	ars	.47333	.28516	.463	-.3171	1.2638
	ars	.38615	.29380	.683	-.4282	1.2005
	nd above	.40667	.36070	.792	-.5932	1.4065
ars	nd below	.23067	.23515	.863	-.4211	.8825
	ars	.70400*	.19756	.005	.1564	1.2516
	ars	.61682*	.20984	.032	.0351	1.1985
	nd above	.63733	.29634	.206	-.1841	1.4588
ars	nd below	-.47333	.28516	.463	-1.2638	.3171
	ars	-.70400*	.19756	.005	-1.2516	-.1564
	ars	-.08718	.26468	.997	-.8208	.6465
	nd above	-.06667	.33740	1.000	-1.0019	.8686
ars	nd below	-.38615	.29380	.683	-1.2005	.4282
	ars	-.61682*	.20984	.032	-1.1985	-.0351
	ars	.08718	.26468	.997	-.6465	.8208
	nd above	.02051	.34474	1.000	-.9351	.9761
nd above	nd below	-.40667	.36070	.792	-1.4065	.5932
	ars	-.63733	.29634	.206	-1.4588	.1841
	ars	.06667	.33740	1.000	-.8686	1.0019
	ars	-.02051	.34474	1.000	-.9761	.9351

in difference is significant at the 0.05 level.

## Homogeneous Subsets

### Mean\_Intention\_To\_Use

), a, b

	N	for alpha = 0.05
		1
ars	15	3.4667
nd above	6	3.5333
ars	13	3.5538
nd below	10	3.9400
ars	75	4.1707
		.110

groups in homogeneous subsets are displayed.

armonic Mean Sample Size = 11.804.

up sizes are unequal. The harmonic mean of the  
s is used. Type I error levels are not guaranteed.

## One Way ANOVA: Education Level

### Descriptives

ntion\_To\_Use

	N	Mean	Standard Deviation	Standard Error	Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Degree	19	3.9263	.77806	.17850	3.5513	4.3013	2.40	5.00
	14	3.5000	.81807	.21864	3.0277	3.9723	1.40	4.60
	61	4.0623	.66787	.08551	3.8912	4.2333	1.80	5.00
	19	4.2000	.59628	.13680	3.9126	4.4874	3.00	5.00
	6	3.4000	1.13842	.46476	2.2053	4.5947	1.40	4.80
	119	3.9630	.74696	.06847	3.8274	4.0986	1.40	5.00

### Test of Homogeneity of Variances

ntion\_To\_Use

Levene Statistic	df1	df2	Sig.
1.195	4	114	.317

### ANOVA

ntion\_To\_Use

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.597	4	1.649	3.174	.016
Within Groups	59.240	114	.520		
Total	65.837	118			

## Post Hoc Test

### Multiple Comparisons

ntion\_To\_Use

)

on	on	Difference (I-J)	Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
egree		.42632	.25391	.451	-.2775	1.1301
		-.13598	.18939	.952	-.6610	.3890
		-.27368	.23388	.768	-.9220	.3746
		.52632	.33758	.527	-.4094	1.4621
egree		-.42632	.25391	.451	-1.1301	.2775
		-.56230	.21363	.071	-1.1545	.0299
		-.70000	.25391	.052	-1.4038	.0038
		.10000	.35175	.999	-.8750	1.0750
egree		.13598	.18939	.952	-.3890	.6610
		.56230	.21363	.071	-.0299	1.1545
		-.13770	.18939	.950	-.6627	.3873
		.66230	.30843	.208	-.1926	1.5172
egree		.27368	.23388	.768	-.3746	.9220
		.70000	.25391	.052	-.0038	1.4038
		.13770	.18939	.950	-.3873	.6627
		.80000	.33758	.131	-.1357	1.7357
egree		-.52632	.33758	.527	-1.4621	.4094
		-.10000	.35175	.999	-1.0750	.8750
		-.66230	.30843	.208	-1.5172	.1926
		-.80000	.33758	.131	-1.7357	.1357

## Homogeneous Subsets

### Mean\_Intention\_To\_Use

),a,b

	N	set for alpha = 0.05	
		1	2
egree	6	3.4000	
	14	3.5000	3.5000
	19	3.9263	3.9263
	61	4.0623	4.0623
	19		4.2000
			.117

groups in homogeneous subsets are displayed.

harmonic Mean Sample Size = 13.898.

group sizes are unequal. The harmonic mean of the group sizes

type I error levels are not guaranteed.

## Correlation Analysis

### Descriptive Statistics

	Mean	Deviation	N
Intention_To_Use	3.9630	.74696	119
Attitude	4.0770	.67011	119
Subjective_Norm	3.7605	.68766	119
Perceived_Behavior_Control	3.8543	.81608	119

### Correlations

		Intention_To_Use	Attitude	Subjective_Norm	Perceived_Behavior_Control
Intention_To_Use	Correlation	1	.731**	.542**	.650**
	Sig. (2-tailed)		.000	.000	.000
	N	119	119	119	119
Attitude	Correlation	.731**	1	.487**	.639**
	Sig. (2-tailed)	.000		.000	.000
	N	119	119	119	119
Subjective_Norm	Correlation	.542**	.487**	1	.609**
	Sig. (2-tailed)	.000	.000		.000
	N	119	119	119	119
Perceived_Behavior_Control	Correlation	.650**	.639**	.609**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	119	119	119	119

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



## Regression Analysis

### Descriptive Statistics

	Mean	Deviation	N
Intention_To_Use	3.9630	.74696	119
Attitude	4.0770	.67011	119
Subjective_Norm	3.7605	.68766	119
Perceived_Behavior_Control	3.8543	.81608	119

### Correlations

		Intention_To_Use	Attitude	Subjective_Norm	Perceived_Behavior_Control
Correlation	Intention_To_Use	1.000	.731	.542	.650
	Attitude	.731	1.000	.487	.639
	Subjective_Norm	.542	.487	1.000	.609
	Perceived_Behavior_Control	.650	.639	.609	1.000
Sig. (2-tailed)	Intention_To_Use	.000	.000	.000	.000
	Attitude	.000	.000	.000	.000
	Subjective_Norm	.000	.000	.000	.000
	Perceived_Behavior_Control	.000	.000	.000	.000
N	Intention_To_Use	119	119	119	119
	Attitude	119	119	119	119
	Subjective_Norm	119	119	119	119
	Perceived_Behavior_Control	119	119	119	119

**Variables Entered/Removed<sup>b</sup>**

	Variables Entered	Variables Removed	Method
1	Mean_Perceived_Behavior_Control, Mean_Subjective_Norm, Mean_Attitude		

Dependent Variable: Mean\_Intention\_To\_Use

Method: Stepwise: Criteria: > .5. < .1. Max. Changes: 1000

**Model Summary<sup>b</sup>**

Model	R	Adjusted R Square	Standard Error of the Estimate
1	.778 <sup>a</sup>	.605	1.47540

Dependent Variable: Mean\_Intention\_To\_Use

Method: Stepwise: Criteria: > .5. < .1. Max. Changes: 1000

Model Summary Statistics: R = .778, Adjusted R Square = .605, Standard Error of the Estimate = 1.47540

**ANOVA<sup>b</sup>**

Source	Sum of Squares	df	Mean Square	F	Sig.
Corrected Total	65.837	118			
Regression	39.847	3	13.282	58.770	.000 <sup>a</sup>
Residual	25.990	115	.226		

Dependent Variable: Mean\_Intention\_To\_Use

Method: Stepwise: Criteria: > .5. < .1. Max. Changes: 1000

**Coefficients<sup>a</sup>**

	Standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Standard Error	Beta		
(Constant)	.210	.298		.706	.482
Attitude	.566	.086	.508	6.584	.000
Subjective_Norm	.166	.081	.153	2.042	.043
Perceived_Behavior_Control	.213	.078	.232	2.735	.007

Dependent Variable: Mean\_Intention\_To\_Use

**Collinearity Diagnostics<sup>a</sup>**

	Eigenvalue	Condition Index	Variance Proportions			
			(Constant)	Attitude	Subjective_Norm	Perceived_Behavior_Control
	3.953	1.000	.00	.00	.00	.00
	.022	13.523	.53	.00	.01	.42
	.015	15.993	.01	.26	.85	.08
	.010	20.101	.46	.74	.13	.50

Dependent Variable: Mean\_Intention\_To\_Use

**Casewise Diagnostics<sup>a</sup>**

Number	Residual	Standardized Residual	Cook's Distance	Levenshtein Distance
1	-5.825	1.80	4.5690	-2.76901

Dependent Variable: Mean\_Intention\_To\_Use

**Residuals Statistics<sup>a</sup>**

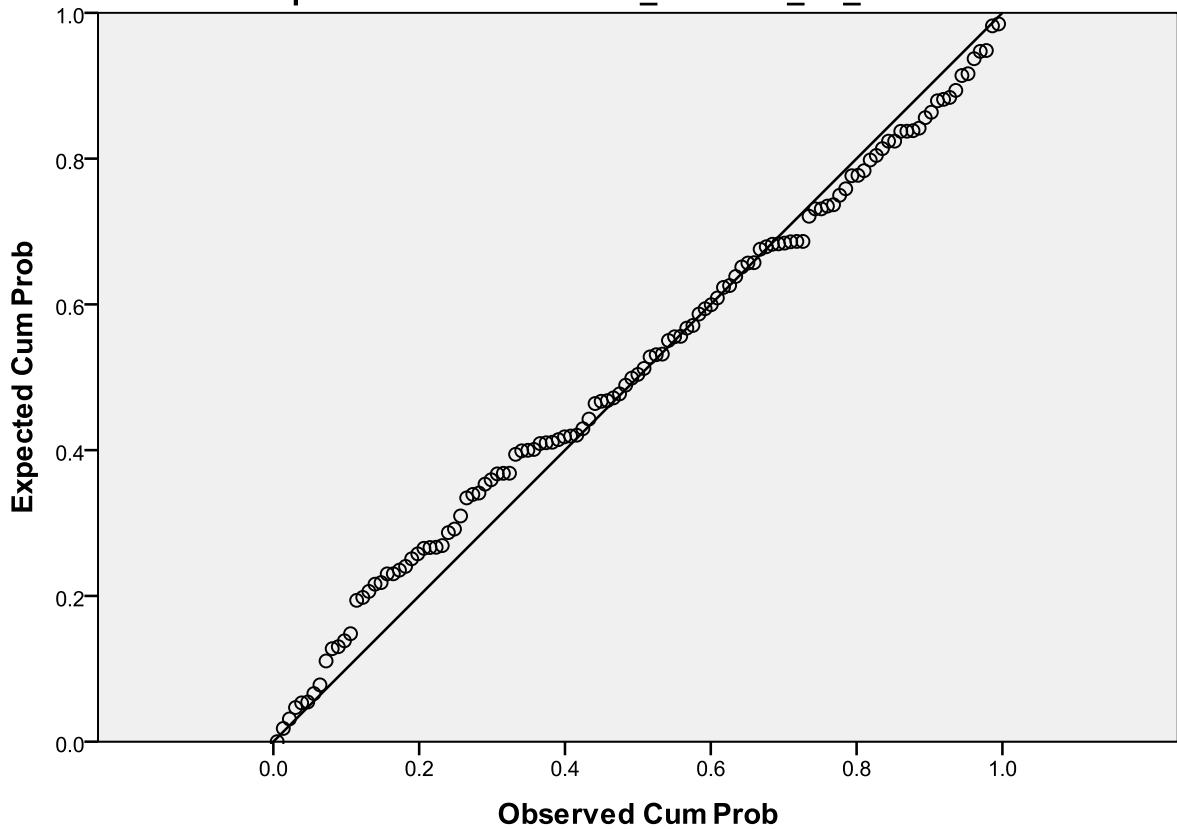
	Minimum	Maximum	Mean	Standard Deviation	N
Value	1.9348	4.7812	3.9630	.58111	119
Predicted Value	-3.490	1.408	.000	1.000	119
Error of Predicted Value	.045	.160	.084	.025	119
Standardized Predicted Value	2.0034	4.7970	3.9635	.57875	119
Standardized Residual	-2.76901	1.02876	.00000	.46932	119
Adjusted Standardized Residual	-5.825	2.164	.000	.987	119
Adjusted Standardized Residual	-5.905	2.186	-.001	1.005	119
Adjusted Standardized Residual	-2.84608	1.04996	-.00051	.48620	119
Adjusted Standardized Residual	-7.043	2.223	-.010	1.068	119
Variance Inflation Factor	.059	12.410	2.975	2.454	119
Variance Inflation Factor	.000	.243	.009	.025	119
Adjusted Leverage Value	.000	.105	.025	.021	119

Dependent Variable: Mean\_Intention\_To\_Use

**Chart**

**Normal P-P Plot of Regression Standardized Residual**

**Dependent Variable: Mean\_Intention\_To\_Use**



### Scatterplot

Dependent Variable: Mean\_Intention\_To\_Use

